

Micro Fiche Scan

Name of device(s) tested:

M7521, DELUA

Test description:

DELUA FUNCT DIAGNOSTIC

MAINDEC Number or Package Identifier (after SEP 1977):

CZUADB0

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PARAMETER CODING

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IDENTIFICATION

PRODUCT CODE: AC-T724B-MC
PRODUCT NAME: CZUADBO DELUA FUNCT DIAG
PRODUCT DATE: 28-MAR-1986
MAINTAINER: BRUCE RIBOLINI NAC DIAGNOSTIC ENG.
AUTHOR: JOHN C. CARMODY

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REVISION HISTORY

REV.	DATE	AUTHOR	REASON/DESCRIPTION OF CHANGE
A0	08-JUL-85	J. CARMODY	INITIAL RELEASE
B0	28-MAR-86	J. CARMODY	<ol style="list-style-type: none">1) Starting after Test 6, change all 'ERR006' messages immed. following first call to 'CHKFTL' in each test, to 'ERR042'.2) Extend allowable range of DELUA address and vector.3) Modify error reporting in Test 8, SelfTest Test, and expand comments.4) Add code to Cleanup Coding Section to clear Interrupt Enable bit in PCSRO.5) Change name of Test 3 from 'PCSR1 DELUA ID BIT' to 'DELUA RESET', and add code to verify operation of bit 07, INTR bit, of PCSRO.6) Delete subroutines 'CKINTR', 'SETSER', 'CLRSER', 'CLRRCE' and 'CMRPT'.7) Modify TEST 26, 'EXTERNAL LOOPBACK TEST', and message contained in the Software P-table, so that program now offers the possibility to install the loopback connector during, or prior to the change of the software P-table, and thus avoid attended mode operation. If do select attended mode, and answer no to install loopback now, then install question will be asked when External Loopback Test started. Message will be printed on first pass only.8) Change Software P-table messages to more clearly identify the type of loopback to install, if plan to run in External Loopback mode.

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1.0 GENERAL INFORMATION

1.1 PROGRAM ABSTRACT

THIS PRODUCT IS THE PDP-11 FUNCTIONAL TESTING DIAGNOSTIC FOR THE DELUA. A CONFIGURATION OF UP TO EIGHT DELUA UNITS WILL BE ACCEPTED FOR TEST.

THIS DIAGNOSTIC WILL ONLY OPERATE IN A STAND ALONE, OFFLINE ENVIRONMENT USING THE DELUA OPERATIONAL MICROCODE. FAILURE IDENTIFICATION WILL GENERALLY BE TO THE FAILING DELUA FUNCTION.

THIS DIAGNOSTIC HAS BEEN WRITTEN FOR USE WITH THE DIAGNOSTIC RUNTIME SERVICES SOFTWARE (SUPERVISOR). THESE SERVICES PROVIDE THE INTERFACE TO THE OPERATOR AND TO THE SOFTWARE ENVIRONMENT. THIS PROGRAM CAN BE USED WITH XXDP+, ACT, APT, AND PAPER TAPE. FOR A COMPLETE DESCRIPTION OF THE RUNTIME SERVICES, REFER TO THE XXDP+ USER'S MANUAL. THERE IS A BRIEF DESCRIPTION OF THE RUNTIME SERVICES IN SECTION 2 OF THIS DOCUMENT.

1.2 SYSTEM REQUIREMENTS

THE FOLLOWING HARDWARE IS REQUIRED TO RUN THE DELUA FUNCTIONAL TESTING DIAGNOSTIC:

PDP-11 CPU FROM SUPPORTED LIST (SEE BELOW) ;80
32K MEMORY ;80
CONSOLE TERMINAL ;80
DELUA, WITH H4080 OR EQUIVALENT LOOPBACK CONNECTOR INSTALLED, ;80
IF PLAN TO RUN EXTERNAL LOOPBACK TEST.

SUPPORTED PDP-11 CPU'S:
11/24, 11/34A, 11/44, 11/70, 11/84

1.3 RELATED DOCUMENTS AND STANDARDS

XXDP+ USER'S MANUAL - CHQUS

1.4 DIAGNOSTIC HIERARCHY PREREQUISITES

THE TESTS INCLUDED IN THIS DELUA FUNCTIONAL DIAGNOSTIC ARE ARRANGED IN A TEST HIERARCHY. TESTS SHOULD BE EXECUTED IN CONSECUTIVE ORDER FOR MAXIMUM FAULT ISOLATION.

1.5 ASSUMPTIONS

2.0 OPERATING INSTRUCTIONS

THIS SECTION CONTAINS A BRIEF DESCRIPTION OF THE RUNTIME SERVICES. FOR DETAILED INFORMATION, REFER TO THE XXDP+ USER'S MANUAL (CHQUS).

2.1 COMMANDS

THERE ARE ELEVEN LEGAL COMMANDS FOR THE DIAGNOSTIC RUNTIME SERVICES

(SUPERVISOR). THIS SECTION LISTS THE COMMANDS AND GIVES A VERY BRIEF DESCRIPTION OF THEM. THE XXDP+ USER'S MANUAL HAS MORE DETAILS.

COMMAND	EFFECT
START	START THE DIAGNOSTIC FROM AN INITIAL STATE
RESTART	START THE DIAGNOSTIC WITHOUT INITIALIZING
CONTINUE	CONTINUE AT TEST THAT WAS INTERRUPTED (AFTER +C)
PROCEED	CONTINUE FROM AN ERROR HALT
EXIT	RETURN TO XXDP+ MONITOR (XXDP+ OPERATION ONLY!)
ADD	ACTIVATE A UNIT FOR TESTING (ALL UNITS ARE CONSIDERED TO BE ACTIVE AT START TIME)
DROP	DEACTIVATE A UNIT
PRINT	PRINT STATISTICAL INFORMATION (IF IMPLEMENTED BY THE DIAGNOSTIC - SECTION 4.0)
DISPLAY	TYPE A LIST OF ALL DEVICE INFORMATION
FLAGS	TYPE THE STATE OF ALL FLAGS (SEE SECTION 2.3)
ZFLAGS	CLEAR ALL FLAGS (SEE SECTION 2.3)

A COMMAND CAN BE RECOGNIZED BY THE FIRST THREE CHARACTERS. SO YOU MAY, FOR EXAMPLE, TYPE "STA" INSTEAD OF "START".

2.2 SWITCHES

THERE ARE SEVERAL SWITCHES WHICH ARE USED TO MODIFY SUPERVISOR OPERATION. THESE SWITCHES ARE APPENDED TO THE LEGAL COMMANDS. ALL OF THE LEGAL SWITCHES ARE TABULATED BELOW WITH A BRIEF DESCRIPTION OF EACH. IN THE DESCRIPTIONS BELOW, A DECIMAL NUMBER IS DESIGNATED BY "DDDD".

SWITCH	EFFECT
/TESTS:LIST	EXECUTE ONLY THOSE TESTS SPECIFIED IN THE LIST. LIST IS A STRING OF TEST NUMBERS, FOR EXAMPLE - /TESTS:1:5:7-10. THIS LIST WILL CAUSE TESTS 1,5,7,8,9,10 TO BE RUN. ALL OTHER TESTS WILL NOT BE RUN.
/PASS:DDDD	EXECUTE DDDDD PASSES (DDDD = 1 TO 64000)
/FLAGS:FLGS	SET SPECIFIED FLAGS. FLAGS ARE DESCRIBED IN SECTION 2.3.
/EOP:DDDD	REPORT END OF PASS MESSAGE AFTER EVERY DDDDD PASSES ONLY. (DDDD = 1 TO 64000)
/UNITS:LIST	TEST/ADD/DROP ONLY THOSE UNITS SPECIFIED IN THE LIST. LIST EXAMPLE - /UNITS:0:5:10-12 USE UNITS 0,5,10,11,12 (UNIT NUMBERS = 0-63)

EXAMPLE OF SWITCH USAGE:

START/TESTS:1-5/PASS:1000/EOP:100

THE EFFECT OF THIS COMMAND WILL BE: 1) TESTS 1 THROUGH 5 WILL BE EXECUTED, 2) ALL UNITS WILL TESTED 1000 TIMES AND 3) THE END OF PASS MESSAGES WILL BE PRINTED AFTER EACH 100 PASSES ONLY. A SWITCH CAN BE RECOGNIZED BY THE FIRST THREE CHARACTERS. YOU MAY, FOR EXAMPLE, TYPE "/TES:1-5" INSTEAD OF "/TESTS:1-5".

BELOW IS A TABLE THAT SPECIFIES WHICH SWITCHES CAN BE USED BY EACH COMMAND.

	TESTS	PASS	FLAGS	EOP	UNITS
START	X	X	X	X	X
RESTART	X	X	X	X	X
CONTINUE		X	X	X	
PROCEED			X		
DROP					X
ADD					X
PRINT					
DISPLAY					X
FLAGS					
ZFLAGS					
EXIT					

2.3 FLAGS

FLAGS ARE USED TO SET UP CERTAIN OPERATIONAL PARAMETERS SUCH AS LOOPING ON ERROR. ALL FLAGS ARE CLEARED AT STARTUP AND REMAIN CLEARED UNTIL EXPLICITLY SET USING THE FLAGS SWITCH. FLAGS ARE ALSO CLEARED AFTER A START COMMAND UNLESS SET USING THE FLAG SWITCH. THE ZFLAGS COMMAND MAY ALSO BE USED TO CLEAR ALL FLAGS. WITH THE EXCEPTION OF THE START AND ZFLAGS COMMANDS, NO COMMANDS AFFECT THE STATE OF THE FLAGS; THEY REMAIN SET OR CLEARED AS SPECIFIED BY THE LAST FLAG SWITCH.

FLAG	EFFECT
HOE	HALT ON ERROR - CONTROL IS RETURNED TO RUNTIME SERVICES COMMAND MODE
LOE	LOOP ON ERROR
IER*	INHIBIT ALL ERROR REPORTS
IBE*	INHIBIT ALL ERROR REPORTS EXCEPT FIRST LEVEL (FIRST LEVEL CONTAINS ERROR TYPE, NUMBER, PC, TEST AND UNIT)
IXE*	INHIBIT EXTENDED ERROR REPORTS (THOSE CALLED BY PRINTX MACRO'S)
PRI	DIRECT MESSAGES TO LINE PRINTER
PNT	PRINT TEST NUMBER AS TEST EXECUTES
BOE	"BELL" ON ERROR
UAM	UNATTENDED MODE (NO MANUAL INTERVENTION)
ISR	INHIBIT STATISTICAL REPORTS (DOES NOT APPLY TO DIAGNOSTICS WHICH DO NOT SUPPORT STATISTICAL REPORTING)
IDR	INHIBIT PROGRAM DROPPING OF UNITS
ADR	EXECUTE AUTODROP CODE
LOT	LOOP ON TEST
EVL	EXECUTE EVALUATION (ON DIAGNOSTICS WHICH HAVE EVALUATION SUPPORT)

*ERROR MESSAGES ARE DESCRIBED IN SECTION 3.1

SEE THE XXDP+ USER'S MANUAL FOR MORE DETAILS ON FLAGS. YOU MAY SPECIFY MORE THAN ONE FLAG WITH THE FLAG SWITCH. FOR EXAMPLE, TO CAUSE THE PROGRAM TO LOOP ON ERROR, INHIBIT ERROR REPORTS

AND TYPE A "BELL" ON ERROR, YOU MAY USE THE FOLLOWING STRING:

/FLAGS:LOE:IER:BOE

2.4 HARDWARE QUESTIONS

WHEN A DIAGNOSTIC IS STARTED, THE RUNTIME SERVICES WILL PROMPT THE USER FOR HARDWARE INFORMATION BY TYPING "CHANGE HW (L) ?" YOU MUST ANSWER "Y" AFTER A START COMMAND UNLESS THE HARDWARE INFORMATION HAS BEEN "PRELOADED" USING THE SETUP UTILITY (SEE CHAPTER 6 OF THE XXDP+ USER'S MANUAL). WHEN YOU ANSWER THIS QUESTION WITH A "Y", THE RUNTIME SERVICES WILL ASK FOR THE NUMBER OF UNITS (IN DECIMAL). YOU WILL THEN BE ASKED THE FOLLOWING QUESTIONS FOR EACH UNIT.

WHAT IS THE PCSRO ADDRESS ?
THIS IS THE ADDRESS AT WHICH PCSRO RESIDES ON THE UNIBUS.
THE ALLOWABLE RANGE IS 160000 - 174600 OCTAL. ;BO

WHAT IS THE VECTOR ADDRESS ?
THIS IS THE INTERRUPT VECTOR ADDRESS FOR THIS DEVICE.
THE ALLOWABLE RANGE IS 120 - 770 OCTAL. ;BO

SAMPLE DIALOGUE:

UNIT 0
WHAT IS THE PCSRO ADDRESS? (O) ? 174510
WHAT IS THE VECTOR ADDRESS? (O) ? 120

UNIT 1
WHAT IS THE PCSRO ADDRESS? (O) ? 174520
WHAT IS THE VECTOR ADDRESS (O) ? 130

2.5 SOFTWARE QUESTIONS

AFTER YOU HAVE ANSWERED THE HARDWARE QUESTIONS OR AFTER A RESTART OR CONTINUE COMMAND, THE RUNTIME SERVICES WILL ASK FOR SOFTWARE PARAMETERS. THESE PARAMETERS WILL GOVERN SOME DIAGNOSTIC SPECIFIC OPERATION MODES. YOU WILL BE PROMPTED BY "CHANGE SW (L) ?" IF YOU WISH TO CHANGE ANY PARAMETERS, ANSWER BY TYPING "Y".

THE ONLY SOFTWARE QUESTIONS FOR THIS DEVICE CONCERN EXTERNAL LOOPBACK TEST:

RUN EXTERNAL LOOPBACK TEST?

THE DEFAULT IS NO (No skips test, This means that
External Loopback will not be tested
at all).
YES, WILL LOOP A FRAME USING EXTERNAL LOOPBACK MODE.

SAMPLE DIALOGUE:

RUN EXTERNAL LOOPBACK TEST (REQ. H4080 OR EQUIVALENT LOOPBACK?
(L) N ? Y <CR>

NOTE: THIS NEXT QUESTION IS ASKED REGARDLESS OF ANSWER TO ABOVE QUESTION.
IF ANSWERED NO TO ABOVE QUESTION, ANSWER NO HERE ALSO.

TO AVOID MAN. INTERVENTION, INSTALL H4080 OR EQUIV. LOOPBACK
NOW? (L) N ? Y <CR>

2.6 EXTENDED P-TABLE DIALOGUE

WHEN YOU ANSWER THE HARDWARE QUESTIONS, YOU ARE BUILDING ENTRIES IN A TABLE THAT DESCRIBES THE DEVICES UNDER TEST. THE SIMPLEST WAY TO BUILD THIS TABLE IS TO ANSWER ALL QUESTIONS FOR EACH UNIT TO BE TESTED. IF YOU HAVE A MULTIPLEXED DEVICE SUCH AS A MASS STORAGE CONTROLLER WITH SEVERAL DRIVES OR A COMMUNICATION DEVICE WITH SEVERAL LINES, THIS BECOMES TEDIOUS SINCE MOST OF THE ANSWERS ARE REPETITIOUS.

TO ILLUSTRATE A MORE EFFICIENT METHOD, SUPPOSE YOU ARE TESTING A FICTIONAL DEVICE, THE XY11. SUPPOSE THIS DEVICE CONSISTS OF A CONTROL MODULE WITH EIGHT UNITS (SUB-DEVICES) ATTACHED TO IT. THESE UNITS ARE DESCRIBED BY THE OCTAL NUMBERS 0 THROUGH 7. THERE IS ONE HARDWARE PARAMETER THAT CAN VARY AMONG UNITS CALLED THE Q-FACTOR. THIS Q-FACTOR MAY BE 0 OR 1. BELOW IS A SIMPLE WAY TO BUILD A TABLE FOR ONE XY11 WITH EIGHT UNITS.

UNITS (D) ? 8<CR>

UNIT 1
CSR ADDRESS (O) ? 174510<CR>
SUB-DEVICE # (O) ? 0<CR>
Q-FACTOR (O) 0 ? 1<CR>

UNIT 2
CSR ADDRESS (O) ? 174510<CR>
SUB-DEVICE # (O) ? 1<CR>
Q-FACTOR (O) 1 ? 0<CR>

UNIT 3
CSR ADDRESS (O) ? 174510<CR>
SUB-DEVICE # (O) ? 2<CR>
Q-FACTOR (O) 0 ? <CR>

UNIT 4
CSR ADDRESS (O) ? 174510<CR>
SUB-DEVICE # (O) ? 3<CR>
Q-FACTOR (O) 0 ? <CR>

UNIT 5
CSR ADDRESS (O) ? 174510<CR>
SUB-DEVICE # (O) ? 4<CR>
Q-FACTOR (O) 0 ? <CR>

UNIT 6
CSR ADDRESS (O) ? 174510<CR>
SUB-DEVICE # (O) ? 5<CR>
Q-FACTOR (O) 0 ? <CR>

```
UNIT 7
CSR ADDRESS (0) ? 174510<CR>
SUB-DEVICE # (0) ? 6<CR>
Q-FACTOR (0) 0 ? 1<CR>
```

```
UNIT 8
CSR ADDRESS (0) 174510<CR>
SUB-DEVICE # (0) ? 7<CR>
Q-FACTOR (0) 1 ? <CR>
```

NOTICE THAT THE DEFAULT VALUE FOR THE Q-FACTOR CHANGES WHEN A NON-DEFAULT RESPONSE IS GIVEN. BE CAREFUL WHEN SPECIFYING MULTIPLE UNITS!

AS YOU CAN SEE FROM THE ABOVE EXAMPLE, THE HARDWARE PARAMETERS DO NOT VARY SIGNIFICANTLY FROM UNIT TO UNIT. THE PROCEDURE SHOWN IS NOT VERY EFFICIENT.

THE RUNTIME SERVICES CAN TAKE MULTIPLE UNIT SPECIFICATIONS HOWEVER. LET'S BUILD THE SAME TABLE USING THE MULTIPLE SPECIFICATION FEATURE.

```
# UNITS (0) ? 8<CR>
```

```
UNIT 1
CSR ADDRESS (0) ? 174510<CR>
SUB-DEVICE # (0) ? 0,1<CR>
Q-FACTOR (0) 0 ? 1,0<CR>
```

```
UNIT 3
CSR ADDRESS (0) ? 174510<CR>
SUB-DEVICE # (0) ? 2-5<CR>
Q-FACTOR (0) 0 ? 0<CR>
```

```
UNIT 7
CSR ADDRESS (0) ? 174510<CR>
SUB-DEVICE # (0) ? 6,7<CR>
Q-FACTOR (0) 0 ? 1<CR>
```

AS YOU CAN SEE IN THE ABOVE DIALOGUE, THE RUNTIME SERVICES WILL BUILD AS MANY ENTRIES AS IT CAN WITH THE INFORMATION GIVEN IN ANY ONE PASS THROUGH THE QUESTIONS. IN THE FIRST PASS, TWO ENTRIES ARE BUILT SINCE TWO SUB-DEVICES AND Q-FACTORS WERE SPECIFIED. THE SERVICES ASSUME THAT THE CSR ADDRESS IS 174510 FOR BOTH SINCE IT WAS SPECIFIED ONLY ONCE. IN THE SECOND PASS, FOUR ENTRIES WERE BUILT. THIS IS BECAUSE FOUR SUB-DEVICES WERE SPECIFIED. THE "-" CONSTRUCT TELLS THE RUNTIME SERVICES TO INCREMENT THE DATA FROM THE FIRST NUMBER TO THE SECOND. IN THIS CASE, SUB-DEVICES 2, 3, 4 AND 5 WERE SPECIFIED. (IF THE SUB-DEVICE WERE SPECIFIED BY ADDRESSES, THE INCREMENT WOULD BE BY 2 SINCE ADDRESSES MUST BE ON AN EVEN BOUNDARY.) THE CSR ADDRESSES AND Q-FACTORS FOR THE FOUR ENTRIES ARE ASSUMED TO BE 174510 AND 0 RESPECTIVELY SINCE THEY WERE ONLY SPECIFIED ONCE. THE LAST TWO UNITS ARE SPECIFIED IN THE THIRD PASS.

THE WHOLE PROCESS COULD HAVE BEEN ACCOMPLISHED IN ONE PASS AS SHOWN BELOW.

```
# UNITS (D) ? 8<CR>
UNIT 1
CSR ADDRESS (O) ? 174510<CR>
SUB-DEVICE # (O) ? 0-7<CR>
Q-FACTOR (O) 0 ? 0,1,0,...,1,1<CR>
```

AS YOU CAN SEE FROM THIS EXAMPLE, NULL REPLIES (COMMAS ENCLOSING A NULL FIELD) TELL THE RUNTIME SERVICES TO REPEAT THE LAST REPLY.

2.7 QUICK START-UP PROCEDURE (XXDP+)

TO START-UP THIS PROGRAM:

1. BOOT XXDP+
2. GIVE THE DATE AND ANSWER ANY QUESTIONS
3. TYPE "R NAME", WHERE NAME IS THE NAME OF THE BIN OR BIC FILE FOR THIS PROGRAM
4. TYPE "START"
5. ANSWER THE "CHANGE HW" QUESTION WITH "Y"
6. ANSWER ALL THE HARDWARE QUESTIONS
7. ANSWER THE "CHANGE SW" QUESTION WITH "N"

WHEN YOU FOLLOW THIS PROCEDURE YOU WILL BE USING ONLY THE DEFAULTS FOR FLAGS AND SOFTWARE PARAMETERS. THESE DEFAULTS ARE DESCRIBED IN SECTIONS 2.3 AND 2.5.

3.0 ERROR INFORMATION

3.1 TYPES OF ERROR MESSAGES

THERE ARE THREE LEVELS OF ERROR MESSAGES THAT MAY BE ISSUED BY A DIAGNOSTIC: GENERAL, BASIC AND EXTENDED. GENERAL ERROR MESSAGES ARE ALWAYS PRINTED UNLESS THE "IER" FLAG IS SET (SECTION 2.3). THE GENERAL ERROR MESSAGE IS OF THE FORM:

```
NAME TYPE NUMBER ON UNIT NUMBER TST NUMBER PC:XXXXXX
ERROR MESSAGE
```

.WHERE; NAME = DIAGNOSTIC NAME
TYPE = ERROR TYPE (SYS FATAL, DEV FATAL, HARD OR SOFT)
NUMBER = ERROR NUMBER
UNIT NUMBER = 0 - N (N IS LAST UNIT IN PTABLE)
TST NUMBER = TEST AND SUBTEST WHERE ERROR OCCURRED
PC:XXXXXX = ADDRESS OF ERROR MESSAGE CALL

BASIC ERROR MESSAGES ARE MESSAGES THAT CONTAIN SOME ADDITIONAL INFORMATION ABOUT THE ERROR. THESE ARE ALWAYS PRINTED UNLESS THE "IER" OR "IBE" FLAGS ARE SET (SECTION 2.3). THESE MESSAGES ARE PRINTED AFTER THE ASSOCIATED GENERAL MESSAGE.

EXTENDED ERROR MESSAGES CONTAIN SUPPLEMENTARY ERROR INFORMATION SUCH AS REGISTER CONTENTS OR GOOD/BAD DATA. THESE ARE ALWAYS PRINTED UNLESS THE "IER", "IBE" OR "IXE" FLAGS ARE SET (SECTION 2.3). THESE MESSAGES ARE PRINTED AFTER THE ASSOCIATED GENERAL ERROR MESSAGE AND ANY ASSOCIATED BASIC ERROR MESSAGES.

3.2 SPECIFIC ERROR MESSAGES

ALL ERROR REPORTS FOR THIS DIAGNOSTIC ARE SELF-EXPLANATORY AND WHENEVER POSSIBLE CALLS OUT THE FAILING DELUA FUNCTION. WHENEVER A DATA COMPARE ERROR IS REPORTED THE "SHOULD BE" AND "WAS" DATA WILL ALSO BE REPORTED.

THE FOLLOWING IS A LIST OF ALL THE POSSIBLE ERRORS:

- REGISTER ACCESS ERROR
- DATA COMPARE ERROR IN PCSR2
- DATA COMPARE ERROR IN PCSR3
- DNI BIT FAILED TO SET AFTER DEVICE RESET
- SELF TEST FAILURE
- WRITING ONE TO CLEAR DNI BIT FAILED
- NO DNI INTERRUPT OCCURED AFTER GET PCBB PORT COMMAND
- DNI BIT FAILED TO SET AFTER NOP PORT COMMAND
- DNI BIT FAILED TO SET AFTER GET PCBB PORT COMMAND
- DNI BIT FAILED TO SET AFTER GET CMD PORT COMMAND
- DNI BIT FAILED TO SET AFTER START PORT COMMAND
- TXI BIT FAILED TO SET
- WRITING ONE TO CLEAR TXI BIT FAILED
- RXI BIT FAILED TO SET
- WRITING ONE TO CLEAR RXI BIT FAILED
- TIMEOUT ERROR - DELUA FAILED TO RELINQUISH OWNERSHIP OF RDRB
- TIMEOUT ERROR - DELUA FAILED TO RELINQUISH OWNERSHIP OF TDRB
- DNI BIT FAILED TO SET AFTER STOP PORT COMMAND
- DATA COMPARE ERROR IN TRANSMIT DESCRIPTOR RING
- DATA COMPARE ERROR IN RECEIVE DESCRIPTOR RING
- TRANSMIT-RECEIVE DATA COMPARE ERROR
- CRC COMPARE ERROR
- INTERNAL ROM CRC COMPARE ERROR
- RCBI BIT FAILED TO SET
- TIMEOUT ERROR - DELUA FAILED TO RELINQUISH OWNERSHIP OF FIRST TDRB
- TIMEOUT ERROR - DELUA FAILED TO RELINQUISH OWNERSHIP OF SECOND TDRB
- TIMEOUT ERROR - DELUA FAILED TO RELINQUISH OWNERSHIP OF FIRST RDRB
- TIMEOUT ERROR - DELUA FAILED TO RELINQUISH OWNERSHIP OF SECOND RDRB
- DATA COMPARE ERROR IN FIRST TRANSMIT DESCRIPTOR RING
- DATA COMPARE ERROR IN SECOND TRANSMIT DESCRIPTOR RING
- DATA COMPARE ERROR IN FIRST RECEIVE DESCRIPTOR RING
- DATA COMPARE ERROR IN SECOND RECEIVE DESCRIPTOR RING
- DNI BIT NOT SET AFTER PORT HALT COMMAND
- FATAL ERROR - DELUA ID BIT NOT SET
- ERROR - LOOPBACK SUCCESSFUL WITH INVALID DESTINATION ADDRESS
- INTERNAL RAM MEMORY DATA COMPARE ERROR
- DNI BIT FAILED TO SET AFTER SELF TEST PORT COMMAND
- INTERRUPT SUMMARY BIT FAILED TO SET ON DNI SET
- 'BUFL', IN TDRB+6 NOT SET ON XMIT BUFF OVERFLOW WITH <DTCR=0>
- 'BUFL', IN TDRB+6 NOT SET ON XMIT BUFF OVERFLOW WITH <DTCR=1>
- PCSR0 INTERRUPT BIT CLEAR ERROR
- RECEIVED PACKET COUNTER NOT GREATER THAN 0

4.0 PERFORMANCE AND PROGRESS REPORTS

AT THE END OF EACH PASS, THE PASS COUNT IS GIVEN ALONG WITH THE TOTAL NUMBER OF ERRORS REPORTED SINCE THE DIAGNOSTIC WAS STARTED. THE "EOP" SWITCH CAN BE USED TO CONTROL HOW OFTEN THE END OF PASS MESSAGE IS PRINTED. SECTION 2.2 DESCRIBES SWITCHES.

5.0 DEVICE INFORMATION TABLES

AT THE COMPLETION OF THE FIRST PASS FOR EACH DEVICE BEING TESTED DEVICE INFORMATION FOR THAT DEVICE IS PRINTED. THIS PRINTOUT CONTAINS THE ETHERNET DEFAULT ADDRESS, THE ROM MICROCODE VERSION, AND THE SWITCH PACK SETTINGS FOR SELF TEST LOOP AND REMOTE BOOT.

EXAMPLE PRINTOUT:

ETHERNET DEFAULT ADDRESS (HEX): AA-00-03-00-00-02

ROM MICROCODE VERSION (DECIMAL): 1

SWITCH PACK SET FOR :

 SELF TEST MANUFACTURING MODE DISABLED

 REMOTE BOOT ENABLED WITH ROM

NOTE: THIS INFORMATION MAY BE PRINTED WITHOUT RUNNING THE ENTIRE DIAGNOSTIC IF TEST 27 IS RUN SEPARATELY VIA THE /TESTS:27 SUPERVISOR SWITCH.

6.0 TEST SUMMARIES

TEST 1: PCSRO READ ACCESS

VERIFIES:
A DEVICE IS PRESENT AT THE PCSRO
UNIBUS ADDRESS SPECIFIED.

TEST 2: PCSR1 READ ACCESS

VERIFIES:
A DEVICE IS PRESENT AT THE PCSR1
UNIBUS ADDRESS SPECIFIED.

TEST 3: DELUA RESET TEST

VERIFIES:
BOTH DNI, AND INTR BITS SET IN PCSRO
FOLLOWING SETTING THE DELUA RESET BIT.

ALSO THAT BIT 06, AND NO OTHER BITS IN THE
IN THE PCSR1 DEVICE ID FIELD IS SET FOLLOWING
A DELUA RESET

;B0

;B0
;B0

TEST 4: PCSR2 READ ACCESS

VERIFIES:
A DEVICE IS PRESENT AT THE PCSR2
UNIBUS ADDRESS SPECIFIED.

TEST 5: PCSR3 READ ACCESS

VERIFIES:
A DEVICE IS PRESENT AT THE PCSR3
UNIBUS ADDRESS SPECIFIED.

TEST 6: PCSR2 STATIC BIT

VERIFIES:
PCSR2 FOR ALL STUCK-AT-0 (SA0) AND STUCK-AT-1
(SA1) ERRORS. THE HOST WILL WRITE PATTERNS
TO PCSR2, AND READ THEM BACK TO VERIFY.

TEST 7: PCSR3 STATIC BIT

VERIFIES:

PCSR3 FOR ALL SA0 AND SA1 ERRORS. THE HOST WILL WRITE PATTERNS TO PCSR3 AND READ THEM BACK TO VERIFY.

TEST 8: SELF TEST

VERIFIES:

THE ROM BASED SELF TEST CAN BE RUN SUCCESSFULLY WHEN INVOKED VIA THE SELF TEST PORT COMMAND.

TEST 9: PORT COMMAND

VERIFIES:

NO ERRORS OCCUR WHEN A DELUA PORT COMMAND IS ISSUED.

TEST 10: INTERRUPT LOGIC

VERIFIES:

A DELUA INTERRUPT CAN BE GENERATED.

TEST 11: READ INTERNAL ROM

VERIFIES:

INTERNAL ROM.

TEST 12: READ/WRITE INTERNAL MEMORY

VERIFIES:

INTERNAL RAM CAN BE WRITTEN AND READ

TEST 13: INTERNAL LOOPBACK

VERIFIES:

NO ERRORS OCCUR WHEN A DATAGRAM IS TRANSMITTED AND RECEIVED IN INTERNAL LOOPBACK MODE.

TEST 14: CRC CHECKING

VERIFIES:

CRC CHECKING LOGIC IS OPERATIONAL.

TEST 15: FORCE CRC ERROR

VERIFIES:
CRC ERROR DETECTION IS OPERATIONAL.

TEST 16: NO RECEIVE BUFFER

VERIFIES:
A RECEIVE BUFFER ERROR (RCBI) CAN BE GENERATED.

TEST 17: DISABLE RECEIVE CHAINING

VERIFIES:
DISABLE RECEIVE CHAINING MODE IS OPERATIONAL.

TEST 18: TRANSMIT CHAINING ERROR

VERIFIES:
DETECTION OF A BUFFER LENGTH ERROR WILL CAUSE
THE CORRESPONDING ERROR BIT, 'BUFL' TO SET IN
THE TRANSMIT DESCRIPTOR RING.

TEST 19: DATA CHAINING

VERIFIES:
TRANSMIT AND RECEIVE DATA CHAINING.

TEST 20: PHYSICAL ADDRESS

VERIFIES:
PHYSICAL ADDRESS FUNCTION IS OPERATIONAL.

TEST 21: MULTICAST ADDRESS

VERIFIES:
MULTICAST ADDRESS FUNCTION IS OPERATIONAL.

TEST 22: PROMISCUOUS ADDRESS

VERIFIES:
THE DELUA IN PROMISCUOUS MODE WILL ACCEPT ALL
PACKETS REGARDLESS OF DESTINATION ADDRESS.

TEST 23: ENABLE ALL MULTICAST

VERIFIES:
THE DELUA IN MULTICAST MODE WILL ACCEPT ALL
PACKETS WITH MULTICAST DESTINATION ADDRESSES.

TEST 24: INT. LOOPBACK TRANSMIT LENGTH ERROR

VERIFIES:
IF PORT DRIVER ATTEMPTS TO TRANSMIT GREATER THAN A
32 BYTE <DTCR = 0> OR 36 BYTE <DTCR = 1> TRANSMIT
FRAME, THE DEVICE WILL RETURN A 'TRANSMIT LENGTH'
ERROR.

TEST 25: SIMULTANEOUS OPERATIONS

VERIFIES:
SIMULTANEOUS OPERATIONS CAN BE PERFORMED.

TEST 26: EXTERNAL LOOPBACK (MANUAL INTERVENTION REQUIRED ON FIRST PASS) ;B0

NOTE: IN ORDER TO PERFORM, THIS TEST MUST BE SOFTWARE SELECTED

:***** ;B0

OPTIONAL SETUPS:

- 1) DEFAULT - (DID NOT CHANGE SOFTWARE P-TABLE), OR
ANSWERED NO FOR "RUN EXTERNAL LOOPBACK
TEST?" IN SOFTWARE P-TABLE.
ACTION - EXTERNAL LOOPBACK TEST WILL BE SKIPPED.
- 2) TEST SELECTED, BUT ANSWERED NO FOR "TO AVOID MAN.
INTERVENTION, INSTALL LOOPBACK NOW?", IN
SOFTWARE P-TABLE.
ACTION - IF IN ATTENDED MODE, TEST WILL ASK,
ON FIRST PASS ONLY, TO HAVE OPERATOR
INSTALL LOOPBACK CONNECTOR, THEN PROCEED
WITH TEST.

IF IN UAM, WILL ISSUE A SKIP TEST MESSAGE
AND EXIT THE TEST.
- 3) TEST SELECTED, ANSWERED YES FOR "TO AVOID MAN.
INTERVENTION INSTALL LOOPBACK NOW?", IN

SOFTWARE P-TABLE.
ACTION - TEST ASSUMES THAT LOOPBACK HAS BEEN INSTALLED,
AND WILL RUN WITHOUT OPERATOR INTERVENTION
REGARDLESS OF UAM SELECTION.

VERIFIES:
USING AN H4080, OR EQUIVALENT, LOOPBACK CONNECTOR,
INSURES NO ERRORS OCCUR WHEN A DATAGRAM IS TRANSMITTED
AND, RECEIVED IN EXTERNAL LOOPBACK MODE.

TEST 27: PRINT DEVICE PARAMETERS (PERFORMED ON FIRST PASS ONLY)

VERIFIES:
PRINTS THE DEFAULT PHYSICAL ADDRESS, THE MICROCODE
REVISION, AND THE SWITCH PACK SETTINGS.

&

```

896          .TITLE PROGRAM HEADER AND TABLES
897
898          .SBTTL PROGRAM HEADER
916
918 000000          .ENABL ABS,AMA
919          002000          .=2000
921
922 002000          BGNMOD
923
924          ;++
925          ; THE PROGRAM HEADER IS THE INTERFACE BETWEEN
926          ; THE DIAGNOSTIC PROGRAM AND THE SUPERVISOR.
927          ;--
928
929 002000          POINTER BGNRPT,BGNSW,BGNSFT,BGNAU,BGNDU,ERRTBL
930
931
932          HEADER CZUAD,B,0,11,0,340
    
```

```

002000
002000          103
002001          132
002002          12
002003          101
002004          104
002005          000
002006          000
002007          000
002010
002010          102
002011          060
002012
002012          000000
002014
002014          000011
002016
002016          104272
002020
002020          104404
002022
002022          002214
002024
002024          002222
002026
002026          104700
002030
002030          000000
002032
002032          000000
002034
002034          000000
002036
002036          000000
002040
002040          002124
002042
002042          000340
    
```

```

L$NAME::          .ASCII /C/
                  .ASCII /Z/
                  .ASCII /U/
                  .ASCII /A/
                  .ASCII /D/
                  .BYTE 0
                  .BYTE 0
                  .BYTE 0
L$REV::          .ASCII /B/
L$DEPO::          .ASCII /O/
L$UNIT::          .WORD 0
L$TIML::          .WORD 11
L$HPCP::          .WORD L$HARD
L$SPCP::          .WORD L$SOFT
L$HPTP::          .WORD L$HW
L$SPTP::          .WORD L$SW
L$LADP::          .WORD L$LAST
L$STA::          .WORD 0
L$CO::           .WORD 0
L$DTYP::          .WORD 0
L$APT::           .WORD 0
L$DTP::           .WORD L$DISPATCH
L$PRIO::          .WORD 340
    
```

002044	
002044	000000
002046	
002046	000000
002050	
002050	004
002051	000
002052	
002052	000000
002054	000000
002056	
002056	000000
002060	
002060	020662
002062	
002062	035370
002064	
002064	000000
002066	
002066	000000
002070	
002070	036350
002072	
002072	036342
002074	
002074	000000
002076	
002076	020670
002100	
002100	104035
002102	
002102	020652
002104	
002104	035404
002106	
002106	036172
002110	
002110	036170
002112	
002112	035376
002114	
002114	000000
002116	
002116	000000
002120	
002120	000000

933
934

L\$ENVI::	.WORD	0
L\$EXP1::	.WORD	0
L\$MREV::	.BYTE	C\$REVISION
	.BYTE	C\$EDIT
L\$EF::	.WORD	0
	.WORD	0
L\$SPC::	.WORD	0
L\$DEVP::	.WORD	L\$DVTYP
L\$REPP::	.WORD	L\$RPT
L\$EXP4::	.WORD	0
L\$EXP5::	.WORD	0
L\$AUT::	.WORD	L\$AU
L\$DUT::	.WORD	L\$DU
L\$LUN::	.WORD	0
L\$DESP::	.WORD	L\$DESC
L\$LOAD::	EMT	E\$LOAD
L\$ETP::	.WORD	L\$ERRTBL
L\$ICP::	.WORD	L\$INIT
L\$CCP::	.WORD	L\$CLEAN
L\$ACP::	.WORD	L\$AUTO
L\$PRT::	.WORD	L\$PROT
L\$TEST::	.WORD	0
L\$DLY::	.WORD	0
L\$HIME::	.WORD	0

.SBTTL DISPATCH TABLE

;++
: THE DISPATCH TABLE CONTAINS THE STARTING ADDRESS OF EACH TEST.
: IT IS USED BY THE SUPERVISOR TO DISPATCH TO EACH TEST.
:--

DISPATCH 27.

```

936
937
938
939
940
941
942
943 002122
    002122 000033
    002124
    002124 036436
    002126 036614
    002130 037000
    002132 037224
    002134 037410
    002136 037574
    002140 040006
    002142 040220
    002144 041652
    002146 042276
    002150 042644
    002152 043370
    002154 044624
    002156 046234
    002160 047612
    002162 051226
    002164 052330
    002166 053742
    002170 055230
    002172 057034
    002174 062512
    002176 066446
    002200 072702
    002202 075174
    002204 076634
    002206 100520
    002210 102400

```

944

```

          .WORD 27
L$DISPATCH::
          .WORD T1
          .WORD T2
          .WORD T3
          .WORD T4
          .WORD T5
          .WORD T6
          .WORD T7
          .WORD T8
          .WORD T9
          .WORD T10
          .WORD T11
          .WORD T12
          .WORD T13
          .WORD T14
          .WORD T15
          .WORD T16
          .WORD T17
          .WORD T18
          .WORD T19
          .WORD T20
          .WORD T21
          .WORD T22
          .WORD T23
          .WORD T24
          .WORD T25
          .WORD T26
          .WORD T27

```

946
947
948
949
950
951
952
953
954
955
956
957
958
959

002212
002212 000002
002214
002214
002214
000000
000000
002220
002220

.SBTTL DEFAULT HARDWARE P-TABLE

;++
; THE DEFAULT HARDWARE P-TABLE CONTAINS DEFAULT VALUES OF
; THE TEST-DEVICE PARAMETERS. THE STRUCTURE OF THIS TABLE
; IS IDENTICAL TO THE STRUCTURE OF THE HARDWARE P-TABLES,
; AND IS USED AS A "TEMPLATE" FOR BUILDING THE P-TABLES.
;--

BGNHW DFPTBL

.WORD L10000-L\$HW/2

L\$HW::
DFPTBL::

.WORD 0
.WORD 0
ENDHW

; PCSRO - UNIBUS ADDRESS
; DELUA INTERRUPT VECTOR

L10000:

J2

961
962
963
964
965
966
967
968
969
970
971
972
973
974
975
976
977
978

002220
002220 000002
002222
002222

002222 000000
002224 000000

002226
002226

.SBTTL SOFTWARE P-TABLE

; ++
; THE SOFTWARE TABLE CONTAINS VARIOUS DATA USED BY THE
; PROGRAM AS OPERATIONAL PARAMETERS. THESE PARAMETERS ARE
; SET UP AT ASSEMBLY TIME AND MAY BE VARIED BY THE OPERATOR
; AT RUN TIME.
; --

BGNSW SFPTBL

.WORD L10001-L\$SW/2
L\$SW::
SFPTBL::

EXLOOP: .WORD 0 ; SELECT EXTERNAL LOOPBACK TEST FLAG
LOOPCN: .WORD 0 ; LOOPBACK CONNECTOR INSTALLED FLAG ;80
.EVEN
ENDSW

L10001:

991
992
1012
1013
1014
1015
1016
1017
1018
1019
1020
1021
1022 002226

.TITLE GLOBAL AREAS
.SBTTL GLOBAL EQUATES SECTION

;++
; THE GLOBAL EQUATES SECTION CONTAINS PROGRAM EQUATES THAT
; ARE USED IN MORE THAN ONE TEST.
;--

EQUALS

; BIT DIFINITIONS

100000	BIT15== 100000
040000	BIT14== 40000
020000	BIT13== 20000
010000	BIT12== 10000
004000	BIT11== 4000
002000	BIT10== 2000
001000	BIT09== 1000
000400	BIT08== 400
000200	BIT07== 200
000100	BIT06== 100
000040	BIT05== 40
000020	BIT04== 20
000010	BIT03== 10
000004	BIT02== 4
000002	BIT01== 2
000001	BIT00== 1

001000	BIT9== BIT09
000400	BIT8== BIT08
000200	BIT7== BIT07
000100	BIT6== BIT06
000040	BIT5== BIT05
000020	BIT4== BIT04
000010	BIT3== BIT03
000004	BIT2== BIT02
000002	BIT1== BIT01
000001	BIT0== BIT00

; EVENT FLAG DEFINITIONS
; EF32:EF17 RESERVED FOR SUPERVISOR TO PROGRAM COMMUNICATION

000040	EF.START== 32.	; BIT POSITION IN SECOND STATUS WORD
000037	EF.RESTART== 31.	; (100000) START COMMAND WAS ISSUED
000036	EF.CONTINUE== 30.	; (040000) RESTART COMMAND WAS ISSUED
000035	EF.NEW== 29.	; (020000) CONTINUE COMMAND WAS ISSUED
000034	EF.PWR== 28.	; (010000) A NEW PASS HAS BEEN STARTED
		; (004000) A POWER-FAIL/POWER-UP OCCURRED

; PRIORITY LEVEL DEFINITIONS


```

000340      PRI07== 340
000300      PRI06== 300
000240      PRI05== 240
000200      PRI04== 200
000140      PRI03== 140
000100      PRI02== 100
000040      PRI01== 40
000000      PRI00== 0

```

; OPERATOR FLAG BITS

```

000004      EVL==      4
000010      LOT==     10
000020      ADR==     20
000040      IDU==     40
000100      ISR==    100
000200      UAM==    200
000400      BOE==    400
001000      PNT==   1000
002000      PRI==   2000
004000      IXE==   4000
010000      IBE==  10000
020000      IER==  20000
040000      LOE==  40000
100000      HOE== 100000

```

```

1023
1024
1025
1026
1027
1028
1029
1030
1031
1032
1033
1034
1035
1036
1037
1038
1039
1040
1041
1042
1043
1044
1045
1046
1047
1048
1049
1050
1051
1052
1053
1054

```

```

100000
040000
020000
010000
004000
002000
001000
000400
175400
000200
000100
000040
000020
000010
000004
000002
000001
000200
000100
000040
000001
000002
000003

```

; PCSRO - PORT CONTROL AND STATUS REGISTER 0

```

SERI == BIT15
PCEI == BIT14
RXI  == BIT13
TXI  == BIT12
DNI  == BIT11
RCBI == BIT10
FATL == BIT09

```

```

; STATUS ERROR INTERRUPT
; PORT COMMAND ERROR INTERRUPT
; RECEIVE RING INTERRUPT
; TRANSMIT RING INTERRUPT
; DONE INTERRUPT
; RECEIVE BUFFER UNAVAILABLE
; FATAL ERROR INTERRUPT -
; TELL PORT DRIVER TO IGNORE CONTENTS
; OF PCSR1
; UNSOLICITED STATE CHANGE INTERRUPT
SERI+PCEI+RXI+TXI+DNI+FATL+USCI
; WRITE 1 TO CLEAR MASK - PCSRO UPPER BYTE
; STATUS ERROR INTERRUPT BYTE REFERENCE
; PORT COMMAND ERROR INTERRUPT BYTE REF
; RECEIVE RING INTERRUPT BYTE REF
; TRANSMIT RING INTERRUPT BYTE REF
; DONE INTERRUPT BYTE REF
; RECEIVE BUFFER UNAVAILABLE
; FATAL ERROR INTERRUPT BYTE REF.
; UNSOLICITED STATE CHANGE INTERRUPT BYTE REF.

```

```

USCI == BIT08
CLINTB == SERI+PCEI+RXI+TXI+DNI+FATL+USCI
SERIB == BIT07
PCEIB == BIT06
RXIB  == BIT05
TXIB  == BIT04
DNIB  == BIT03
RCBIB == BIT02
FATLIB == BIT01
USCIB == BIT00

```

```

INTR == BIT07
INTE == BIT06
RSET == BIT05

```

```

; INTERRUPT SUMMARY <15:08>
; INTERRUPT ENABLE
; DELUA RESET

```

; DEVICE ID <06:04>

; IDENTIFIES DEVICE TO HOST

; PORT COMMANDS <03:00>

```

GETPCB == BIT00
GETCMD == BIT01
SLFT   == BIT00!BIT01

```

```

1055      000004      START == BIT02
1056      000006      PNOP  == BIT01!BIT02
1057      000010      PDMD  == BIT03
1058      000016      HALT  == BIT03!BIT02!BIT01
1059      000017      STOP  == BIT03!BIT02!BIT01!BIT00
1060
1061      ;PCSR1 - PORT CONTROL AND STATUS REGISTER 1
1062
1063      ;SELF TEST ERROR CODE <13:08>
1064      140377      STMASK == 140377 ; SELF TEST MASK
1065
1066      000200      PCTO  == BIT07 ; PORT COMMAND TIMEOUT
1067
1068      000010      RMTC  == BIT03 ; REMOTE CONSOLE RESERVED
1069
1070
1071      ;DEVICE ID FIELD <06:04>
1072      000020      DELUAI == 20 ;DEVICE IS DELUA IF ONLY BIT SET
1073
1074      ;PORT STATE <02:00>
1075      177770      SMASK == 177770 ; STATE MASK
1076
1077      000000      RESET == 0 ; PRIMARY LOAD STATE
1078      000001      PRILD == BIT00
1079      000002      READY == BIT01
1080      000003      RUN   == BIT00!BIT01
1081      000005      UNHLT == BIT00!BIT02
1082      000006      NIHLT == BIT01!BIT02
1083      000007      NIUNI == BIT00!BIT01!BIT02
1084
1085      ;DESCRIPTOR RING DEFINITIONS
1086      100000      OMN   == BIT15
1087      040000      ERRS  == BIT14
1088      001000      STP   == BIT09
1089      000400      ENP   == BIT08
1090
1091      100000      BUFL  == BIT15
1092      ;GLOBAL EQUATES
1093      000000      ZERO  == 0
1094      177777      ONES  == 177777
1095      000377      TIMASK == 377 ; UPPER BYTE = ONES
1096      000000      GOODST == 0 ; SUCCESSFUL SELF TEST CODE
1097      172377      STATEM == 172377 ; MASK ALL PCSRO BITS EXCEPT STATE BITS
1098      175015      CMODE1 == 175015 ; ALL SETABLE MODE BITS = ONES
1099      007777      TDRMSK == 7777 ; TDR MASK
1100      002540      DTYPE == 2540 ; DIAGNOSTIC TYPE FIELD
1101
1102      000000      INITH  == 0 ; INITIAL CRC VALUE
1103      ;POLYH == 120001 ; CRC POLYNOMIAL
1104      120001      POLYHI == 120001 ;CRC POLYNOMIAL
1105
1106      ;SIZ4K == 20000 ; 4K WORDS
1107      040000      SIZ8K == SIZ4K*2 ; 8K WORDS
1108      000077      SECOND == 63. ;63 LINE CLOCK TICKS = APROX. 1 SECOND
1109      000100      IE    == 100 ;INTERRUPT ENABLE FOR LINE CLOCK

```

```

1111          .SBTTL GLOBAL DATA SECTION
1112
1113          ;++
1114          ; THE GLOBAL DATA SECTION CONTAINS DATA THAT ARE USED
1115          ; IN MORE THAN ONE TEST.
1116          ;--
1117          ; ADDRESSES FOR DELUA UNDER TEST
1118          ;
1119 002226 000000 PCSRO:          .WORD 0          ; ADDRESS OF PCSRO
1120 002230 000000 PCSR1:          .WORD 0          ; ADDRESS OF PCSR1
1121 002232 000000 PCSR2:          .WORD 0          ; ADDRESS OF PCSR2
1122 002234 000000 PCSR3:          .WORD 0          ; ADDRESS OF PCSR3
1123 002236 000000 PCSROUB:         .WORD 0          ; ADDRESS OF THE UPPER BYTE OF PCSRO
1124 002240 000000 PCSROC:          .WORD 0          ; PCSRO DATA SAVE LOCATION
1125          ;
1126 002242 000000 INTVEC:         .WORD 0          ; ADDRESS OF DELUA INTERRUPT VECTOR
1127 002244 000240 UNAPRI:         .WORD 240        ; UNA PRIORITY = 5
1128 002246 000000 UNIT:          .WORD 0          ; UNIT NUMBER
1129          ;
1130          ;
1131 002250 000000 CLKTAB:          .WORD 0          ;LINE CLOCK STATUS REGISTER
1132 002252 000000 CLKCSR:         .WORD 0          ;LINE CLOCK PRIORITY
1133 002254 000000 CLKC?:          .WORD 0          ;LINE CLOCK VECTOR
1134 002256 000000 CLKVEC:         .WORD 0          ;LINE CLOCK FREQUENCY
1135          ;
1136 002260 000000 DEST:          .WORD 0          ; DESTINATION ADDRESS
1137 002262 000000          .WORD 0
1138 002264 000000          .WORD 0
1139          ;
1140 002266 000000 SRC:          .WORD 0          ; SOURCE ADDRESS
1141 002270 000000          .WORD 0
1142 002272 000000          .WORD 0
1143          ;
1144 002274 000000 DFAULT:         .WORD 0          ; DEFAULT ADDRESS
1145 002276 000010          .WORD 10
1146 002300 000000          .WORD 0
1147
1148          ;
1149          ;DATA STRUCTURES
1150          ;
1151 002302 PCBB:          .BLKW 4          ; PORT CONTROL BLOCK
1152 002312 UDDB:          .BLKW 100.        ; UNIBUS DATA BLOCK
1153 002622 TDRB:          .BLKW 16.          ; TRANSMIT DESCRIPTOR RING
1154 002662 RDRB:          .BLKW 16.          ; RECEIVE DESCRIPTOR RING
1155 002722 RDRBE:         .BLKW 30.          ; EXTENDED TDRB
1156 003016 TDRX:          .BLKW 196.         ; VERY EXTENDED TDRB
1157 003626 RDRX:          .BLKW 196.         ; VERY EXTENDED RDRB
1158          ;
1159 004436 004000 .WORD TEND-TBUF ;LENGTH OF TRANSMIT BUFFERS IN BYTES
1160 004440 TBUF:          .BLKW 128.         ; TRANSMIT BUFFER
1161 005040 TBUF2:         .BLKW 128.
1162 005440 TBUF3:         .BLKW 128.
1163 006040 TBUF4:         .BLKW 128.
1164 006440 TBUF5:         .BLKW 128.
1165 007040 TBUF6:         .BLKW 128.
1166 007440 TBUF7:         .BLKW 128.
1167 010040 TBUF8:         .BLKW 128.

```

```

1168          010440          TEND = .
1169
1170 010440 004000          .WORD  REND-RBUF          ;LENGTH OF RECEIVE BUFFERS IN BYTES
1171 010442          RBUF:          .BLKW  128.          ; RECEIVE BUFFER
1172 011042          RBUF2:         .BLKW  128.
1173 011442          RBUF3:         .BLKW  128.
1174 012042          RBUF4:         .BLKW  128.
1175 012442          RBUF5:         .BLKW  128.
1176 013042          RBUF6:         .BLKW  128.
1177 013442          RBUF7:         .BLKW  128.
1178 014042          RBUF8:         .BLKW  128.
1179          014442          REND = .
1180
1181
1182          ;DEFAULT PORT FUNCTIONS
1183
1184 014442 000000          NOPF:          .WORD  0          ; NOP FUNCTION
1185 014444 000000          .WORD  0
1186 014446 000000          .WORD  0
1187 014450 000000          .WORD  0
1188
1189 014452 000001          ;LSMA:          .WORD  1          ; LOAD AND START MICROADDRESS FUNCTION
1190 014454 177777          .WORD  177777      ; STARTING INTERNAL ADDRESS OF SELFTEST
1191 014456 000000          .WORD  0
1192 014460 000000          .WORD  0
1193
1194 014462 000002          ;RDDEFA:       .WORD  2          ; READ DEFAULT PHYSICAL ADDRESS FUNCTION
1195 014464 000000          .WORD  0
1196 014466 000000          .WORD  0
1197 014470 000000          .WORD  0
1198
1199 014472 000004          ;RDPHYA:       .WORD  4          ; READ PHYSICAL ADDRESS FUNCTION
1200 014474 000000          .WORD  0
1201 014476 000000          .WORD  0
1202 014500 000000          .WORD  0
1203
1204 014502 000005          ;WTPHYA:       .WORD  5          ; WRITE PHYSICAL ADDRESS
1205 014504 000000          .WORD  0          ; PHYADR
1206 014506 000000          .WORD  0          ; PHYADR
1207 014510 000000          .WORD  0          ; PHYADR
1208
1209 014512 000006          ;RDMULA:       .WORD  6          ; READ MULTICAST ADDRESS LIST FUNCTION
1210 014514 002312          .WORD  UD8B        ; ADDRESS OF UNIBUS DATA BLOCK BASE
1211 014516 005000          .WORD  5000        ; MULTICAST ADDR TABLE LENGTH= 10(10)
1212 014520 000000          .WORD  0
1213
1214 014522 000007          ;WTMULA:       .WORD  7          ; WRITE MULTICAST ADDRESS LIST FUNCTION
1215 014524 002312          .WORD  UD8B        ; ADDRESS OF UNIBUS DATA BLOCK BASE
1216 014526 005000          .WORD  5000        ; MULTICAST ADDR TABLE LENGTH= 10(10)
1217 014530 000000          .WORD  0
1218
1219 014532 000010          ;RDRNGS:       .WORD  10         ; READ RING FORMAT FUNCTION
1220 014534 002312          .WORD  UD8B        ; ADDRESS OF UNIBUS DATA BLOCK BASE
1221 014536 000000          .WORD  0
1222 014540 000000          .WORD  0
1223
1224 014542 000011          ;WTRNGS:       .WORD  11         ; WRITE RING FORMAT FUNCTION

```

1225	014544	002312	.WORD	UDBB	; ADDRESS OF UNIBUS DATA BLOCK BASE
1226	014546	000000	.WORD	0	
1227	014550	000000	.WORD	0	
1228					
1229	014552	000012	.WORD	12	; READ COUNTERS FUNCTION
1230	014554	002312	.WORD	UDBB	; ADDRESS OF UNIBUS DATA BLOCK BASE
1231	014556	000000	.WORD	0	
1232	014560	000070	.WORD	70	; COUNTERS LIST LENGTH= 56(10)
1233					
1234	014562	000013	.WORD	13	; READ AND CLEAR COUNTERS FUNCTION
1235	014564	002312	.WORD	UDBB	; ADDRESS OF UNIBUS DATA BLOCK BASE
1236	014566	000000	.WORD	0	
1237	014570	000070	.WORD	70	; COUNTERS LIST LENGTH= 56(10)
1238					
1239	014572	000014	.WORD	14	; READ MODE FUNCTION
1240	014574	000000	.WORD	0	
1241	014576	000000	.WORD	0	
1242	014600	000000	.WORD	0	
1243					
1244	014602	000015	.WORD	15	; WRITE MODE FUNCTION
1245	014604	100104	.WORD	100104	; PROM AND INTERNAL LOOPBACK MODE
1246					; GENERATE CRC
1247	014606	000000	.WORD	0	
1248	014610	000000	.WORD	0	
1249					
1250	014612	000015	.WORD	15	; WRITE MODE FUNCTION
1251	014614	104104	.WORD	104104	; PROM AND INTERN LOOPBACK AND ENABL COLL TEST
1252					; GENERATE CRC
1253	014616	000000	.WORD	0	
1254	014620	000000	.WORD	0	
1255					
1256	014622	000015	.WORD	15	; WRITE MODE FUNCTION
1257	014624	100114	.WORD	100114	; PROM,INTERNAL LOOPBACK,NO GENERATE CRC
1258	014626	000000	.WORD	0	
1259	014630	000000	.WORD	0	
1260					
1261	014632	000015	.WORD	15	; WRITE MODE FUNCTION
1262	014634	100004	.WORD	100004	; PROM,EXT.LOOPBACK, GENERATE CRC
1263	014636	000000	.WORD	0	
1264	014640	000000	.WORD	0	
1265					
1266	014642	000015	.WORD	15	; WRITE MODE FUNCTION
1267	014644	100014	.WORD	100014	; PROM;EXT.LOOPBACK, NO GENERATE CRC
1268					
1269	014646	000016	.WORD	16	; READ STATUS FUNCTION
1270	014650	000000	.WORD	0	
1271	014652	000000	.WORD	0	
1272	014654	000000	.WORD	0	
1273					
1274	014656	000017	.WORD	17	; READ AND CLEAR STATUS FUNCTION
1275	014660	000000	.WORD	0	
1276	014662	000000	.WORD	0	
1277	014664	000000	.WORD	0	
1278					
1279	014666	000020	.WORD	20	; DUMP INTERNAL MEMORY FUNCTION
1280	014670	002312	.WORD	UDBB	; ADDRESS OF UNIBUS DATA BLOCK BASE
1281	014672	000000	.WORD	0	

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1282 014674 000000          .WORD  0
1283
1284 014676 000021          ; LDMEM:          .WORD  21          ; LOAD INTERNAL MEMORY FUNCTION
1285 014700 002312          .WORD  UDBB          ; ADDRESS OF UNIBUS DATA BLOCK BASE
1286 014702 000000          .WORD  0
1287 014704 000000          .WORD  0
1288
1289
1290          ; DEFAULT RING FORMATS
1291
1292 014706 002622          ; RFRMT:          .WORD  TDRB          ; TRANSMIT DESCRIPTOR RING ADDRESS
1293 014710 002000          .WORD  2000          ; TELEN = 6
1294 014712 000004          .WORD  4              ; TRLEN = 4
1295 014714 002662          .WORD  RDRB          ; RECEIVE DESCRIPTOR RING ADDRESS
1296 014716 002000          .WORD  2000          ; RELEN = 6
1297 014720 000004          .WORD  4              ; RRLEN = 4
1298
1299 014722 003016          ; RFRMTX:         .WORD  TDRX          ; TRANSMIT DESCRIPTOR RING ADDRESS
1300 014724 002000          .WORD  2000          ; TELEN = 6
1301 014726 000063          .WORD  51.           ; TRLEN = 51
1302 014730 002662          .WORD  RDRB          ; RECEIVE DESCRIPTOR RING ADDRESS
1303 014732 002000          .WORD  2000          ; RELEN = 6
1304 014734 000062          .WORD  50.           ; RRLEN = 50
1305
1306
1307 014736 003016          ; RFRMTE:         .WORD  TDRX          ; TRANSMIT DESCRIPTOR RING ADDRESS
1308 014740 002000          .WORD  2000          ; TELEN = 6
1309 014742 000063          .WORD  51.           ; TRLEN = 51
1310 014744 003626          .WORD  RDRX          ; RECEIVE DESCRIPTOR RING ADDRESS
1311 014746 002000          .WORD  2000          ; RELEN = 6
1312 014750 000062          .WORD  50.           ; RRLEN = 30
1313
1314
1315          ; DEFAULT RECEIVE DESCRIPTOR RINGS
1316
1317 014752 000040          ; RDRB1A:         .WORD  32.           ; SLEN = 32 BYTES
1318 014754 010442          .WORD  RBUF          ; SEGB = RBUF
1319 014756 100000          .WORD  100000        ; OWN = UNA
1320 014760 000000          .WORD  0
1321
1322          ;
1323          .WORD  32.           ; SLEN = 32 BYTES
1324          .WORD  RBUF          ; SEGB = RBUF
1325          .WORD  0              ; OWN = PORT DRIVER
1326
1327          ;
1328          .WORD  32.           ; SLEN = 32 BYTES
1329          .WORD  RBUF          ; SEGB = RBUF
1330          .WORD  0              ; OWN = PORT DRIVER
1331
1332          ;
1333          .WORD  32.           ; SLEN = 32 BYTES
1334          .WORD  RBUF          ; SEGB = RBUF
1335          .WORD  0              ; OWN = PORT DRIVER
1336
1337          ; RDRB1B:         .WORD  32.           ; SLEN = 32 BYTES
1338 015014 010442          .WORD  RBUF          ; SEGB = RBUF

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E3

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1339 015016 000000 .WORD 0 ; OWN = PORT DRIVER
1340 015020 000000 .WORD 0
1341 ;
1342 015022 000040 .WORD 32. ; SLEN = 32 BYTES
1343 015024 010442 .WORD RBUF ; SEGB = RBUF
1344 015026 000000 .WORD 0 ; OWN = PORT DRIVER
1345 015030 000000 .WORD 0
1346 ;
1347 015032 000040 .WORD 32. ; SLEN = 32 BYTES
1348 015034 010442 .WORD RBUF ; SEGB = RBUF
1349 015036 000000 .WORD 0 ; OWN = PORT DRIVER
1350 015040 000000 .WORD 0
1351 ;
1352 015042 000040 .WORD 32. ; SLEN = 32 BYTES
1353 015044 010442 .WORD RBUF ; SEGB = RBUF
1354 015046 000000 .WORD 0 ; OWN = PORT DRIVER
1355 015050 000000 .WORD 0
1356 ;
1357 015052 000040 RDRB2A: .WORD 32. ; SLEN = 32 BYTES
1358 015054 010442 .WORD RBUF ; SEGB = RBUF
1359 015056 100000 .WORD 100000 ; OWN = UNA
1360 015060 000000 .WORD 0
1361 ;
1362 015062 000040 .WORD 32. ; SLEN = 32 BYTES
1363 015064 010442 .WORD RBUF ; SEGB = RBUF
1364 015066 100000 .WORD 100000 ; OWN = UNA
1365 015070 000000 .WORD 0
1366 ;
1367 015072 000040 .WORD 32. ; SLEN = 32 BYTES
1368 015074 010442 .WORD RBUF ; SEGB = RBUF
1369 015076 000000 .WORD 0 ; OWN = PORT DRIVER
1370 015100 000000 .WORD 0
1371 ;
1372 015102 000040 .WORD 32. ; SLEN = 32 BYTES
1373 015104 010442 .WORD RBUF ; SEGB = RBUF
1374 015106 000000 .WORD 0 ; OWN = PORT DRIVER
1375 015110 000000 .WORD 0
1376 ;
1377 015112 000100 RDRB3A: .WORD 64. ; SLEN = 64 BYTES
1378 015114 010442 .WORD RBUF ; SEGB = RBUF
1379 015116 100000 .WORD 100000 ; OWN = LUA
1380 015120 000000 .WORD 0
1381 ;
1382 015122 000100 .WORD 64. ; SLEN = 64 BYTES
1383 015124 011042 .WORD RBUF2 ; SEGB = RBUF2
1384 015126 100000 .WORD 100000 ; OWN = LUA
1385 015130 000000 .WORD 0
1386 ;
1387 015132 000100 .WORD 64. ; SLEN = 64 BYTES
1388 015134 011442 .WORD RBUF3 ; SEGB = RBUF3
1389 015136 100000 .WORD 100000 ; OWN = LUA
1390 015140 000000 .WORD 0
1391 ;
1392 015142 000100 .WORD 64. ; SLEN = 64 BYTES
1393 015144 010442 .WORD RBUF ; SEGB = RBUF
1394 015146 000000 .WORD 0 ; OWN = PORT DRIVER
1395 015150 000000 .WORD 0

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1396					
1397					
1398	015152	000040	RDRB4B:	.WORD 32.	; SLEN = 32 BYTES
1399	015154	010442		.WORD RBUF	; SEGB = RBUF
1400	015156	100000		.WORD 100000	; OWN = LUA
1401	015160	000000		.WORD 0	;
1402			;		
1403	015162	000040		.WORD 32.	;
1404	015164	010442		.WORD RBUF	;
1405	015166	100000		.WORD 100000	;
1406	015170	000000		.WORD 0	;
1407			;		
1408	015172	000040		.WORD 32.	;
1409	015174	010442		.WORD RBUF	;
1410	015176	100000		.WORD 100000	;
1411	015200	000000		.WORD 0	;
1412			;		
1413	015202	000040		.WORD 32.	;
1414	015204	010442		.WORD RBUF	;
1415	015206	100000		.WORD 100000	;
1416	015210	000000		.WORD 0	;
1417			;		
1418	015212	000040		.WORD 32.	;
1419	015214	010442		.WORD RBUF	;
1420	015216	100000		.WORD 100000	;
1421	015220	000000		.WORD 0	;
1422			;		
1423	015222	000040		.WORD 32.	; SLEN = 32 BYTES
1424	015224	010442		.WORD RBUF	; SEGB = RBUF
1425	015226	100000		.WORD 100000	; OWN = LUA
1426	015230	000000		.WORD 0	;
1427			;		
1428	015232	000040		.WORD 32.	;
1429	015234	010442		.WORD RBUF	;
1430	015236	100000		.WORD 100000	;
1431	015240	000000		.WORD 0	;
1432			;		
1433	015242	000040		.WORD 32.	;
1434	015244	010442		.WORD RBUF	;
1435	015246	100000		.WORD 100000	;
1436	015250	000000		.WORD 0	;
1437			;		
1438	015252	000040		.WORD 32.	;
1439	015254	010442		.WORD RBUF	;
1440	015256	100000		.WORD 100000	;
1441	015260	000000		.WORD 0	;
1442			;		
1443	015262	000040		.WORD 32.	;
1444	015264	010442		.WORD RBUF	;
1445	015266	100000		.WORD 100000	;
1446	015270	000000		.WORD 0	;
1447			;		
1448	015272	000040		.WORD 32.	; SLEN = 32 BYTES
1449	015274	010442		.WORD RBUF	; SEGB = RBUF
1450	015276	100000		.WORD 100000	; OWN = LUA
1451	015300	000000		.WORD 0	;
1452			;		

1453	015302	000040	.WORD	32.	:
1454	015304	010442	.WORD	RBUF	:
1455	015306	100000	.WORD	100000	:
1456	015310	000000	.WORD	0	:
1457					:
1458	015312	000040	.WORD	32.	:
1459	015314	010442	.WORD	RBUF	:
1460	015316	100000	.WORD	100000	:
1461	015320	000000	.WORD	0	:
1462					:
1463	015322	000040	.WORD	32.	:
1464	015324	010442	.WORD	RBUF	:
1465	015326	100000	.WORD	100000	:
1466	015330	000000	.WORD	0	:
1467					:
1468	015332	000040	.WORD	32.	:
1469	015334	010442	.WORD	RBUF	:
1470	015336	100000	.WORD	100000	:
1471	015340	000000	.WORD	0	:
1472					:
1473	015342	000040	.WORD	32.	: SLEN = 32 BYTES
1474	015344	010442	.WORD	RBUF	: SEGB = RBUF
1475	015346	100000	.WORD	100000	: OWN = LUA
1476	015350	000000	.WORD	0	:
1477					:
1478	015352	000040	.WORD	32.	:
1479	015354	010442	.WORD	RBUF	:
1480	015356	100000	.WORD	100000	:
1481	015360	000000	.WORD	0	:
1482					:
1483	015362	000040	.WORD	32.	:
1484	015364	010442	.WORD	RBUF	:
1485	015366	100000	.WORD	100000	:
1486	015370	000000	.WORD	0	:
1487					:
1488	015372	000040	.WORD	32.	:
1489	015374	010442	.WORD	RBUF	:
1490	015376	100000	.WORD	100000	:
1491	015400	000000	.WORD	0	:
1492					:
1493	015402	000040	.WORD	32.	:
1494	015404	010442	.WORD	RBUF	:
1495	015406	100000	.WORD	100000	:
1496	015410	000000	.WORD	0	:
1497					:
1498					:
1499	015412	000040	.WORD	32.	: SLEN = 32 BYTES
1500	015414	010442	.WORD	RBUF	: SEGB = RBUF
1501	015416	100000	.WORD	100000	: OWN = LUA
1502	015420	000000	.WORD	0	:
1503					:
1504	015422	000040	.WORD	32.	: SLEN = 32 BYTES
1505	015424	010442	.WORD	RBUF	: SEGB = RBUF
1506	015426	100000	.WORD	100000	: OWN = LUA
1507	015430	000000	.WORD	0	:
1508					:
1509	015432	000040	.WORD	32.	: SLEN = 32 BYTES

1510	015434	010442		.WORD	RBUF	; SEGB = RBUF
1511	015436	100000		.WORD	100000	; OWN = LUA
1512	015440	000000		.WORD	0	;
1513			:			
1514	015442	000040		.WORD	32.	; SLEN = 32 BYTES
1515	015444	010442		.WORD	RBUF	; SEGB = RBUF
1516	015446	100000		.WORD	100000	; OWN = LUA
1517	015450	000000		.WORD	0	;
1518			:			
1519	015452	000040		.WORD	32.	; SLEN = 32 BYTES
1520	015454	010442		.WORD	RBUF	; SEGB = RBUF
1521	015456	100000		.WORD	100000	; OWN = LUA
1522	015460	000000		.WORD	0	;
1523			:			
1524	015462	000040		.WORD	32.	; SLEN = 32 BYTES
1525	015464	010442		.WORD	RBUF	; SEGB = RBUF
1526	015466	100000		.WORD	100000	; OWN = LUA
1527	015470	000000		.WORD	0	;
1528			:			
1529	015472	000040		.WORD	32.	; SLEN = 32 BYTES
1530	015474	010442		.WORD	RBUF	; SEGB = RBUF
1531	015476	100000		.WORD	100000	; OWN = LUA
1532	015500	000000		.WORD	0	;
1533			:			
1534	015502	000040		.WORD	32.	; SLEN = 32 BYTES
1535	015504	010442		.WORD	RBUF	; SEGB = RBUF
1536	015506	100000		.WORD	100000	; OWN = LUA
1537	015510	000000		.WORD	0	;
1538			:			
1539	015512	000040		.WORD	32.	; SLEN = 32 BYTES
1540	015514	010442		.WORD	RBUF	; SEGB = RBUF
1541	015516	100000		.WORD	100000	; OWN = LUA
1542	015520	000000		.WORD	0	;
1543			:			
1544	015522	000040		.WORD	32.	; SLEN = 32 BYTES
1545	015524	010442		.WORD	RBUF	; SEGB = RBUF
1546	015526	100000		.WORD	100000	; OWN = LUA
1547	015530	000000		.WORD	0	;
1548			:			
1549	015532	000040		.WORD	32.	; SLEN = 32 BYTES
1550	015534	010442		.WORD	RBUF	; SEGB = RBUF
1551	015536	000000		.WORD	0	; OWN = PORT DRIVER
1552	015540	000000		.WORD	0	;
1553			:			
1554			:			
1555	015542	000020	RDRB4A:	.WORD	16.	; SLEN = 16 BYTES
1556	015544	010442		.WORD	RBUF	; SEGB = RBUF
1557	015546	100000		.WORD	100000	; OWN = LUA
1558	015550	000000		.WORD	0	;
1559			:			
1560	015552	000026		.WORD	22.	; SLEN = 22 BYTES (INCL. CRC)
1561	015554	011042		.WORD	RBUF2	; SEGB = RBUF2
1562	015556	100000		.WORD	100000	; OWN = LUA
1563	015560	000000		.WORD	0	;
1564			:			
1565	015562	000020		.WORD	16.	; SLEN = 16 BYTES
1566	015564	010442		.WORD	RBUF	; SEGB = RBUF

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1567 015566 000000      .WORD 000000 ; OWN = PORT DRIVER
1568 015570 000000      .WORD 0      ;
1569                    ;
1570                    ;
1571 015572 000040      .WORD 32.    ; SLEN = 32 BYTES
1572 015574 010442      .WORD RBUF   ; SEGB = RBUF
1573 015576 100000      .WORD 100000 ; OWN = LUA
1574 015600 000000      .WORD 0      ;
1575                    ;
1576 015602 000040      .WORD 32.    ;
1577 015604 010442      .WORD RBUF   ;
1578 015606 100000      .WORD 100000 ;
1579 015610 000000      .WORD 0      ;
1580                    ;
1581 015612 000040      .WORD 32.    ;
1582 015614 010442      .WORD RBUF   ;
1583 015616 100000      .WORD 100000 ;
1584 015620 000000      .WORD 0      ;
1585                    ;
1586 015622 000040      .WORD 32.    ;
1587 015624 010442      .WORD RBUF   ;
1588 015626 100000      .WORD 100000 ;
1589 015630 000000      .WORD 0      ;
1590                    ;
1591 015632 000040      .WORD 32.    ; SLEN = 32 BYTES
1592 015634 010442      .WORD RBUF   ; SEGB = RBUF
1593 015636 100000      .WORD 100000 ; OWN = LUA
1594 015640 000000      .WORD 0      ;
1595                    ;
1596 015642 000040      .WORD 32.    ;
1597 015644 010442      .WORD RBUF   ;
1598 015646 100000      .WORD 100000 ;
1599 015650 000000      .WORD 0      ;
1600                    ;
1601 015652 000040      .WORD 32.    ;
1602 015654 010442      .WORD RBUF   ;
1603 015656 100000      .WORD 100000 ;
1604 015660 000000      .WORD 0      ;
1605                    ;
1606 015662 000040      .WORD 32.    ;
1607 015664 010442      .WORD RBUF   ;
1608 015666 100000      .WORD 100000 ;
1609 015670 000000      .WORD 0      ;
1610                    ;
1611 015672 000040      .WORD 32.    ;
1612 015674 010442      .WORD RBUF   ;
1613 015676 100000      .WORD 100000 ;
1614 015700 000000      .WORD 0      ;
1615                    ;
1616 015702 000040      .WORD 32.    ;
1617 015704 010442      .WORD RBUF   ;
1618 015706 100000      .WORD 100000 ;
1619 015710 000000      .WORD 0      ;
1620                    ;
1621 015712 000040      .WORD 32.    ; SLEN = 32 BYTES
1622 015714 010442      .WORD RBUF   ; SEGB = RBUF
1623 015716 100000      .WORD 100000 ; OWN = LUA

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RDRBXX:

1624	015720	000000	.WORD	0	;
1625					
1626	015722	000040	.WORD	32.	;
1627	015724	010442	.WORD	RBUF	;
1628	015726	100000	.WORD	100000	;
1629	015730	000000	.WORD	0	;
1630					
1631	015732	000040	.WORD	32.	;
1632	015734	010442	.WORD	RBUF	;
1633	015736	100000	.WORD	100000	;
1634	015740	000000	.WORD	0	;
1635					
1636	015742	000040	.WORD	32.	;
1637	015744	010442	.WORD	RBUF	;
1638	015746	100000	.WORD	100000	;
1639	015750	000000	.WORD	0	;
1640					
1641	015752	000040	.WORD	32.	;
1642	015754	010442	.WORD	RBUF	;
1643	015756	100000	.WORD	100000	;
1644	015760	000000	.WORD	0	;
1645					
1646	015762	000040	.WORD	32.	;
1647	015764	010442	.WORD	RBUF	;
1648	015766	100000	.WORD	100000	;
1649	015770	000000	.WORD	0	;
1650					
1651	015772	000040	.WORD	32.	;
1652	015774	010442	.WORD	RBUF	;
1653	015776	100000	.WORD	100000	;
1654	016000	000000	.WORD	0	;
1655					
1656	016002	000040	.WORD	32.	;
1657	016004	010442	.WORD	RBUF	;
1658	016006	100000	.WORD	100000	;
1659	016010	000000	.WORD	0	;
1660					
1661	016012	000040	.WORD	32.	;
1662	016014	010442	.WORD	RBUF	;
1663	016016	100000	.WORD	100000	;
1664	016020	000000	.WORD	0	;
1665					
1666	016022	000040	.WORD	32.	;
1667	016024	010442	.WORD	RBUF	;
1668	016026	100000	.WORD	100000	;
1669	016030	000000	.WORD	0	;
1670					
1671	016032	000040	.WORD	32.	;
1672	016034	010442	.WORD	RBUF	;
1673	016036	100000	.WORD	100000	;
1674	016040	000000	.WORD	0	;
1675					
1676	016042	000040	.WORD	32.	;
1677	016044	010442	.WORD	RBUF	;
1678	016046	100000	.WORD	100000	;
1679	016050	000000	.WORD	0	;
1680					

; SLEN = 32 BYTES
; SEGB = RBUF
; OWN = LUA

; SLEN = 32 BYTES
; SEGB = RBUF
; OWN = DELUA

; SLEN = 32 BYTES
; SEGB = RBUF
; OWN = LUA

1681	016052	000040	.WORD	32.	;
1682	016054	010442	.WORD	RBUF	;
1683	016056	100000	.WORD	100000	;
1684	016060	000000	.WORD	0	;
1685					
1686	016062	000040	.WORD	32.	;
1687	016064	010442	.WORD	RBUF	;
1688	016066	100000	.WORD	100000	;
1689	016070	000000	.WORD	0	;
1690					
1691	016072	000040	.WORD	32.	;
1692	016074	010442	.WORD	RBUF	;
1693	016076	100000	.WORD	100000	;
1694	016100	000000	.WORD	0	;
1695					
1696	016102	000040	.WORD	32.	;
1697	016104	010442	.WORD	RBUF	;
1698	016106	100000	.WORD	100000	;
1699	016110	000000	.WORD	0	;
1700					
1701	016112	000040	.WORD	32.	;
1702	016114	010442	.WORD	RBUF	;
1703	016116	100000	.WORD	100000	;
1704	016120	000000	.WORD	0	;
1705					
1706	016122	000040	.WORD	32.	;
1707	016124	010442	.WORD	RBUF	;
1708	016126	100000	.WORD	100000	;
1709	016130	000000	.WORD	0	;
1710					
1711	016132	000040	.WORD	32.	;
1712	016134	010442	.WORD	RBUF	;
1713	016136	100000	.WORD	100000	;
1714	016140	000000	.word	0	;
1715					
1716	016142	000040	.WORD	32.	;
1717	016144	010442	.WORD	RBUF	;
1718	016146	100000	.WORD	100000	;
1719	016150	000000	.WORD	0	;
1720					
1721	016152	000040	.WORD	32.	;
1722	016154	010442	.WORD	RBUF	;
1723	016156	100000	.WORD	100000	;
1724	016160	000000	.WORD	0	;
1725					
1726	016162	000040	.WORD	32.	;
1727	016164	010442	.WORD	RBUF	;
1728	016166	100000	.WORD	100000	;
1729	016170	000000	.WORD	0	;
1730					
1731	016172	000040	.WORD	32.	;
1732	016174	010442	.WORD	RBUF	;
1733	016176	100000	.WORD	100000	;
1734	016200	000000	.WORD	0	;
1735					
1736	016202	000040	.WORD	32.	;
1737	016204	010442	.WORD	RBUF	;

; SLEN = 32 BYTES
; SEGB = RBUF
; OWN = LUA

; SLEN = 32 BYTES
; SEGB = RBUF
; OWN = LUA

L3

1738	016206	100000	.WORD	100000	;
1739	016210	000000	.WORD	0	;
1740					
1741	016212	000040	.WORD	32.	;
1742	016214	010442	.WORD	RBUF	;
1743	016216	100000	.WORD	100000	;
1744	016220	000000	.WORD	0	;
1745					
1746	016222	000040	.WORD	32.	; SLEN = 32 BYTES
1747	016224	010442	.WORD	RBUF	; SEGB = RBUF
1748	016226	100000	.WORD	100000	; OWN = LUA
1749	016230	000000	.WORD	0	;
1750					
1751	016232	000040	.WORD	32.	;
1752	016234	010442	.WORD	RBUF	;
1753	016236	100000	.WORD	100000	;
1754	016240	000000	.WORD	0	;
1755					
1756	016242	000040	.WORD	32.	;
1757	016244	010442	.WORD	RBUF	;
1758	016246	100000	.WORD	100000	;
1759	016250	000000	.WORD	0	;
1760					
1761	016252	000040	.WORD	32.	;
1762	016254	010442	.WORD	RBUF	;
1763	016256	100000	.WORD	100000	;
1764	016260	000000	.WORD	0	;
1765					
1766	016262	000040	.WORD	32.	;
1767	016264	010442	.WORD	RBUF	;
1768	016266	100000	.WORD	100000	;
1769	016270	000000	.WORD	0	;
1770					
1771					
1772	016272	000040	.WORD	32.	; SLEN = 32 BYTES
1773	016274	010442	.WORD	RBUF	; SEGB = RBUF
1774	016276	100000	.WORD	100000	; OWN = LUA
1775	016300	000000	.WORD	0	;
1776					
1777	016302	000040	.WORD	32.	;
1778	016304	010442	.WORD	RBUF	;
1779	016306	100000	.WORD	100000	;
1780	016310	000000	.WORD	0	;
1781					
1782	016312	000040	.WORD	32.	;
1783	016314	010442	.WORD	RBUF	;
1784	016316	100000	.WORD	100000	;
1785	016320	000000	.WORD	0	;
1786					
1787	016322	000040	.WORD	32.	;
1788	016324	010442	.WORD	RBUF	;
1789	016326	100000	.WORD	100000	;
1790	016330	000000	.WORD	0	;
1791					
1792	016332	000040	.WORD	32.	;
1793	016334	010442	.WORD	RBUF	;
1794	016336	100000	.WORD	100000	;

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1795 016340 000000      .WORD 0      ;
1796
1797 016342 000040      .WORD 32.    ; SLEN = 32 BYTES
1798 016344 010442      .WORD RBUF   ; SEGB = RBUF
1799 016346 100000      .WORD 100000 ; OWN = LUA
1800 016350 000000      .WORD 0      ;
1801
1802 016352 000040      .WORD 32.    ;
1803 016354 010442      .WORD RBUF   ;
1804 016356 100000      .WORD 100000 ;
1805 016360 000000      .WORD 0      ;
1806
1807 016362 000040      .WORD 32.    ;
1808 016364 010442      .WORD RBUF   ;
1809 016366 100000      .WORD 100000 ;
1810 016370 000000      .WORD 0      ;
1811
1812 016372 000040      .WORD 32.    ;
1813 016374 010442      .WORD RBUF   ;
1814 016376 000000      .WORD 0      ; OWN = PORT DRIVER
1815 016400 000000      .WORD 0      ;
1816
1817 016402 000040      .WORD 32.    ;
1818 016404 010442      .WORD RBUF   ;
1819 016406 000000      .WORD 0      ; OWN = PORT DRIVER
1820 016410 000000      .WORD 0      ;
1821
1822
1823
1824      ; DEFAULT TRANSMIT DESCRIPTOR RINGS
1825
1826 016412 000032      TDRB1A: .WORD 26.    ; SLEN = 26 BYTES
1827 016414 004440      .WORD TBUF   ; SEGB = TBUF
1828 016416 101400      .WORD 101400 ; OWN = UNA ;STP,ENP
1829 016420 000000      .WORD 0      ;
1830      ;
1831 016422 000030      .WORD 24.    ; SLEN = 24 BYTES
1832 016424 004440      .WORD TBUF   ; SEGB = TBUF
1833 016426 000000      .WORD 0      ; OWN = PORT DRIVER
1834 016430 000000      .WORD 0      ;
1835      ;
1836 016432 000030      .WORD 24.    ; SLEN = 24 BYTES
1837 016434 004440      .WORD TBUF   ; SEGB = TBUF
1838 016436 000000      .WORD 0      ; OWN = PORT DRIVER
1839 016440 000000      .WORD 0      ;
1840      ;
1841 016442 000030      .WORD 24.    ; SLEN = 24 BYTES
1842 016444 004440      .WORD TBUF   ; SEGB = TBUF
1843 016446 000000      .WORD 0      ; OWN = PORT DRIVER
1844 016450 000000      .WORD 0      ;
1845      ;
1846 016452 000040      TDRB1B: .WORD 32.    ; SLEN = 32 BYTES
1847 016454 004440      .WORD TBUF   ; SEGB = TBUF
1848 016456 101400      .WORD 101400 ; OWN = UNA ;STP,ENP
1849 016460 000000      .WORD 0      ;
1850      ;
1851 016462 000040      .WORD 32.    ; SLEN = 32 BYTES

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1852	016464	004440	.WORD	TBUF	; SEGB = TBUF
1853	016466	000000	.WORD	0	; OWN = PORT DRIVER
1854	016470	000000	.WORD	0	
1855					
1856	016472	000040	.WORD	32.	; SLEN = 32 BYTES
1857	016474	004440	.WORD	TBUF	; SEGB = TBUF
1858	016476	000000	.WORD	0	; OWN = PORT DRIVER
1859	016500	000000	.WORD	0	
1860					
1861	016502	000040	.WORD	32.	; SLEN = 32 BYTES
1862	016504	004440	.WORD	TBUF	; SEGB = TBUF
1863	016506	000000	.WORD	0	; OWN = PORT DRIVER
1864	016510	000000	.WORD	0	
1865					
1866	016512		;TDRB1C:		
1867	016512	000042	.WORD	34.	; SLEN = 34 BYTES
1868	016514	004440	.WORD	TBUF	; SEGB = TBUF
1869	016516	101400	.WORD	101400	; OWN = LUA;STP;ENP
1870	016520	000000	.WORD	0	
1871					
1872	016522	000042	.WORD	34.	; SLEN = 34 BYTES
1873	016524	004440	.WORD	TBUF	; SEGB = TBUF
1874	016526	001400	.WORD	001400	; OWN = PORT DRIVER;STP;ENP
1875	016530	000000	.WORD	0	
1876					
1877	016532	000050	;TDRB1D:		
1878	016534	004440	.WORD	40.	; SLEN = 40 BYTES
1879	016536	101400	.WORD	TBUF	; SEGB = TBUF
1880	016540	000000	.WORD	101400	; OWN = LUA;STP;ENP
1881			.WORD	0	
1882	016542	000050	.WORD	40.	; SLEN = 40 BYTES
1883	016544	004440	.WORD	TBUF	; SEGB = TBUF
1884	016546	001400	.WORD	001400	; OWN = PORT DRIVER;STP;ENP
1885	016550	000000	.WORD	0	
1886					
1887	016552		;TDRB1E:		
1888	016552	000016	.WORD	14.	; SLEN = 14 BYTES
1889	016554	004440	.WORD	TBUF	; SEGB = TBUF
1890	016556	101000	.WORD	101000	; OWN = DELUA ;STP
1891	016560	000000	.WORD	0	
1892					
1893	016562	000022	.WORD	18.	; SLEN = 18 BYTES
1894	016564	004440	.WORD	TBUF	; SEGB = TBUF
1895	016566	101000	.WORD	101000	; OWN = DELUA ;STP
1896	016570	000000	.WORD	0	
1897					
1898	016572	000022	.WORD	18.	; SLEN = 18 BYTES
1899	016574	004440	.WORD	TBUF	; SEGB = TBUF
1900	016576	000000	.WORD	0	; OWN = PRT DRIVER
1901	016600	000000	.WORD	0	
1902					
1903			;TDRB2A:		
1904	016602	000016	.WORD	14.	; SLEN = 14 BYTES
1905	016604	004440	.WORD	TBUF	; SEGB = TBUF
1906	016606	101000	.WORD	101000	; OWN = DELUA ;STP
1907	016610	000000	.WORD	0	
1908					

1909 016612	000022	.WORD	18.	; SLEN = 18 BYTES
1910 016614	004440	.WORD	TBUF	; SEGB = TBUF
1911 016616	100400	.WORD	100400	; OWN = DELUA ;ENP
1912 016620	000000	.WORD	0	
1913				
1914 016622	000020	.WORD	16.	; SLEN = 16 BYTES
1915 016624	004440	.WORD	TBUF	; SEGB = TBUF
1916 016626	000000	.WORD	0	; OWN = PORT DRIVER
1917 016630	000000	.WORD	0	
1918				
1919 016632	000020	.WORD	16.	; SLEN = 16 BYTES
1920 016634	004440	.WORD	TBUF	; SEGB = TBUF
1921 016636	000000	.WORD	0	; OWN = PORT DRIVER
1922 016640	000000	.WORD	0	
1923				
1924				
1925 016642	000020	TDRB2B: .WORD	20	; SLEN = 20 BYTES
1926 016644	004440	.WORD	TBUF	; SEGB = TBUF
1927 016646	101000	.WORD	101000	; OWN = UNA;STP
1928 016650	000000	.WORD	0	
1929				
1930 016652	000020	.WORD	20	; SLEN = 20 BYTES
1931 016654	004440	.WORD	TBUF	; SEGB = TBUF
1932 016656	100400	.WORD	100400	; OWN = UNA;ENP
1933 016660	000000	.WORD	0	
1934				
1935 016662	000020	.WORD	20	; SLEN = 20 BYTES
1936 016664	004440	.WORD	TBUF	; SEGB = TBUF
1937 016666	101000	.WORD	101000	; OWN = UNA;STP
1938 016670	000000	.WORD	0	
1939				
1940 016672	000020	.WORD	20	; SLEN = 20 BYTES
1941 016674	004440	.WORD	TBUF	; SEGB = TBUF
1942 016676	100400	.WORD	100400	; OWN = UNA;ENP
1943 016700	000000	.WORD	0	
1944				
1945				
1946				
1947 016702	000040	TDRB3A: .WORD	42.	; SLEN = 42 BYTES
1948 016704	004440	.WORD	TBUF	; SEGB = TBUF
1949 016706	101400	.WORD	101400	; OWN = LUA ;STP,ENP
1950 016710	000000	.WORD	0	
1951				
1952 016712	000042	.WORD	42	; SLEN = 42 BYTES
1953 016714	004440	.WORD	TBUF	; SEGB = TBUF
1954 016716	100000	.WORD	100000	; OWN = LUA
1955 016720	000000	.WORD	0	
1956				
1957 016722	000052	.WORD	42.	; SLEN = 42 BYTES
1958 016724	004440	.WORD	TBUF	; SEGB = TBUF3
1959 016726	100400	.WORD	100400	; OWN = LUA ;ENP
1960 016730	000000	.WORD	0	
1961				
1962 016732	000174	.WORD	124.	; SLEN = 124 BYTES
1963 016734	004440	.WORD	TBUF	; SEGB = TBUF
1964 016736	000000	.WORD	0	; OWN = PORT DRIVER
1965 016740	000000	.WORD	0	

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1966 ;
1967 ;
1968 016742 000032 TDRBXX: .WORD 26. ; SLEN = 32 BYTES
1969 016744 004440 .WORD TBUF ; SEGB = TBUF
1970 016746 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
1971 016750 000000 .WORD 0
1972 ;
1973 016752 000032 .WORD 26. ; SLEN = 32 BYTES
1974 016754 004440 .WORD TBUF ; SEGB = TBUF
1975 016756 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
1976 016760 000000 .WORD 0
1977 ;
1978 016762 000032 .WORD 26. ; SLEN = 32 BYTES
1979 016764 004440 .WORD TBUF ; SEGB = TBUF
1980 016766 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
1981 016770 000000 .WORD 0
1982 ;
1983 016772 000032 .WORD 26. ; SLEN = 32 BYTES
1984 016774 004440 .WORD TBUF ; SEGB = TBUF
1985 016776 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
1986 017000 000000 .WORD 0
1987 ;
1988 017002 000032 .WORD 26. ; SLEN = 32 BYTES
1989 017004 004440 .WORD TBUF ; SEGB = TBUF
1990 017006 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
1991 017010 000000 .WORD 0
1992 ;
1993 017012 000032 .WORD 26. ; SLEN = 32 BYTES
1994 017014 004440 .WORD TBUF ; SEGB = TBUF
1995 017016 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
1996 017020 000000 .WORD 0
1997 ;
1998 017022 000032 .WORD 26. ; SLEN = 32 BYTES
1999 017024 004440 .WORD TBUF ; SEGB = TBUF
2000 017026 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
2001 017030 000000 .WORD 0
2002 ;
2003 017032 000032 .WORD 26. ; SLEN = 32 BYTES
2004 017034 004440 .WORD TBUF ; SEGB = TBUF
2005 017036 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
2006 017040 000000 .WORD 0
2007 ;
2008 017042 000032 .WORD 26. ; SLEN = 32 BYTES
2009 017044 004440 .WORD TBUF ; SEGB = TBUF
2010 017046 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
2011 017050 000000 .WORD 0
2012 ;
2013 017052 000032 .WORD 26. ; SLEN = 32 BYTES
2014 017054 004440 .WORD TBUF ; SEGB = TBUF
2015 017056 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
2016 017060 000000 .WORD 0
2017 ;
2018 017062 000032 .WORD 26. ; SLEN = 32 BYTES
2019 017064 004440 .WORD TBUF ; SEGB = TBUF
2020 017066 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
2021 017070 000000 .WORD 0
2022 ;

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2023 017072 000032      .WORD 26.      ; SLEN = 32 BYTES
2024 017074 004440      .WORD TBUF     ; SEGB = TBUF
2025 017076 101400      .WORD 101400   ; OWN = LUA ;STP ;ENP
2026 017100 000000      .WORD 0        ;
2027             ;
2028 017102 000032      .WORD 26.      ; SLEN = 32 BYTES
2029 017104 004440      .WORD TBUF     ; SEGB = TBUF
2030 017106 101400      .WORD 101400   ; OWN = LUA ;STP ;ENP
2031 017110 000000      .WORD 0        ;
2032             ;
2033 017112 000032      .WORD 26.      ; SLEN = 32 BYTES
2034 017114 004440      .WORD TBUF     ; SEGB = TBUF
2035 017116 101400      .WORD 101400   ; OWN = LUA ;STP ;ENP
2036 017120 000000      .WORD 0        ;
2037             ;
2038 017122 000032      .WORD 26.      ; SLEN = 32 BYTES
2039 017124 004440      .WORD TBUF     ; SEGB = TBUF
2040 017126 101400      .WORD 101400   ; OWN = LUA ;STP ;ENP
2041 017130 000000      .WORD 0        ;
2042             ;
2043 017132 000032      .WORD 26.      ; SLEN = 32 BYTES
2044 017134 004440      .WORD TBUF     ; SEGB = TBUF
2045 017136 101400      .WORD 101400   ; OWN = LUA ;STP ;ENP
2046 017140 000000      .WORD 0        ;
2047             ;
2048 017142 000032      .WORD 26.      ; SLEN = 32 BYTES
2049 017144 004440      .WORD TBUF     ; SEGB = TBUF
2050 017146 101400      .WORD 101400   ; OWN = LUA;STP;ENP
2051 017150 000000      .WORD 0        ;
2052             ;
2053 017152 000032      .WORD 26.      ; SLEN = 32 BYTES
2054 017154 004440      .WORD TBUF     ; SEGB = TBUF
2055 017156 101400      .WORD 101400   ; OWN = LUA;STP;ENP
2056 017160 000000      .WORD 0        ;
2057             ;
2058 017162 000032      .WORD 26.      ; SLEN = 32 BYTES
2059 017164 004440      .WORD TBUF     ; SEGB = TBUF
2060 017166 101400      .WORD 101400   ; OWN = LUA;STP;ENP
2061 017170 000000      .WORD 0        ;
2062             ;
2063 017172 000032      .WORD 26.      ; SLEN = 32 BYTES
2064 017174 004440      .WORD TBUF     ; SEGB = TBUF
2065 017176 101400      .WORD 101400   ; OWN = LUA;STP;ENP
2066 017200 000000      .WORD 0        ;
2067             ;
2068 017202 000032      .WORD 26.      ; SLEN = 32 BYTES
2069 017204 004440      .WORD TBUF     ; SEGB = TBUF
2070 017206 101400      .WORD 101400   ; OWN = LUA;STP;ENP
2071 017210 000000      .WORD 0        ;
2072             ;
2073 017212 000032      .WORD 26.      ; SLEN = 32 BYTES
2074 017214 004440      .WORD TBUF     ; SEGB = TBUF
2075 017216 101400      .WORD 101400   ; OWN = LUA;STP;ENP
2076 017220 000000      .WORD 0        ;
2077             ;
2078 017222 000032      .WORD 26.      ; SLEN = 32 BYTES
2079 017224 004440      .WORD TBUF     ; SEGB = TBUF

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SEQ 43

2080	017226	101400	.WORD	101400	;	OWN = LUA;STP;ENP
2081	017230	000000	.WORD	0	;	
2082					;	
2083	017232	000032	.WORD	26.	;	SLEN = 32 BYTES
2084	017234	004440	.WORD	TBUF	;	SEGB = TBUF
2085	017236	101400	.WORD	101400	;	OWN = LUA;STP;ENP
2086	017240	000000	.WORD	0	;	
2087					;	
2088	017242	000032	.WORD	26.	;	SLEN = 32 BYTES
2089	017244	004440	.WORD	TBUF	;	SEGB = TBUF
2090	017246	101400	.WORD	101400	;	OWN = LUA;STP;ENP
2091	017250	000000	.WORD	0	;	
2092					;	
2093	017252	000032	.WORD	26.	;	SLEN = 32 BYTES
2094	017254	004440	.WORD	TBUF	;	SEGB = TBUF
2095	017256	101400	.WORD	101400	;	OWN = LUA;STP;ENP
2096	017260	000000	.WORD	0	;	
2097					;	
2098	017262	000032	.WORD	26.	;	SLEN = 32 BYTES
2099	017264	004440	.WORD	TBUF	;	SEGB = TBUF
2100	017266	101400	.WORD	101400	;	OWN = LUA;STP;ENP
2101	017270	000000	.WORD	0	;	
2102					;	
2103	017272	000032	.WORD	26.	;	SLEN = 32 BYTES
2104	017274	004440	.WORD	TBUF	;	SEGB = TBUF
2105	017276	101400	.WORD	101400	;	OWN = LUA;STP;ENP
2106	017300	000000	.WORD	0	;	
2107					;	
2108	017302	000032	.WORD	26.	;	SLEN = 32 BYTES
2109	017304	004440	.WORD	TBUF	;	SEGB = LUA;STP;ENP
2110	017306	101400	.WORD	101400	;	OWN = LUA;STP;ENP
2111	017310	000000	.WORD	0	;	
2112					;	
2113	017312	000032	.WORD	26.	;	SLEN = 32 BYTES
2114	017314	004440	.WORD	TBUF	;	SEGB = TBUF
2115	017316	101400	.WORD	101400	;	OWN = LUA;STP;ENP
2116	017320	000000	.WORD	0	;	
2117					;	
2118	017322	000032	.WORD	26.	;	SLEN = 32 BYTES
2119	017324	004440	.WORD	TBUF	;	SEGB = TBUF
2120	017326	101400	.WORD	101400	;	OWN = LUA;STP;ENP
2121	017330	000000	.WORD	0	;	
2122					;	
2123	017332	000032	.WORD	26.	;	SLEN = 32 BYTES
2124	017334	004440	.WORD	TBUF	;	SEGB = TBUF
2125	017336	101400	.WORD	101400	;	OWN = LUA;STP;ENP
2126	017340	000000	.WORD	0	;	
2127					;	
2128	017342	000032	.WORD	26.	;	SLEN = 32 BYTES
2129	017344	004440	.WORD	TBUF	;	SEGB = TBUF
2130	017346	101400	.WORD	101400	;	OWN = LUA;STP;ENP
2131	017350	000000	.WORD	0	;	
2132					;	
2133	017352	000032	.WORD	26.	;	SLEN = 32 BYTES
2134	017354	004440	.WORD	TBUF	;	SEGB = TBUF
2135	017356	101400	.WORD	101400	;	OWN = LUA;STP;ENP
2136	017360	000000	.WORD	0	;	

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2137 ;
2138 017362 000032 .WORD 26. ; SLEN = 32 BYTES
2139 017364 004440 .WORD TBUF ; SEGB = TBUF
2140 017366 101400 .WORD 101400 ; OWN = LUA;STP;ENP
2141 017370 000000 .WORD 0 ;
2142 ;
2143 017372 000032 .WORD 26. ; SLEN = 32 BYTES
2144 017374 004440 .WORD TBUF ; SEGB = TBUF
2145 017376 101400 .WORD 101400 ; OWN = LUA;STP;ENP
2146 017400 000000 .WORD 0 ;
2147 ;
2148 017402 000032 .WORD 26. ; SLEN = 32 BYTES
2149 017404 004440 .WORD TBUF ; SEGB = TBUF
2150 017406 101400 .WORD 101400 ; OWN = LUA;STP;ENP
2151 017410 000000 .WORD 0 ;
2152 ;
2153 017412 000032 .WORD 26. ; SLEN = 32 BYTES
2154 017414 004440 .WORD TBUF ; SEGB = TBUF
2155 017416 101400 .WORD 101400 ; OWN = LUA;STP;ENP
2156 017420 000000 .WORD 0 ;
2157 ;
2158 017422 000032 .WORD 26. ; SLEN = 32 BYTES
2159 017424 004440 .WORD TBUF ; SEGB = TBUF
2160 017426 101400 .WORD 101400 ; OWN = LUA;STP;ENP
2161 017430 000000 .WORD 0 ;
2162 ;
2163 017432 000032 .WORD 26. ; SLEN = 32 BYTES
2164 017434 004440 .WORD TBUF ; SEGB = TBUF
2165 017436 101400 .WORD 101400 ; OWN = LUA;STP;ENP
2166 017440 000000 .WORD 0 ;
2167 ;
2168 017442 000032 .WORD 26. ; SLEN = 32 BYTES
2169 017444 004440 .WORD TBUF ; SEGB = TBUF
2170 017446 101400 .WORD 101400 ; OWN = LUA;STP;ENP
2171 017450 000000 .WORD 0 ;
2172 ;
2173 017452 000032 .WORD 26. ; SLEN = 32 BYTES
2174 017454 004440 .WORD TBUF ; SEGB = TBUF
2175 017456 101400 .WORD 101400 ; OWN = LUA;STP;ENP
2176 017460 000000 .WORD 0 ;
2177 ;
2178 017462 000032 .WORD 26. ; SLEN = 32 BYTES
2179 017464 004440 .WORD TBUF ; SEGB = TBUF
2180 017466 101400 .WORD 101400 ; OWN = LUA;STP;ENP
2181 017470 000000 .WORD 0 ;
2182 ;
2183 017472 000032 .WORD 26. ; SLEN = 32 BYTES
2184 017474 004440 .WORD TBUF ;
2185 017476 101400 .WORD 101400 ;
2186 017500 000000 .WORD 0 ;
2187 ;
2188 017502 000032 .WORD 26. ;
2189 017504 004440 .WORD TBUF ;
2190 017506 101400 .WORD 101400 ;
2191 017510 000000 .WORD 0 ;
2192 ;
2193 017512 000032 .WORD 26. ;

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2194 017514 004440      .WORD  TBUF      ;
2195 017516 101400      .WORD  101400    ;
2196 017520 000000      .WORD  0          ;
2197                      ;
2198 017522 000032      .WORD  26.       ;
2199 017524 004440      .WORD  TBUF      ;
2200 017526 101400      .WORD  101400    ;
2201 017530 000000      .WORD  0          ;
2202                      ;
2203 017532 000032      .WORD  26.       ;
2204 017534 004440      .WORD  TBUF      ;
2205 017536 101400      .WORD  101400    ;
2206 017540 000000      .WORD  0          ;
2207                      ;
2208 017542 000032      .WORD  26.       ;
2209 017544 004440      .WORD  TBUF      ;
2210 017546 101400      .WORD  101400    ;
2211 017550 000000      .WORD  0          ;
2212                      ;
2213 017552 000032      .WORD  26.       ; SLEN = 32 BYTES
2214 017554 004440      .WORD  TBUF      ; SEGB = TBUF
2215 017556 101400      .WORD  101400    ; OWN = LUA;STP;ENP
2216 017560 000000      .WORD  0          ;
2217                      ;
2218 017562 000032      .WORD  26.       ; SLEN = 32 BYTES
2219 017564 004440      .WORD  TBUF      ; SEGB = TBUF
2220 017566 001400      .WORD  001400    ; OWN = PORT DRIVER;STP;ENP
2221 017570 000000      .WORD  0          ;
2222                      ;
2223 017572 000016      ;TDRB4A: .WORD  14.       ; SLEN = 14 BYTES
2224 017574 004440      .WORD  TBUF      ; SEGB = TBUF
2225 017576 101000      .WORD  101000    ; OWN = LUA;STP
2226 017600 000000      .WORD  0          ;
2227                      ;
2228 017602 000016      .WORD  14.       ; SLEN = 14 BYTES
2229 017604 004440      .WORD  TBUF      ; SEGB = TBUF
2230 017606 100400      .WORD  100400    ; OWN = LUA;ENP
2231 017610 000000      .WORD  0          ;
2232                      ;
2233 017612 000016      .WORD  14.       ; SLEN = 14 BYTES
2234 017614 004440      .WORD  TBUF      ; SEGB = TBUF
2235 017616 001400      .WORD  001400    ; OWN = PORT DRIVER;STP,ENP
2236 017620 000000      .WORD  0          ;
2237                      ;
2238                      ;
2239                      ;DEFAULT DATA FOR TEST11
2240                      ;
2241 017622 000000      CRCH:      .WORD  0          ; CRC STORAGE
2242                      ;
2243                      ;DEFAULT UDBB FOR TEST11
2244                      ;
2245 017624 002000      UDB10A:   .WORD  2000      ; FLEN = 1024 WORDS
2246 017626 010442      .WORD  RBUF      ; HDBB = RBUF
2247 017630 000000      .WORD  0          ;
2248 017632 000000      .WORD  0          ;
2249 017634 000010      .WORD  10         ;
2250

```

```

2251          ;ROM ADDRESS TABLE FOR TEST11
2252
2253 017636    MEM10A:
2254 017636 000000      .WORD 0          ; ADDRESS OF ROM 1ST 1K
2255 017640 002000      .WORD 2000       ; SECOND 1K
2256 017642 004000      .WORD 4000       ; ETC.
2257 017644 006000      .WORD 6000
2258 017646 010000      .WORD 10000
2259 017650 012000      .WORD 12000
2260 017652 014000      .WORD 14000
2261 017654 016000      .WORD 16000
2262 017656 020000      .WORD 20000
2263 017660 022000      .WORD 22000
2264 017662 024000      .WORD 24000
2265 017664 026000      .WORD 26000
2266 017666 030000      .WORD 30000
2267 017670 032000      .WORD 32000
2268 017672 034000      .WORD 34000
2269 017674 036000      .WORD 36000
2270
2271
2272          ;DEFAULT UDBB FOR TST12
2273
2274 017676 004000    UDB11A:      .WORD 4000      ; FLEN = 1024. WORDS
2275 017700 000000      .WORD 0          ; HDBB = RBUF OR TBUF (LOADED BY TEST)
2276 017702 000000      .WORD 0
2277 017704 000000      .WORD 0          ; IDBB (LOADED BY TEST)
2278 017706 000000      .WORD 0          ; IDBB (Upper addr bits) loaded by test
2279
2280          ;WCS DOWNLINE LOAD ADDRESS TABLE FOR TEST12
2281
2282 017710 014000    MEM11A:      .WORD 14000     ; TOP 1K SECTION OF MEMORY
2283
2284          ;INTERNAL RAM MEMORY ADDRESS TABLE FOR TEST12
2285
2286 017712 000146    .WORD END13A-MEM13A      ; WORD SIZE OF MEM13A
2287
2288 017714 062000    MEM13A:      .WORD 062000    ; FIRST 1K BLOCK OF INTERNAL RAM MEMORY
2289 017716 066000      .WORD 066000
2290 017720 072000      .WORD 072000
2291 017722 076000      .WORD 076000
2292 017724 102000      .WORD 102000
2293 017726 106000      .WORD 106000
2294 017730 112000      .WORD 112000
2295 017732 116000      .WORD 116000
2296 017734 122000      .WORD 122000
2297 017736 126000      .WORD 126000
2298 017740 132000      .WORD 132000
2299 017742 136000      .WORD 136000
2300 017744 142000      .WORD 142000
2301 017746 146000      .WORD 146000
2302 017750 152000      .WORD 152000
2303 017752 156000      .WORD 156000
2304 017754 162000      .WORD 162000
2305 017756 166000      .WORD 166000
2306 017760 172000      .WORD 172000
2307 017762 176000      .WORD 176000

```

```

2308 017764 002000 .WORD 002000 ;FROM HERE ON EXT ADDR BIT WILL BE
2309 ;SET IN UDBB+4
2310 017766 006000 .WORD 006000
2311 017770 012000 .WORD 012000
2312 017772 016000 .WORD 016000
2313 017774 022000 .WORD 022000
2314 017776 026000 .WORD 026000
2315 020000 032000 .WORD 032000
2316 020002 036000 .WORD 036000
2317 020004 042000 .WORD 042000
2318 020006 046000 .WORD 046000
2319 020010 052000 .WORD 052000
2320 020012 056000 .WORD 056000
2321 020014 062000 .WORD 062000
2322 020016 066000 .WORD 066000
2323 020020 072000 .WORD 072000
2324 020022 076000 .WORD 076000
2325 020024 102000 .WORD 102000
2326 020026 106000 .WORD 106000
2327 020030 111200 .WORD 111200
2328 020032 116000 .WORD 116000
2329 020034 122000 .WORD 122000
2330 020036 126000 .WORD 126000
2331 020040 132000 .WORD 132000
2332 020042 136000 .WORD 136000
2333 020044 142000 .WORD 142000
2334 020046 146000 .WORD 146000
2335 020050 152000 .WORD 152000
2336 020052 156000 .WORD 156000
2337 020054 162000 .WORD 162000
2338 020056 166000 .WORD 166000
2339 020060 172000 .WORD 172000
2340 020062 176000 .WORD 176000
2340      .WORD 172000
2341
2342
2343      END13A = .
2344      ;PHYSICAL ADDRESSES FOR TEST 20
2345 020062 125252 ADR21: .WORD 125252 ; DEFAULT PHYSICAL ADDRESS
2346 020064 125252 .WORD 125252
2347 020066 125252 .WORD 125252
2348
2349 020070 052524 ADR21C: .WORD 52524 ; COMPLEMENTED PHYSICAL ADDRESS
2350 020072 052525 .WORD 52525
2351 020074 052525 .WORD 52525
2352
2353      ;MULTICAST ADDRESS LIST FOR TEST 21
2354
2355 020076 125253 MULTL: .WORD 125253 ; MULTICAST ADDRESS LIST
2356 020100 125252 .WORD 125252
2357 020102 125252 .WORD 125252
2358 020104 125253 .WORD 125253
2359 020106 052525 .WORD 052525
2360 020110 125252 .WORD 125252
2361 020112 125253 .WORD 125253
2362 020114 125252 .WORD 125252
2363 020116 052525 .WORD 052525
2364 020120 125253 .WORD 125253

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2365 020122 177777	.WORD	177777	
2366 020124 052525	.WORD	052525	
2367 020126 125253	.WORD	125253	
2368 020130 000000	.WORD	000000	
2369 020132 125252	.WORD	125252	
2370 020134 177777	.WORD	177777	
2371 020136 000000	.WORD	000000	
2372 020140 177777	.WORD	177777	
2373 020142 177777	.WORD	177777	
2374 020144 052525	.WORD	052525	
2375 020146 125252	.WORD	125252	
2376 020150 177777	.WORD	177777	
2377 020152 125252	.WORD	125252	
2378 020154 052525	.WORD	052525	
2379 020156 177777	.WORD	177777	
2380 020160 000000	.WORD	000000	
2381 020162 052525	.WORD	052525	
2382 020164 177777	.WORD	177777	
2383 020166 177777	.WORD	177777	
2384 020170 125252	.WORD	125252	
2385			
2386 020172 052525	.WORD	052525	;
2387 020174 052525	.WORD	052525	COMPLIMENTED ADDRESS LIST
2388 020176 052525	.WORD	052525	
2389 020200 052525	.WORD	052525	
2390 020202 125252	.WORD	125252	
2391 020204 052525	.WORD	052525	
2392 020206 052525	.WORD	052525	
2393 020210 052525	.WORD	052525	
2394 020212 125252	.WORD	125252	
2395 020214 052525	.WORD	052525	
2396 020216 000000	.WORD	000000	
2397 020220 125252	.WORD	125252	
2398 020222 052525	.WORD	052525	
2399 020224 177777	.WORD	177777	
2400 020226 052525	.WORD	052525	
2401 020230 000001	.WORD	000001	
2402 020232 000000	.WORD	000000	
2403 020234 000000	.WORD	000000	
2404 020236 000001	.WORD	000001	
2405 020240 125252	.WORD	125252	
2406 020242 052525	.WORD	052525	
2407 020244 000001	.WORD	000001	
2408 020246 052525	.WORD	052525	
2409 020250 125252	.WORD	125252	
2410 020252 000001	.WORD	000001	
2411 020254 177777	.WORD	177777	
2412 020256 125252	.WORD	125252	
2413 020260 000001	.WORD	000001	
2414 020262 000000	.WORD	000000	
2415 020264 052525	.WORD	052525	
2416			
2417			
2418			
2419 020266 000032	.WORD	26.	;
2420 020270 004440	.WORD	TBUF	EXPECTED TDRB FOR
2421 020272 021400	.WORD	021400	TEST13,17,20-23,25,26
			MTCH,STP,ENP

MULTLC:

; COMPLIMENTED ADDRESS LIST

;DEFAULT EXPECTED DATA

TDR14A:

.WORD 26.
 .WORD TBUF
 .WORD 021400 ; EXPECTED TDRB FOR
 ; TEST13,17,20-23,25,26
 ; MTCH,STP,ENP

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2422 020274 000000
2423 020276 000040      TDR15A:      .WORD 32.      ; EXPECTED TDRB FOR
2424 020300 004440      .WORD TBUF     ; TESTS 14,15
2425 020302 021400      .WORD 021400  ; MTCH,STP,ENP
2426 020304 000000      .WORD 0
2427 020306 000016      TDR18A:      .WORD 14.     ; FIRST TDRB FOR TEST18
2428 020310 004440      .WORD TBUF     ;
2429 020312 041400      .WORD 041400  ; ERR,STP,ENP
2430 020314 100000      .WORD 100000  ; BUFL ERROR
2431 020316 000022      TDR18B:      .WORD 18.     ; SECOND TDRB FOR TEST18
2432 020320 004440      .WORD TBUF     ;
2433 020322 041400      .WORD 041400  ; ERR,STP,ENP
2434 020324 100000      .WORD 100000  ; BUFL ERROR
2435 020326 000016      TDR20A:      .WORD 14.     ; FIRST TDRB FOR TEST19
2436 020330 004440      .WORD TBUF     ;
2437 020332 001000      .WORD 001000  ; STP
2438 020334 000000      .WORD 0
2439 020336 000016      TDR20B:      .WORD 14.     ; SECOND TDRB FOR TEST19
2440 020340 004440      .WORD TBUF     ;
2441 020342 020400      .WORD 20400   ; MTCH,ENP
2442 020344 000000      .WORD 0
2443 020346 000032      TDR21X:      .WORD 26.     ; EXPECTED TDRB FOR
2444 020350 004440      .WORD TBUF     ; TESTS 20,21
2445 020352 001400      .WORD 001400  ; STP,ENP
2446 020354 000000      .WORD 0
2447 020356 000042      TDR24A:      .WORD 34.     ; EXPECTED TDRB FOR
2448 020360 004440      .WORD TBUF     ; TEST 24, 1ST PASS
2449 020362 041400      .WORD 041400  ; BUFL,STP,ENP
2450 020364 100000      .WORD 100000  ;
2451 020366 000050      TDR24B:      .WORD 40.     ; EXPECTED TDRB FOR
2452 020370 004440      .WORD TBUF     ; TEST 24, 2ND PASS
2453 020372 041400      .WORD 041400  ; BUFL,STP,ENP
2454 020374 100000      .WORD 100000  ;
2455
2456 020376 000040      RDR14B:      .WORD 32.     ; EXPECTED RDRB
2457 020400 010442      .WORD RBUF     ; FOR TEST 14
2458 020402 001400      .WORD 001400  ; STP,ENP
2459 020404 000040      .WORD 32.     ;
2460 020406 000040      RDR15A:      .WORD 32.     ; EXPECTED RDRB FOR
2461 020410 010442      .WORD RBUF     ; TESTS 15
2462 020412 065400      .WORD 065400  ; ERRS,CRC,FRM,STP,ENP
2463 020414 000040      .WORD 32.     ;
2464 020416 000040      RDR17A:      .WORD 32.     ; FIRST RDRB FOR TEST17
2465 020420 010442      .WORD RBUF     ;
2466 020422 001400      .WORD 001400  ; ERRS,STP,ENP
2467 020424 020036      .WORD 020036  ; NCHN
2468 020426 000040      RDR17B:      .WORD 32.     ; SECOND RDRB FOR TEST17
2469 020430 010442      .WORD RBUF     ;
2470 020432 100000      .WORD 100000  ; OWN = DELUA
2471 020434 000000      .WORD 0
2472 020436 000020      RDR20A:      .WORD 16.     ; FIRST RDRB FOR TEST19
2473 020440 010442      .WORD RBUF     ;
2474 020442 001000      .WORD 001000  ; STP
2475 020444 000000      .WORD 0
2476 020446 000026      RDR20B:      .WORD 22.     ; SECOND RDRB FOR TEST19
2477 020450 011042      .WORD RBUF2   ;
2478 020452 000400      .WORD 000400  ; ENP

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2479 020454 000040
2480 020456 000040   RDR20C:          .WORD 32.           ; TEST13,20-23,25-26
2481 020460 010442   .WORD RBUF
2482 020462 001400   .WORD 1400        ; STP, ENP
2483 020464 000036   .WORD 30.
2484
2485
2486
2487 020466 100114   MODE15: .WORD 100114 ; MODE = PROM,DTCR,INTL
2488 020470 120104   MODE17: .WORD 120104 ; MODE = PROM,DRDC,INTL
2489 020472 100000   MODE20: .WORD 100000 ; MODE = PROM
2490 020474 000104   MODE21: .WORD 104    ; INTL LOOPBACK ONLY
2491 020476 040104   MODE24: .WORD 040104 ; MODE = ENAL,INTL
2492 020500 110104   MODE25: .WORD 110104 ; MODE = PROM,TPAD,INTL
2493 020502 000002   UDB28A: .WORD 2      ; UDBB FOR TEST26
2494 020504 000000   .WORD 0           ;
2495 020506 000000   .WORD 0           ;
2496 020510 000000   .WORD 0           ;
2497 020512 000000   .WORD 0           ;
2498 020514 021040   SWADDR: .WORD 21040 ; SWITCH PACK ADDRESS
2499
2500   ;GLOBAL DATA AND FLAGS
2501 020516 000000   EPCSR0: .WORD 0     ; PCSR0 AT TIME OF ERROR
2502 020520 000000   EPCSR1: .WORD 0     ; PCSR1 AT TIME OF ERROR
2503 020522 000000   ERDRB0: .WORD 0     ; RDRB+0 AT TIME OF ERROR
2504 020524 000000   ERDRB2: .WORD 0     ; RDRB+2 AT TIME OF ERROR
2505 020526 000000   ERDRB4: .WORD 0     ; RDRB+4 AT TIME OF ERROR
2506 020530 000000   ERDRB6: .WORD 0     ; RDRB+6 AT TIME OF ERROR
2507 020532 000000   XRDRB0: .WORD 0     ; EXPECTED RDRB+0 AT TIME OF ERROR
2508 020534 000000   XRDRB2: .WORD 0     ; EXPECTED RDRB+2 AT TIME OF ERROR
2509 020536 000000   XRDRB4: .WORD 0     ; EXPECTED RDRB+4 AT TIME OF ERROR
2510 020540 000000   XRDRB6: .WORD 0     ; EXPECTED RDRB+6 AT TIME OF ERROR
2511 020542 000000   ETDRB0: .WORD 0     ; TDRB+0 AT TIME OF ERROR
2512 020544 000000   ETDRB2: .WORD 0     ; TDRB+2 AT TIME OF ERROR
2513 020546 000000   ETDRB4: .WORD 0     ; TDRB+4 AT TIME OF ERROR
2514 020550 000000   ETDRB6: .WORD 0     ; TDRB+6 AT TIME OF ERROR
2515 020552 000000   XTDRB0: .WORD 0     ; EXPECTED TDRB+0 AT TIME OF ERROR
2516 020554 000000   XTDRB2: .WORD 0     ; EXPECTED TDRB+2 AT TIME OF ERROR
2517 020556 000000   XTDRB4: .WORD 0     ; EXPECTED TDRB+4 AT TIME OF ERROR
2518 020560 000000   XTDRB6: .WORD 0     ; EXPECTED TDRB+6 AT TIME OF ERROR
2519
2520 020562 000000   BYTCNT: .WORD 0     ; NUMBER OF BYTES/PACKET
2521 020564 000000   DOCRC:  .WORD 0     ; CRC REQUIREMENT FOR SUBROUTINES
2522
2523   ;           0 = NO CRC
2524   ;           1 = APPEND CRC
2525 020566 000000   EDAT:    .WORD 0     ; ACTUAL DATA AT TIME OF ERROR
2526 020570 000000   XDAT:    .WORD 0     ; EXPECTED DATA AT TIME OF ERROR
2527 020572 000000   ECRC:    .WORD 0     ; ACTUAL CRC VALUE AT TIME OF ERROR
2528 020574 000000   ECRCB:   .WORD 0
2529 020576 000000   XCRC:    .WORD 0     ; EXPECTED CRC VALUE AT TIME OF ERROR
2530 020600 000000   XCRCB:   .WORD 0
2531
2532 020602 000000   ECODE:   .WORD 0     ; SELF TEST ERROR CODE SHIFTED RIGHT
2533
2534 020604 000000   METER:   .WORD 0     ; CLOCK TICKS
2535 020606 000000   NEXMEM:  .WORD 0     ; NXM TIMEOUT FLAG
    
```

2536	020610	000000	EAFLAG:	.WORD	0	; EXT ADDRESS BITS FLAG
2537	020612	000000	DNIFLG:	.WORD	0	; DNI INTERRUPT FLAG
2538	020614	000000	FRSTIM:	.WORD	0	; FIRST TIME FLAG
2539	020616	166670	POLYH:	.WORD	166670	; HIGH WORD OF PACKET CRC
2540	020620	101440	POLYL:	.WORD	101440	; LOW WORD OF PACKET CRC
2541	020622	000000	PRNTIT:	.WORD	0	; PRINT ENABLED FLAG
2542	020624		REPLY:	.BLKW	2	; DEFAULT STORAGE FOR REPLY TO
2543						; MANUAL INTERVENTION REQUEST
2544						
2545	020630	177777	! PATRN1:	.WORD	177777	; SA0_SA1 TEST PATTERN
2546	020632	000000		.WORD	0	
2547	020634	052525		.WORD	52525	
2548	020636	125252		.WORD	125252	
2549	020640	155463		.WORD	155463	
2550	020642	036334		.WORD	36334	
2551	020644	141616		.WORD	141616	
2552	020646	052525		.WORD	52525	
2553	020650	125252		.WORD	125252	
2554						
2555	020652		ERRTBL			
	020652					L\$ERRTBL::
	020652	000000	ERRTYP::	.WORD	0	
	020654	000000	ERRNBR::	.WORD	0	
	020656	000000	ERRMSG::	.WORD	0	
	020660	000000	ERRBLK::	.WORD	0	

```

2557          .SBTTL  GLOBAL TEXT SECTION
2558
2559          ;++
2560          ; THE GLOBAL TEXT SECTION CONTAINS FORMAT STATEMENTS,
2561          ; MESSAGES, AND ASCII INFORMATION THAT ARE USED IN
2562          ; MORE THAN ONE TEST.
2563          ;--
2564
2565          ;
2566          ; NAMES OF DEVICES SUPPORTED BY PROGRAM
2567          ;
2568          DEVTYP  <DELUA>
                L$DVTYP::
                .ASCIZ  *DELUA*
                .EVEN
020662
020662        104    105    114
020662
020665        125    101    000

2569
2570
2571          ; TEST DESCRIPTION
2572          ;
2573          DESCRIPT  <DELUA - PDP11 FUNCTIONAL DIAGNOSTIC dtd 28-MAR-86>
ONAL DIAGNOSTIC dtd 28-MAR-86/
                L$DESC::
                .ASCIZ  /DELUA - PDP11 FUNCTI
020670        104    105    114
020670
020673        125    101    040
020676        055    040    120
020701        104    120    061
020704        061    040    106
020707        125    116    103
020712        124    111    117
020715        116    101    114
020720        040    104    111
020723        101    107    116
020726        117    123    124
020731        111    103    040
020734        040    144    164
020737        144    040    062
020742        070    055    115
020745        101    122    055
020750        070    066    000
                .EVEN

2574          .EVEN
2575
  
```

2577
2578
2579
2580
2581
2582

:
: FORMAT STATEMENTS USED IN PRINT CALLS
:

:
: FRM001: .ASCIZ /%N%APCSR%D1%A DOES NOT EXIST/
:

020754 045 116 045
020757 101 120 103
020762 123 122 045
020765 104 061 045
020770 101 040 104
020773 117 105 123
020776 040 116 117
021001 124 040 105
021004 130 111 123
021007 124 000

2583

: FRM002: .ASCIZ /%N%A EXPECTED DATA = %06%N%A ACTUAL DATA = %06/
:

021011 045 116 045
021014 101 040 105
021017 130 120 105
021022 103 124 105
021025 104 040 104
021030 101 124 101
021033 040 075 040
021036 045 117 066
021041 045 116 045
021044 101 040 101
021047 103 124 125
021052 101 114 040
021055 104 101 124
021060 101 040 075
021063 040 040 040
021066 045 117 066
021071 000

2584

: FRM003: .ASCIZ /%N%A PCSRO = %06%N%A PCSR1 = %06/
:

021072 045 116 045
021075 101 040 120
021100 103 123 122
021103 060 040 075
021106 040 045 117
021111 066 045 116
021114 045 101 040
021117 120 103 123
021122 122 061 040
021125 075 040 045
021130 117 066 000

2585

: FRM004: .ASCIZ /%N%A SELF TEST ERROR CODE = %02/
:

021133 045 116 045
021136 101 040 123
021141 105 114 106
021144 040 124 105
021147 123 124 040
021152 105 122 122
021155 117 122 040
021160 103 117 104
021163 105 040 075
021166 040 045 117
021171 062 000

2586

: FRM005: .ASCIZ /%N%A EXPECTED TDRB+0 = %06%N%A ACTUAL TDRB+0 = %06/
:

021173 045 116 045
021176 101 040 105
021201 130 120 105

C5

021204	103	124	105	
021207	104	040	124	
021212	104	122	102	
021215	053	060	040	
021220	075	040	045	
021223	117	066	045	
021226	116	045	101	
021231	040	101	103	
021234	124	125	101	
021237	114	040	124	
021242	104	122	102	
021245	053	060	040	
021250	075	040	040	
021253	040	045	117	
021256	066	000		
2587 021260	045	116	045	FRM006: .ASCIZ /%N% A EXPECTED TDRB+2 = %06%N% A ACTUAL TDRB+2 = %06/
021263	101	040	105	
021266	130	120	105	
021271	103	124	105	
021274	104	040	124	
021277	104	122	102	
021302	053	062	040	
021305	075	040	045	
021310	117	066	045	
021313	116	045	101	
021316	040	101	103	
021321	124	125	101	
021324	114	040	124	
021327	104	122	102	
021332	053	062	040	
021335	075	040	040	
021340	040	045	117	
021343	066	000		
2588 021345	045	116	045	FRM007: .ASCIZ /%N% A EXPECTED TDRB+4 = %06%N% A ACTUAL TDRB+4 = %06/
021350	101	040	105	
021353	130	120	105	
021356	103	124	105	
021361	104	040	124	
021364	104	122	102	
021367	053	064	040	
021372	075	040	045	
021375	117	066	045	
021400	116	045	101	
021403	040	101	103	
021406	124	125	101	
021411	114	040	124	
021414	104	122	102	
021417	053	064	040	
021422	075	040	040	
021425	040	045	117	
021430	066	000		
2589 021432	045	116	045	FRM008: .ASCIZ /%N% A EXPECTED TDRB+6 = %06%N% A ACTUAL TDRB+6 = %06/
021435	101	040	105	
021440	130	120	105	
021443	103	124	105	
021446	104	040	124	
021451	104	122	102	

D5

	021454	053	066	040
	021457	075	040	045
	021462	117	066	045
	021465	116	045	101
	021470	040	101	103
	021473	124	125	101
	021476	114	040	124
	021501	104	122	102
	021504	053	066	040
	021507	075	040	040
	021512	040	045	117
	021515	066	000	
2590	021517	045	116	045
	021522	101	040	105
	021525	130	120	105
	021530	103	124	105
	021533	104	040	122
	021536	104	122	102
	021541	053	060	040
	021544	075	040	045
	021547	117	066	045
	021552	116	045	101
	021555	040	101	103
	021560	124	125	101
	021563	114	040	122
	021566	104	122	102
	021571	053	060	040
	021574	075	040	040
	021577	040	045	117
	021602	066	000	
2591	021604	045	116	045
	021607	101	040	105
	021612	130	120	105
	021615	103	124	105
	021620	104	040	122
	021623	104	122	102
	021626	053	062	040
	021631	075	040	045
	021634	117	066	045
	021637	116	045	101
	021642	040	101	103
	021645	124	125	101
	021650	114	040	122
	021653	104	122	102
	021656	053	062	040
	021661	075	040	040
	021664	040	045	117
	021667	066	000	
2592	021671	045	116	045
	021674	101	040	105
	021677	130	120	105
	021702	103	124	105
	021705	104	040	122
	021710	104	122	102
	021713	053	064	040
	021716	075	040	045
	021721	117	066	045

FRM009: .ASCIZ /%N%A EXPECTED RDRB+0 = %06%N%A ACTUAL RDRB+0 = %06/

FRM010: .ASCIZ /%N%A EXPECTED RDRB+2 = %06%N%A ACTUAL RDRB+2 = %06/

FRM011: .ASCIZ /%N%A EXPECTED RDRB+4 = %06%N%A ACTUAL RDRB+4 = %06/

E5

	021724	116	045	101	
	021727	040	101	103	
	021732	124	125	101	
	021735	114	040	122	
	021740	104	122	102	
	021743	053	064	040	
	021746	075	040	040	
	021751	040	045	117	
	021754	066	000		
2593	021756	045	116	045	FRM012: .ASCIZ /%N%A EXPECTED RDRB+6 = %06%N%A ACTUAL RDRB+6 = %06/
	021761	101	040	105	
	021764	130	120	105	
	021767	103	124	105	
	021772	104	040	122	
	021775	104	122	102	
	022000	053	066	040	
	022003	075	040	045	
	022006	117	066	045	
	022011	116	045	101	
	022014	040	101	103	
	022017	124	125	101	
	022022	114	040	122	
	022025	104	122	102	
	022030	053	066	040	
	022033	075	040	040	
	022036	040	045	117	
	022041	066	000		
2594	022043	045	116	045	FRM013: .ASCIZ /%N%A EXPECTED CRC = %06%N%A %06/
	022046	101	040	105	
	022051	130	120	105	
	022054	103	124	105	
	022057	104	040	103	
	022062	122	103	040	
	022065	075	040	045	
	022070	117	066	045	
	022073	116	045	101	
	022076	040	040	040	
	022101	040	040	040	
	022104	040	040	040	
	022107	040	040	040	
	022112	040	040	040	
	022115	040	045	117	
	022120	066	000		
2595	022122	045	116	045	FRM014: .ASCIZ /%N%A ACTUAL CRC = %06%N%A %06/
	022125	101	040	101	
	022130	103	124	125	
	022133	101	114	040	
	022136	103	122	103	
	022141	040	040	040	
	022144	075	040	045	
	022147	117	066	045	
	022152	116	045	101	
	022155	040	040	040	
	022160	040	040	040	
	022163	040	040	040	
	022166	040	040	040	
	022171	040	040	040	

F5

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GLOBAL TEXT SECTION

SEQ 57

	022174	040	045	117	
	022177	066	000		
2596	022201	045	116	045	FRM015: .ASCIZ /%N%T/
	022204	124	000		
2597	022206	045	116	045	FRM016: .ASCIZ /%N%AROM MICROCODE VERSION (DECIMAL): %D2/
	022211	101	122	117	
	022214	115	040	115	
	022217	111	103	122	
	022222	117	103	117	
	022225	104	105	040	
	022230	126	105	122	
	022233	123	111	117	
	022236	116	040	050	
	022241	104	105	103	
	022244	111	115	101	
	022247	114	051	072	
	022252	040	045	104	
	022255	062	000		
2598	022257	045	116	045	FRM017: .ASCIZ /%N%ASWITCH PACK = %06/
	022262	101	123	127	
	022265	111	124	103	
	022270	110	040	120	
	022273	101	103	113	
	022276	040	075	040	
	022301	045	117	066	
	022304	000			
2599	022305	045	116	045	FRM018: .ASCIZ /%N%APORT STATUS WORD 1: %06/
	022310	101	120	117	
	022313	122	124	040	
	022316	123	124	101	
	022321	124	125	123	
	022324	040	127	117	
	022327	122	104	040	
	022332	061	072	040	
	022335	045	117	066	
	022340	000			
2600	022341	045	116	045	FRM019: .ASCIZ /%N%A WORD 2: %06/
	022344	101	040	040	
	022347	040	040	040	
	022352	040	040	040	
	022355	040	040	040	
	022360	040	127	117	
	022363	122	104	040	
	022366	062	072	040	
	022371	045	117	066	
	022374	000			
2601	022375	045	116	045	FRM020: .ASCIZ /%N%A WORD 3: %06/
	022400	101	040	040	
	022403	040	040	040	
	022406	040	040	040	
	022411	040	040	040	
	022414	040	127	117	
	022417	122	104	040	
	022422	063	072	040	
	022425	045	117	066	
	022430	000			
2602	022431	045	116	045	FRM021: .ASCIZ /%N%A WORD 4: %06/

	022434	101	040	040	
	022437	040	040	040	
	022442	040	040	040	
	022445	040	040	040	
	022450	040	127	117	
	022453	122	104	040	
	022456	064	072	040	
	022461	045	117	066	
	022464	000			
2603	022465	045	116	045	FRM022: .ASCIZ /%N%A EXPECTED UDBB+4 = > 0 %N%A ACTUAL UDBB+4 = %06/
	022470	101	040	105	
	022473	130	120	105	
	022476	103	124	105	
	022501	104	040	125	
	022504	104	102	102	
	022507	053	064	040	
	022512	075	040	076	
	022515	040	060	040	
	022520	045	116	045	
	022523	101	040	101	
	022526	103	124	125	
	022531	101	114	040	
	022534	125	104	102	
	022537	102	053	064	
	022542	040	075	040	
	022545	045	117	066	
	022550	000			
2604	022551	045	116	045	FRM023: .ASCIZ /%N%A PCSRO = %06/
	022554	101	040	120	
	022557	103	123	122	
	022562	060	040	075	
	022565	040	045	117	
	022570	066	000		
2605					
2606	022572	115	125	123	MSG1: .ASCIZ /MUST INSTALL H4080 OR EQUIV. EXT. LOOPBACK TO AVOID FAULTS./
	022575	124	040	111	
	022600	116	123	124	
	022603	101	114	114	
	022606	040	110	064	
	022611	060	070	060	
	022614	040	117	122	
	022617	040	105	121	
	022622	125	111	126	
	022625	056	040	105	
	022630	130	124	056	
	022633	040	114	117	
	022636	117	120	102	
	022641	101	103	113	
	022644	040	124	117	
	022647	040	101	126	
	022652	117	111	104	
	022655	040	106	101	
	022660	125	114	124	
	022663	123	056	000	
2607	022666	111	106	040	MSG2: .ASCIZ /IF YES, THEN MUST INSTALL H4080 OR EQUIV. EXT LOOPBACK TO AVOID FAULTS/
	022671	131	105	123	
	022674	054	124	110	

	022677	105	116	040	
	022702	115	125	123	
	022705	124	040	111	
	022710	116	123	124	
	022713	101	114	114	
	022716	040	110	064	
	022721	060	070	060	
	022724	040	117	122	
	022727	040	105	121	
	022732	125	111	126	
	022735	056	040	105	
	022740	130	124	040	
	022743	114	117	117	
	022746	120	102	101	
	022751	103	113	040	
	022754	124	117	040	
	022757	101	126	117	
	022762	111	104	040	
	022765	106	101	125	
	022770	114	124	123	
	022773	000			
2608	022774	111	123	040	MNMSG1: .ASCIZ /IS H4080 OR EQUIV. LOOPBACK CONNECTOR INSTALLED? Y<CR> ONLY/
	022777	110	064	060	
	023002	070	060	040	
	023005	117	122	040	
	023010	105	121	125	
	023013	111	126	056	
	023016	040	114	117	
	023021	117	120	102	
	023024	101	103	113	
	023027	040	103	117	
	023032	116	116	105	
	023035	103	124	117	
	023040	122	040	111	
	023043	116	123	124	
	023046	101	114	114	
	023051	105	104	077	
	023054	040	131	074	
	023057	103	122	076	
	023062	040	117	116	
	023065	114	131	000	
2609	023070	105	130	124	SKIP: .ASCIZ /EXT.LOOPBACK TEST- EXT MODE NOT SELECTED - SKIP /
	023073	056	114	117	
	023076	117	120	102	
	023101	101	103	113	
	023104	040	124	105	
	023107	123	124	055	
	023112	040	105	130	
	023115	124	040	115	
	023120	117	104	105	
	023123	040	116	117	
	023126	124	040	123	
	023131	105	114	105	
	023134	103	124	105	
	023137	104	040	055	
	023142	040	123	113	
	023145	111	120	040	

2610	023150	000			
	023151	105	130	124	SKIP26: .ASCIZ /EXT.LOOPBACK TEST - MUST BE ATTENDED MODE - SKIP /
	023154	056	114	117	
	023157	117	120	102	
	023162	101	103	113	
	023165	040	124	105	
	023170	123	124	040	
	023173	055	040	115	
	023176	125	123	124	
	023201	040	102	105	
	023204	040	101	124	
	023207	124	105	116	
	023212	104	105	104	
	023215	040	115	117	
	023220	104	105	040	
	023223	055	040	123	
	023226	113	111	120	
	023231	040	000		
2611					
2612					.EVEN

```

2614 ;
2615 ;
2616 ;
2617 ;
2618 023234 103 101 116 NOCLK: .ASCIZ/CANNOT CONTINUE - NEED LINE CLOCK/
      023237 116 117 124
      023242 040 103 117
      023245 116 124 111
      023250 116 125 105
      023253 040 055 040
      023256 116 105 105
      023261 104 040 114
      023264 111 116 105
      023267 040 103 114
      023272 117 103 113
      023275 000

2619
2620 023276 103 101 116 M68FLD: .ASCII/CANNOT CONTINUE - NO DNI AFTER RESET/
      023301 116 117 124
      023304 040 103 117
      023307 116 124 111
      023312 116 125 105
      023315 040 055 040
      023320 116 117 040
      023323 104 116 111
      023326 040 101 106
      023331 124 105 122
      023334 040 122 105
      023337 123 105 124
2621 023342 040 040 040 .ASCIZ/ MICROPROCESSOR SUBSYSTEM FAULT/
      023345 115 111 103
      023350 122 117 120
      023353 122 117 103
      023356 105 123 123
      023361 117 122 040
      023364 123 125 102
      023367 123 131 123
      023372 124 105 115
      023375 040 106 101
      023400 125 114 124
      023403 000

2622
2623 023404 103 101 116 DEVUNI: .ASCII/CANNOT CONTINUE - NO DNI AFTER RESET/
      023407 116 117 124
      023412 040 103 117
      023415 116 124 111
      023420 116 125 105
      023423 040 055 040
      023426 116 117 040
      023431 104 116 111
      023434 040 101 106
      023437 124 105 122
      023442 040 122 105
      023445 123 105 124
2624 023450 040 040 040 .ASCIZ/ DEVICE OR UNIBUS ERROR/
      023453 104 105 126
      023456 111 103 105

```

	023461	040	117	122	
	023464	040	125	116	
	023467	111	102	125	
	023472	123	040	105	
	023475	122	122	117	
	023500	122	000		
2625					
2626	023502	103	101	116	NIUNIB: .ASCII/CANNOT CONTINUE - NO DNI AFTER RESET/
	023505	116	117	124	
	023510	040	103	117	
	023513	116	124	111	
	023516	116	125	105	
	023521	040	055	040	
	023524	116	117	040	
	023527	104	116	111	
	023532	040	101	106	
	023535	124	105	122	
	023540	040	122	105	
2627	023543	123	105	124	
	023546	040	040	040	.ASCIZ/ NI OR UNIBUS HALTED/
	023551	116	111	040	
	023554	117	122	040	
	023557	125	116	111	
	023562	102	125	123	
	023565	040	110	101	
	023570	114	124	105	
	023573	104	000		
2628					
2629	023575	103	101	116	UNDFND: .ASCII/CANNOT CONTINUE - DNI, FATAL, AND USCI BITS/
	023600	116	117	124	
	023603	040	103	117	
	023606	116	124	111	
	023611	116	125	105	
	023614	040	055	040	
	023617	104	116	111	
	023622	054	040	106	
	023625	101	124	101	
	023630	114	054	040	
	023633	101	116	104	
	023636	040	125	123	
	023641	103	111	040	
	023644	102	111	124	
	023647	123			
2630	023650	111	116	040	.ASCIZ/IN ILLEGAL STATE/
	023653	111	114	114	
	023656	105	107	101	
	023661	114	040	123	
	023664	124	101	124	
	023667	105	000		
2631					
2632	023671	103	101	116	DNICLR: .ASCIZ/CANNOT CONTINUE - DNI WOULD NOT CLEAR FOLLOWING RESET/
	023674	116	117	124	
	023677	040	103	117	
	023702	116	124	111	
	023705	116	125	105	
	023710	040	055	040	
	023713	104	116	111	

L5

023716	040	127	117
023721	125	114	104
023724	040	116	117
023727	124	040	103
023732	114	105	101
023735	122	040	106
023740	117	114	114
023743	117	127	111
023746	116	107	040
023751	122	105	123
023754	105	124	000

2633
2634

.EVEN


```

2636          .SBTTL GLOBAL ERROR REPORT SECTION
2637
2638          ;**
2639          ; THE GLOBAL ERROR REPORT SECTION CONTAINS MESSAGE PRINTING AREAS
2640          ; USED BY MORE THAN TEST TO OUTPUT ADDITIONAL ERROR INFORMATION. PRINTB
2641          ; (BASIC) AND PRINTX (EXTENDED) CALLS ARE USED TO CALL PRINT SERVICES.
2642          ;--
2643
2644
2645
2646          023760          BGNMSG MSG001
2647          023760          PRINTB #FRM001,R2
2648          023760          010246          020754
2649          023762          012746          000002
2650          023766          012746          000002
2651          023772          010600
2652          023774          104414
2653          023776          062706          000006
2654          024002          ENDMSG
2655          024002          104423
2656          ;
2657          024004          BGNMSG MSG002
2658          024004          PRINTB #FRM002,R3,R4
2659          024004          010446
2660          024006          010346
2661          024010          012746          021011
2662          024014          012746          000003
2663          024020          010600
2664          024022          104414
2665          024024          062706          000010
2666          024030          ENDMSG
2667          024030          104423
2668          ;
2669          024032          BGNMSG MSG003
2670          024032          PRINTB #FRM003,EPCSR0,EPCSR1
2671          024032          013746          020520
2672          024036          013746          020516
2673          024042          012746          021072
2674          024046          012746          000003
2675          024052          010600
2676          024054          104414
2677          024056          062706          000010
2678          024062          ENDMSG
2679          024062          104423
2680          ;
2681          024064          BGNMSG MSG004
2682          024064          PRINTB #FRM004,ECODE
2683          024064          013746          020602
2684          024070          012746          021133
2685          024074          012746          000002

```

```

024100 010600
024102 104414
024104 062706 000006
2660 024110 PRINTB #FRM015,STMSG
024110 013746 040602
024114 012746 022201
024120 012746 000002
024124 010600
024126 104414
024130 062706 000006
2661 024134 ENDMSG
024134
024134 104423
2662 ;
2663 BGNMSG MSG005
024136
2664 PRINTB #FRM005,XTDRB0,ETDRB0
024136 013746 020542
024142 013746 020552
024146 012746 021173
024152 012746 000003
024156 010600
024160 104414
024162 062706 000010
2665 PRINTB #FRM006,XTDRB2,ETDRB2
024166 013746 020544
024172 013746 020554
024176 012746 021260
024202 012746 000003
024206 010600
024210 104414
024212 062706 000010
2666 PRINTB #FRM007,XTDRB4,ETDRB4
024216 013746 020546
024222 013746 020556
024226 012746 021345
024232 012746 000003
024236 010600
024240 104414
024242 062706 000010
2667 PRINTB #FRM008,XTDRB6,ETDRB6
024246 013746 020550
024252 013746 020560
024256 012746 021432
024262 012746 000003
024266 010600
024270 104414
024272 062706 000010
2668 024276 ENDMSG
024276
024276 104423
2669 ;
2670 BGNMSG MSG006
024300
2671 PRINTB #FRM009,XRDRB0,ERDRB0
024300 013746 020522
024304 013746 020532
```

```

MOV SP,R0
TRAP C$PNTB
ADD #6,SP
MOV STMSG,-(SP)
MOV #FRM015,-(SP)
MOV #2,-(SP)
MOV SP,R0
TRAP C$PNTB
ADD #6,SP
L10005: TRAP C$MSG
MSG005::
MOV ETDRB0,-(SP)
MOV XTDRB0,-(SP)
MOV #FRM005,-(SP)
MOV #3,-(SP)
MOV SP,R0
TRAP C$PNTB
ADD #10,SP
MOV ETDRB2,-(SP)
MOV XTDRB2,-(SP)
MOV #FRM006,-(SP)
MOV #3,-(SP)
MOV SP,R0
TRAP C$PNTB
ADD #10,SP
MOV ETDRB4,-(SP)
MOV XTDRB4,-(SP)
MOV #FRM007,-(SP)
MOV #3,-(SP)
MOV SP,R0
TRAP C$PNTB
ADD #10,SP
MOV ETDRB6,-(SP)
MOV XTDRB6,-(SP)
MOV #FRM008,-(SP)
MOV #3,-(SP)
MOV SP,R0
TRAP C$PNTB
ADD #10,SP
L10006: TRAP C$MSG
MSG006::
MOV ERDRB0,-(SP)
MOV XRDRB0,-(SP)
```

B6

```

024310 012746 021517
024314 012746 000003
024320 010600
024322 104414
024324 062706 000010
2672 024330 PRINTB #FRM010,XRDRB2,ERDRB2
024330 013746 020524
024334 013746 020534
024340 012746 021604
024344 012746 000003
024350 010600
024352 104414
024354 062706 000010
2673 024360 PRINTB #FRM011,XRDRB4,ERDRB4
024360 013746 020526
024364 013746 020536
024370 012746 021671
024374 012746 000003
024400 010600
024402 104414
024404 062706 000010
2674 024410 PRINTB #FRM012,XRDRB6,ERDRB6
024410 013746 020530
024414 013746 020540
024420 012746 021756
024424 012746 000003
024430 010600
024432 104414
024434 062706 000010
2675 024440 ENDMSG
024440
024440 104423
2676
2677 ; BGNMSG MSG007
024442
024442 PRINTB #FRM002,XDAT,EDAT
2678 024442
024442 013746 020566
024446 013746 020570
024452 012746 021011
024456 012746 000003
024462 010600
024464 104414
024466 062706 000010
2679 024472 ENDMSG
024472
024472 104423
2680
2681 ; BGNMSG MSG008
024474
024474
2682 024474 PRINTB #FRM013,XCRC,XCRCB
024474 013746 020600
024500 013746 020576
024504 012746 022043
024510 012746 000003
024514 010600
024516 104414
024520 062706 000010

```

```

MOV #FRM009,-(SP)
MOV #3,-(SP)
MOV SP,RO
TRAP C$PNTB
ADD #10,SP

```

```

MOV ERDRB2,-(SP)
MOV XRDRB2,-(SP)
MOV #FRM010,-(SP)
MOV #3,-(SP)
MOV SP,RO
TRAP C$PNTB
ADD #10,SP

```

```

MOV ERDRB4,-(SP)
MOV XRDRB4,-(SP)
MOV #FRM011,-(SP)
MOV #3,-(SP)
MOV SP,RO
TRAP C$PNTB
ADD #10,SP

```

```

MOV ERDRB6,-(SP)
MOV XRDRB6,-(SP)
MOV #FRM012,-(SP)
MOV #3,-(SP)
MOV SP,RO
TRAP C$PNTB
ADD #10,SP

```

```
L10007: TRAP C$MSG
```

```
MSG007::
```

```

MOV EDAT,-(SP)
MOV XDAT,-(SP)
MOV #FRM002,-(SP)
MOV #3,-(SP)
MOV SP,RO
TRAP C$PNTB
ADD #10,SP

```

```
L10010: TRAP C$MSG
```

```
MSG008::
```

```

MOV XCRCB,-(SP)
MOV XCRC,-(SP)
MOV #FRM013,-(SP)
MOV #3,-(SP)
MOV SP,RO
TRAP C$PNTB
ADD #10,SP

```

C6

2683	024524			PRINTB	#FRM014,ECRC,ECRCB		
	024524	013746	020574			MOV	ECRCB,-(SP)
	024530	013746	020572			MOV	ECRC,-(SP)
	024534	012746	022122			MOV	#FRM014,-(SP)
	024540	012746	000003			MOV	#3,-(SP)
	024544	010600				MOV	SP,RO
	024546	104414				TRAP	C\$PNTB
	024550	062706	000010			ADD	#10,SP
2684	024554			ENDMSG		L10011:	TRAP C\$MSG
	024554						
	024554	104423					
2685							
2686	024556			BGNMSG	MSG009	MSG009::	
	024556						
2687	024556			PRINTB	#FRM018,PCBB		
	024556	013746	002302			MOV	PCBB,-(SP)
	024562	012746	022305			MOV	#FRM018,-(SP)
	024566	012746	000002			MOV	#2,-(SP)
	024572	010600				MOV	SP,RO
	024574	104414				TRAP	C\$PNTB
	024576	062706	000006			ADD	#6,SP
2688	024602			PRINTB	#FRM019,PCBB+2		
	024602	013746	002304			MOV	PCBB+2,-(SP)
	024606	012746	022341			MOV	#FRM019,-(SP)
	024612	012746	000002			MOV	#2,-(SP)
	024616	010600				MOV	SP,RO
	024620	104414				TRAP	C\$PNTB
	024622	062706	000006			ADD	#6,SP
2689	024626			PRINTB	#FRM020,PCBB+4		
	024626	013746	002306			MOV	PCBB+4,-(SP)
	024632	012746	022375			MOV	#FRM020,-(SP)
	024636	012746	000002			MOV	#2,-(SP)
	024642	010600				MOV	SP,RO
	024644	104414				TRAP	C\$PNTB
	024646	062706	000006			ADD	#6,SP
2690	024652			PRINTB	#FRM021,PCBB+6		
	024652	013746	002310			MOV	PCBB+6,-(SP)
	024656	012746	022431			MOV	#FRM021,-(SP)
	024662	012746	000002			MOV	#2,-(SP)
	024666	010600				MOV	SP,RO
	024670	104414				TRAP	C\$PNTB
	024672	062706	000006			ADD	#6,SP
2691	024676			ENDMSG		L10012:	TRAP C\$MSG
	024676						
	024676	104423					
2692							
2693	024700			BGNMSG	MSG010	MSG010::	
	024700						
2694	024700			PRINTB	#FRM022,UDBB+4		
	024700	013746	002316			MOV	UDBB+4,-(SP)
	024704	012746	022465			MOV	#FRM022,-(SP)
	024710	012746	000002			MOV	#2,-(SP)
	024714	010600				MOV	SP,RO
	024716	104414				TRAP	C\$PNTB
	024720	062706	000006			ADD	#6,SP
2695	024724			ENDMSG		L10013:	
	024724						

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2696	024724	104423				TRAP	C\$MSG
2697	024726				BGNMSG MSG011	MSG011::	
2698	024726				PRINTB #FRM023,EPCSRO	MOV EPCSRO,-(SP)	
	024726	013746	020516			MOV #FRM023,-(SP)	
	024732	012746	022551			MOV #2,-(SP)	
	024736	012746	000002			MOV SP,RO	
	024742	010600				TRAP C\$PNTB	
	024744	104414				ADD #6,SP	
	024746	062706	000006			L10014:	
2699	024752				ENDMSG	TRAP	C\$MSG
	024752						
	024752	104423					
2700					.EVEN		
2701					.ERR001:	.ASCIZ	<15><12>/REGISTER ACCESS ERROR/
2702							
2703	024754	015	012	122			
	024757	105	107	111			
	024762	123	124	105			
	024765	122	040	101			
	024770	103	103	105			
	024773	123	123	040			
	024776	105	122	122			
	025001	117	122	000			
2704	025004	015	012	104	ERR002:	.ASCIZ	<15><12>/DATA COMPARE ERROR IN PCSR2/
	025007	101	124	101			
	025012	040	103	117			
	025015	115	120	101			
	025020	122	105	040			
	025023	105	122	122			
	025026	117	122	040			
	025031	111	116	040			
	025034	120	103	123			
	025037	122	062	000			
2705	025042	015	012	104	ERR003:	.ASCIZ	<15><12>/DATA COMPARE ERROR IN PCSR3/
	025045	101	124	101			
	025050	040	103	117			
	025053	115	120	101			
	025056	122	105	040			
	025061	105	122	122			
	025064	117	122	040			
	025067	111	116	040			
	025072	120	103	123			
	025075	122	063	000			
2706	025100	015	012	123	ERR005:	.ASCIZ	<15><12>/SELF TEST FAILURE/
	025103	105	114	106			
	025106	040	124	105			
	025111	123	124	040			
	025114	106	101	111			
	025117	114	125	122			
	025122	105	000				
2707	025124	015	012	127	ERR006:	.ASCIZ	<15><12>/WRITING ONE TO CLEAR DNI BIT FAILED/
	025127	122	111	124			
	025132	111	116	107			
	025135	040	117	116			
	025140	105	040	124			

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	025143	117	040	103	
	025146	114	105	101	
	025151	122	040	104	
	025154	116	111	040	
	025157	102	111	124	
	025162	040	106	101	
	025165	111	114	105	
	025170	104	000		
2708	025172	015	012	116	ERR007: .ASCII <15><12>/NO DNI INTERRUPT OCCURRED /
	025175	117	040	104	
	025200	116	111	040	
	025203	111	116	124	
	025206	105	122	122	
	025211	125	120	124	
	025214	040	117	103	
	025217	103	125	122	
	025222	122	105	104	
	025225	040			
2709	025226	101	106	124	.ASCIZ /AFTER GET PCBB PORT COMMAND/
	025231	105	122	040	
	025234	107	105	124	
	025237	040	120	103	
	025242	102	102	040	
	025245	120	117	122	
	025250	124	040	103	
	025253	117	115	115	
	025256	101	116	104	
	025261	000			
2710	025262	015	012	104	ERR008: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	025265	116	111	040	
	025270	102	111	124	
	025273	040	106	101	
	025276	111	114	105	
	025301	104	040	124	
	025304	117	040	123	
	025307	105	124	040	
	025312	101	106	124	
	025315	105	122	040	
2711	025320	116	117	120	.ASCIZ /NOP PORT COMMAND/
	025323	040	120	117	
	025326	122	124	040	
	025331	103	117	115	
	025334	115	101	116	
	025337	104	000		
2712	025341	015	012	104	ERR009: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	025344	116	111	040	
	025347	102	111	124	
	025352	040	106	101	
	025355	111	114	105	
	025360	104	040	124	
	025363	117	040	123	
	025366	105	124	040	
	025371	101	106	124	
	025374	105	122	040	
2713	025377	107	105	124	.ASCIZ /GET PCBB PORT COMMAND/
	025402	040	120	103	
	025405	102	102	040	

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	025410	120	117	122	
	025413	124	040	103	
	025416	117	115	115	
	025421	101	116	104	
	025424	000			
2714	025425	015	012	104	ERR010: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	025430	116	111	040	
	025433	102	111	124	
	025436	040	106	101	
	025441	111	114	105	
	025444	104	040	124	
	025447	117	040	123	
	025452	105	124	040	
	025455	101	106	124	
	025460	105	122	040	
2715	025463	107	105	124	.ASCIZ /GET CMD PORT COMMAND/
	025466	040	103	115	
	025471	104	040	120	
	025474	117	122	124	
	025477	040	103	117	
	025502	115	115	101	
	025505	116	104	000	
2716	025510	015	012	115	ERR011: .ASCIZ <15><12>/M68000 SUBSYSTEM FAILURE/
2717	025513	066	070	060	
	025516	060	060	040	
	025521	123	125	102	
	025524	123	131	123	
	025527	124	105	115	
	025532	040	106	101	
	025535	111	114	125	
	025540	122	105	000	
2718	025543	015	012	104	ERR012: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
2719	025546	116	111	040	
	025551	102	111	124	
	025554	040	106	101	
	025557	111	114	105	
	025562	104	040	124	
	025565	117	040	123	
	025570	105	124	040	
	025573	101	106	124	
	025576	105	122	040	
2720	025601	123	124	101	.ASCIZ /START PORT COMMAND/
	025604	122	124	040	
	025607	120	117	122	
	025612	124	040	103	
	025615	117	115	115	
	025620	101	116	104	
	025623	000			
2721	025624	015	012	124	ERR013: .ASCIZ <15><12>/TXI BIT FAILED TO SET /
	025627	130	111	040	
	025632	102	111	124	
	025635	040	106	101	
	025640	111	114	105	
	025643	104	040	124	
	025646	117	040	123	

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	025651	105	124	040	
	025654	000			
2722	025655	015	012	127	ERR014: .ASCIZ <15><12>/WRITING ONE TO CLEAR TXI BIT FAILED/
	025660	122	111	124	
	025663	111	116	107	
	025666	040	117	116	
	025671	105	040	124	
	025674	117	040	103	
	025677	114	105	101	
	025702	122	040	124	
	025705	130	111	040	
	025710	102	111	124	
	025713	040	106	101	
	025716	111	114	105	
	025721	104	000		
2723	025723	015	012	122	ERR015: .ASCIZ <15><12>/RXI BIT FAILED TO SET /
	025726	130	111	040	
	025731	102	111	124	
	025734	040	106	101	
	025737	111	114	105	
	025742	104	040	124	
	025745	117	040	123	
	025750	105	124	040	
	025753	000			
2724	025754	015	012	127	ERR016: .ASCIZ <15><12>/WRITING ONE TO CLEAR RXI BIT FAILED/
	025757	122	111	124	
	025762	111	116	107	
	025765	040	117	116	
	025770	105	040	124	
	025773	117	040	103	
	025776	114	105	101	
	026001	122	040	122	
	026004	130	111	040	
	026007	102	111	124	
	026012	040	106	101	
	026015	111	114	105	
	026020	104	000		
2725	026022	015	012	124	ERR017: .ASCII <15><12>/TIMEOUT ERROR - DELUA FAILED TO /
	026025	111	115	105	
	026030	117	125	124	
	026033	040	105	122	
	026036	122	117	122	
	026041	040	055	040	
	026044	104	105	114	
	026047	125	101	040	
	026052	106	101	111	
	026055	114	105	104	
	026060	040	124	117	
	026063	040			
2726	026064	122	105	114	.ASCIZ /RELINQUISH OWNERSHIP OF RDRB /
	026067	111	116	121	
	026072	125	111	123	
	026075	110	040	117	
	026100	127	116	105	
	026103	122	123	110	
	026106	111	120	040	
	026111	117	106	040	

	026114	122	104	122	
	026117	102	040	000	
2727	026122	015	012	124	ERR018: .ASCII <15><12>/TIMEOUT ERROR - DELUA FAILED TO /
	026125	111	115	105	
	026130	117	125	124	
	026133	040	105	122	
	026136	122	117	122	
	026141	040	055	040	
	026144	104	105	114	
	026147	125	101	040	
	026152	106	101	111	
	026155	114	105	104	
	026160	040	124	117	
	026163	040			
2728	026164	122	105	114	.ASCIZ /RELINQUISH OWNERSHIP OF TDRB /
	026167	111	116	121	
	026172	125	111	123	
	026175	110	040	117	
	026200	127	116	105	
	026203	122	123	110	
	026206	111	120	040	
	026211	117	106	040	
	026214	124	104	122	
	026217	102	040	000	
2729	026222	015	012	104	ERR019: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	026225	116	111	040	
	026230	102	111	124	
	026233	040	106	101	
	026236	111	114	105	
	026241	104	040	124	
	026244	117	040	123	
	026247	105	124	040	
	026252	101	106	124	
	026255	105	122	040	
2730	026260	123	124	117	.ASCIZ /STOP PORT COMMAND/
	026263	120	040	120	
	026266	117	122	124	
	026271	040	103	117	
	026274	115	115	101	
	026277	116	104	000	
2731	026302	015	012	104	ERR020: .ASCII <15><12>/DATA COMPARE ERROR IN /
	026305	101	124	101	
	026310	040	103	117	
	026313	115	120	101	
	026316	122	105	040	
	026321	105	122	122	
	026324	117	122	040	
	026327	111	116	040	
2732	026332	124	122	101	.ASCIZ /TRANSMIT DESCRIPTOR RING/
	026335	116	123	115	
	026340	111	124	040	
	026343	104	105	123	
	026346	103	122	111	
	026351	120	124	117	
	026354	122	040	122	
	026357	111	116	107	
	026362	000			

2733	026363	015	012	104	ERR021: .ASCII <15><12>/DATA COMPARE ERROR IN /
	026366	101	124	101	
	026371	040	103	117	
	026374	115	120	101	
	026377	122	105	040	
	026402	105	122	122	
	026405	117	122	040	
	026410	111	116	040	
	026413	040			
2734	026414	122	105	103	.ASCIZ /RECEIVE DESCRIPTOR RING/
	026417	105	111	126	
	026422	105	040	104	
	026425	105	123	103	
	026430	122	111	120	
	026433	124	117	122	
	026436	040	122	111	
	026441	116	107	000	
2735	026444	015	012	124	ERR022: .ASCIZ <15><12>/TRANSMIT-RECEIVE DATA COMPARE ERROR /
	026447	122	101	116	
	026452	123	115	111	
	026455	124	055	122	
	026460	105	103	105	
	026463	111	126	105	
	026466	040	104	101	
	026471	124	101	040	
	026474	103	117	115	
	026477	120	101	122	
	026502	105	040	105	
	026505	122	122	117	
	026510	122	040	000	
2736	026513	015	012	103	ERR023: .ASCIZ <15><12>/CRC COMPARE ERROR /
	026516	122	103	040	
	026521	103	117	115	
	026524	120	101	122	
	026527	105	040	105	
	026532	122	122	117	
	026535	122	040	000	
2737	026540	015	012	111	ERR024: .ASCIZ <15><12>/INTERNAL ROM CRC COMPARE ERROR /
	026543	116	124	105	
	026546	122	116	101	
	026551	114	040	122	
	026554	117	115	040	
	026557	103	122	103	
	026562	040	103	117	
	026565	115	120	101	
	026570	122	105	040	
	026573	105	122	122	
	026576	117	122	040	
	026601	000			
2738	026602	015	012	122	ERR025: .ASCIZ <15><12>/RCBI BIT FAILED TO SET /
	026605	103	102	111	
	026610	040	102	111	
	026613	124	040	106	
	026616	101	111	114	
	026621	105	104	040	
	026624	124	117	040	
	026627	123	105	124	

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	026632	040	000	
2739				
2740	026634			ERR026:
2741				
2742	026634	015	012	124 ERR027: .ASCII <15><12>/TIMEOUT ERROR - DELUA FAILED TO RELINQUISH/
	026637	111	115	105
	026642	117	125	124
	026645	040	105	122
	026650	122	117	122
	026653	040	055	040
	026656	104	105	114
	026661	125	101	040
	026664	106	101	111
	026667	114	105	104
	026672	040	124	117
	026675	040	122	105
	026700	114	111	116
	026703	121	125	111
	026706	123	110	
2743	026710	040	117	127 .ASCIZ / OWNERSHIP OF FIRST TDRB/
	026713	116	105	122
	026716	123	110	111
	026721	120	040	117
	026724	106	040	106
	026727	111	122	123
	026732	124	040	124
	026735	104	122	102
	026740	000		
2744	026741	015	012	124 ERR028: .ASCII <15><12>/TIMEOUT ERROR - DELUA FAILED TO RELINQUISH/
	026744	111	115	105
	026747	117	125	124
	026752	040	105	122
	026755	122	117	122
	026760	040	055	040
	026763	104	105	114
	026766	125	101	040
	026771	106	101	111
	026774	114	105	104
	026777	040	124	117
	027002	040	122	105
	027005	114	111	116
	027010	121	125	111
	027013	123	110	
2745	027015	040	117	127 .ASCIZ / OWNERSHIP OF SECOND TDRB/
	027020	116	105	122
	027023	123	110	111
	027026	120	040	117
	027031	106	040	123
	027034	105	103	117
	027037	116	104	040
	027042	124	104	122
	027045	102	000	
2746				
2747	027047			ERR029:
2748				
2749	027047	015	012	124 ERR030: .ASCII <15><12>/TIMEOUT ERROR - DELUA FAILED TO RELINQUISH/
	027052	111	115	105

	027055	117	125	124	
	027060	040	105	122	
	027063	122	117	122	
	027066	040	055	040	
	027071	104	105	114	
	027074	125	101	040	
	027077	106	101	111	
	027102	114	105	104	
	027105	040	124	117	
	027110	040	122	105	
	027113	114	111	116	
	027116	121	125	111	
	027121	123	110		
2750	027123	040	117	127	.ASCIZ / OWNERSHIP OF FIRST RDRB/
	027126	116	105	122	
	027131	123	110	111	
	027134	120	040	117	
	027137	106	040	106	
	027142	111	122	123	
	027145	124	040	122	
	027150	104	122	102	
	027153	000			
2751	027154	015	012	124	ERR031: .ASCII <15><12>/TIMEOUT ERROR - DELUA FAILED TO RELINQUISH/
	027157	111	115	105	
	027162	117	125	124	
	027165	040	105	122	
	027170	122	117	122	
	027173	040	055	040	
	027176	104	105	114	
	027201	125	101	040	
	027204	106	101	111	
	027207	114	105	104	
	027212	040	124	117	
	027215	040	122	105	
	027220	114	111	116	
	027223	121	125	111	
	027226	123	110		
2752	027230	040	117	127	.ASCIZ / OWNERSHIP OF SECOND RDRB/
	027233	116	105	122	
	027236	123	110	111	
	027241	120	040	117	
	027244	106	040	123	
	027247	105	103	117	
	027252	116	104	040	
	027255	122	104	122	
	027260	102	000		
2753					
2754	027262				ERR032:
2755					
2756	027262	015	012	104	ERR033: .ASCII <15><12>/DATA COMPARE ERROR IN /
	027265	101	124	101	
	027270	040	103	117	
	027273	115	120	101	
	027276	122	105	040	
	027301	105	122	122	
	027304	117	122	040	
	027307	111	116	040	

2757	027312	106	111	122	.ASCIZ /FIRST TRANSMIT DESCRIPTOR RING/
	027315	123	124	040	
	027320	124	122	101	
	027323	116	123	115	
	027326	111	124	040	
	027331	104	105	123	
	027334	103	122	111	
	027337	120	124	117	
	027342	122	040	122	
	027345	111	116	107	
	027350	000			
2758	027351	015	012	104	ERR034: .ASCII <15><12>/DATA COMPARE ERROR IN /
	027354	101	124	101	
	027357	040	103	117	
	027362	115	120	101	
	027365	122	105	040	
	027370	105	122	122	
	027373	117	122	040	
	027376	111	116	040	
2759	027401	123	105	103	.ASCIZ /SECOND TRANSMIT DESCRIPTOR RING/
	027404	117	116	104	
	027407	040	124	122	
	027412	101	116	123	
	027415	115	111	124	
	027420	040	104	105	
	027423	123	103	122	
	027426	111	120	124	
	027431	117	122	040	
	027434	122	111	116	
	027437	107	000		
2760					
2761	027441				ERR035:
2762					
2763	027441	015	012	104	ERR036: .ASCII <15><12>/DATA COMPARE ERROR IN /
	027444	101	124	101	
	027447	040	103	117	
	027452	115	120	101	
	027455	122	105	040	
	027460	105	122	122	
	027463	117	122	040	
	027466	111	116	040	
2764	027471	106	111	122	.ASCIZ /FIRST RECEIVE DESCRIPTOR RING/
	027474	123	124	040	
	027477	122	105	103	
	027502	105	111	126	
	027505	105	040	104	
	027510	105	123	103	
	027513	122	111	120	
	027516	124	117	122	
	027521	040	122	111	
	027524	116	107	000	
2765	027527	015	012	104	ERR037: .ASCII <15><12>/DATA COMPARE ERROR IN /
	027532	101	124	101	
	027535	040	103	117	
	027540	115	120	101	
	027543	122	105	040	
	027546	105	122	122	

	027551	117	122	040	
	027554	111	116	040	
2766	027557	123	105	103	.ASCIZ /SECOND RECEIVE DESCRIPTOR RING/
	027562	117	116	104	
	027565	040	122	105	
	027570	103	105	111	
	027573	126	105	040	
	027576	104	105	123	
	027601	103	122	111	
	027604	120	124	117	
	027607	122	040	122	
	027612	111	116	107	
	027615	000			
2767	027616	015	012	104	ERR038: .ASCIZ <15><12>/DNI BIT NOT SET AFTER PORT HALT COMMAND /
	027621	116	111	040	
	027624	102	111	124	
	027627	040	116	117	
	027632	124	040	123	
	027635	105	124	040	
	027640	101	106	124	
	027643	105	122	040	
	027646	120	117	122	
	027651	124	040	110	
	027654	101	114	124	
	027657	040	103	117	
	027662	115	115	101	
	027665	116	104	040	
	027670	000			
2768	027671	015	012	105	ERR039: .ASCII <15><12>/ERROR - LOOPBACK SUCCESSFUL WITH/
	027674	122	122	117	
	027677	122	040	055	
	027702	040	114	117	
	027705	117	120	102	
	027710	101	103	113	
	027713	040	123	125	
	027716	103	103	105	
	027721	123	123	106	
	027724	125	114	040	
	027727	127	111	124	
	027732	110			
2769	027733	015	012	111	.ASCIZ <15><12>/INVALID DESTINATION ADDRESS /
	027736	116	126	101	
	027741	114	111	104	
	027744	040	104	105	
	027747	123	124	111	
	027752	116	101	124	
	027755	111	117	116	
	027760	040	101	104	
	027763	104	122	105	
	027766	123	123	040	
	027771	000			
2770	027772	015	012	106	ERR040: .ASCIZ <15><12>/FATAL ERROR - DELUA ID BIT NOT SET/
	027775	101	124	101	
	030000	114	040	105	
	030003	122	122	117	
	030006	122	040	055	
	030011	040	104	105	

	030014	114	125	101	
	030017	040	111	104	
	030022	040	102	111	
	030025	124	040	116	
	030030	117	124	040	
	030033	123	105	124	
	030036	000			
2771					
2772	030037	015	012	111	ERR041: .ASCIZ <15><12>/INTERNAL MEMORY DATA COMPARE ERROR /
	030042	116	124	105	
	030045	122	116	101	
	030050	114	040	115	
	030053	105	115	117	
	030056	122	131	040	
	030061	104	101	124	
	030064	101	040	103	
	030067	117	115	120	
	030072	101	122	105	
	030075	040	105	122	
	030100	122	117	122	
	030103	040	000		
2773					
2774	030105	015	012	104	ERR042: .ASCIZ <15><12>/DNI BIT FAILED TO SET AFTER DELUA RESET/
	030110	116	111	040	
	030113	102	111	124	
	030116	040	106	101	
	030121	111	114	105	
	030124	104	040	124	
	030127	117	040	123	
	030132	105	124	040	
	030135	101	106	124	
	030140	105	122	040	
	030143	104	105	114	
	030146	125	101	040	
	030151	122	105	123	
	030154	105	124	000	
2775					
2776	030157	015	012	047	ERR043: .ASCII <15><12>/'BUFL',IN TDRB+6 NOT SET ON XMIT BUFF /
	030162	102	125	106	
	030165	114	047	054	
	030170	111	116	040	
	030173	124	104	122	
	030176	102	053	066	
	030201	040	116	117	
	030204	124	040	123	
	030207	105	124	040	
	030212	117	116	040	
	030215	130	115	111	
	030220	124	040	102	
	030223	125	106	106	
	030226	040			
2777	030227	117	126	105	.ASCIZ /OVERFLOW WITH <DTCR=0>/
	030232	122	106	114	
	030235	117	127	040	
	030240	127	111	124	
	030243	110	040	074	
	030246	104	124	103	

	030251	122	075	060	
	030254	076	000		
2778	030256	015	012	047	ERR044: .ASCII <15><12>/'BUFL' IN TDRB+6 NOT SET ON XMIT BUFF /
	030261	102	125	106	
	030264	114	047	040	
	030267	111	116	040	
	030272	124	104	122	
	030275	102	053	066	
	030300	040	116	117	
	030303	124	040	123	
	030306	105	124	040	
	030311	117	116	040	
	030314	130	115	111	
	030317	124	040	102	
	030322	125	106	106	
	030325	040			
2779	030326	117	126	105	.ASCIZ /OVERFLOW WITH <DTCR=1>/
	030331	122	106	114	
	030334	117	127	040	
	030337	127	111	124	
	030342	110	040	074	
	030345	104	124	103	
	030350	122	075	061	
	030353	076	000		
2780					
2781	030355	015	012	120	ERR045: .ASCIZ <15><12>/PCSRO INTERRUPT BIT CLEAR ERROR /
	030360	103	123	122	
	030363	060	040	111	
	030366	116	124	105	
	030371	122	122	125	
	030374	120	124	040	
	030377	102	111	124	
	030402	040	103	114	
	030405	105	101	122	
	030410	040	105	122	
	030413	122	117	122	
	030416	040	000		
2782					
2783	030420	015	012	122	ERR046: .ASCIZ <15><12>/RECEIVED PACKET COUNTER NOT GREATER THAN 0 /
	030423	105	103	105	
	030426	111	126	105	
	030431	104	040	120	
	030434	101	103	113	
	030437	105	124	040	
	030442	103	117	125	
	030445	116	124	105	
	030450	122	040	116	
	030453	117	124	040	
	030456	107	122	105	
	030461	101	124	105	
	030464	122	040	124	
	030467	110	101	116	
	030472	040	060	040	
	030475	000			
2784	030476	015	012	111	ERR047: .ASCIZ <15><12>/INTERRUPT SUMMARY BIT IN PCSRO NOT SET WITH DNI SET /
	030501	116	124	105	
	030504	122	122	125	

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	030507	120	124	040
	030512	123	125	115
	030515	115	101	122
	030520	131	040	102
	030523	111	124	040
	030526	111	116	040
	030531	120	103	123
	030534	122	060	040
	030537	116	117	124
	030542	040	123	105
	030545	124	040	127
	030550	111	124	110
	030553	040	104	116
	030556	111	040	123
	030561	105	124	040
	030564	000		
2785	030565	015	012	106
	030570	101	124	101
	030573	114	040	102
	030576	111	124	040
	030601	123	105	124
	030604	040	104	125
	030607	105	040	124
	030612	117	040	104
	030615	105	126	111
	030620	103	105	040
	030623	117	122	040
	030626	125	116	111
	030631	102	125	123
	030634	040	105	122
	030637	122	117	122
	030642	040	000	

ERR048: .ASCIZ <15><12>/FATAL BIT SET DUE TO DEVICE OR UNIBUS ERROR /

2786 .EVEN

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```
.SBTTL GLOBAL MACRO AND SUBROUTINES SECTION  
;*****  
; MACRO FTL  
; THIS MACRO CALLS SUBROUTINE 'CHKFTL'  
; CALL: FTL  
;*****  
.MACRO FTL  
.NLIST ME  
.LIST ME  
JSR PC,CHKFTL ; 'FATL' BIT SET?  
.NLIST ME  
.ENDM
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;*****
;
;   MACRO PNTMAC
;
;   THIS MACRO WILL SETUP AND CALL SUBROUTINE 'PNTID',
;   WHICH WILL THEN DISPLAY TEST NUMBER AND NAME.
;
;   CALL:   PNTMAC tname
;
;           WHERE 'tname' IS THE POINTER TO THE
;           TEST NAME MESSAGE.
;*****
.MACRO PNTMAC   TNAME
.NLIST
.LIST ME
.LIST
           MOV     #TNAME,R4           ;GET POINTER TO TEST NAME MESSAGE
           JSR     PC,PNTID           ;PRINT TEST NUMBER AND NAME
;
           END OF MACRO EXPANSION OF 'PNTMAC'
.NLIST ME
.ENDM

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 2861 030644
 2862 030644 010146
 2863 030646 010246
 2864 030650 010546
 2865 030652
 2866 030652 112105
 2867 030654 004737 033034
 2868 030660
 2869 030660 077204
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 2871 030662 005103
 2872 030664 005104
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 2874 030666 012702 020576
 2875 030672 010422
 2876 030674 010322
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 2878 030676 012605
 2879 030700 012602
 2880 030702 012601
 2881 030704 000207
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*****
:
: SUBROUTINE - BLKCRC
:
: THIS ROUTINE PERFORMS A CRC CALCULATION ON A BLOCK OF DATA
:
: THIS ROUTINE USED FOR ALL CRC CALCULATIONS EXCEPT ROM.
:
: INPUTS: R1 CONTAINS BASE ADDRESS OF DATA BLOCK
:         R2 CONTAINS DATA BLOCK BYTE COUNT
:         R3,R4 CONTAINS INITIAL CRC
:
: OUTPUT: R3,R4 CONTAIN CRC CODE
:
: CALLING SEQUENCE:      MOV     #-,R1      ;GET BASE ADDRESS
:                       MOV     #-,R2      ;GET BYTE COUNT
:                       JSR     PC,BLKCRC  ;CALCULATE CRC
:
*****
    
```

```

BLKCRC:
    MOV     R1,-(SP)      ;SAVE R1
    MOV     R2,-(SP)      ;SAVE R2
    MOV     R5,-(SP)      ;SAVE R5
1$:
    MOVB   (R1)+,R5      ;GET NEXT BYTE
    JSR    PC,GETCRC     ;CALCULATE THE CRC
2$:
    SOB    R2,1$        ;LOOP TILL DONE
:
: COM     R3            ; COMPLIMENT
: COM     R4            ; RESULTS
:
: MOV     #XCRC,R2     ; BASE ADDRESS OF SAVED CRC
: MOV     R4,(R2)+     ; SAVE 1ST WORD
: MOV     R3,(R2)+     ; SAVE 2ND WORD
:
: MOV     (SP)+,R5     ;RESTORE R5
: MOV     (SP)+,R2     ;RESTORE R2
: MOV     (SP)+,R1     ;RESTORE R1
RTS     PC              ;RETURN TO CALLING ROUTINE
    
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 2906 030706
 2907 030706 010046
 2908 030710 010146
 2909 030712 010446
 2910 030714 012737 001661 020604
 2911 030722 004737 035272
 2912 030726 017704 151274 10\$:
 2913 030732 032704 004000
 2914 030736 001015
 2915 030740
 030740 104422
 2916 030742 005737 020604
 2917 030746 001367
 2918 030750 010437 020516
 2919 030754 017737 151250 020520
 2920 030762 004737 035256
 2921 030766 000261
 2922 030770 000403
 2923 030772 004737 035256 30\$:
 2924 030776 000241
 2925 031000 012604 40\$:
 2926 031002 012601
 2927 031004 012600
 2928 031006 000207
 2929

```

*****
:
: SUBROUTINE - CHKDNI
:
: THIS ROUTINE WAITS FOR DNI TO SET.
:
: INPUTS:      NONE
:
: OUTPUTS:     IF DNI SETS
:                THEN CARRY = 0
:
:                IF DNI FAILS TO SET
:                THEN CARRY = 1
:                PCSRO -> EPSCRO
:                PCSR1 -> EPCSR1
:
: CALLING SEQUENCE:
:                JSR      PC,CHKDNI
*****
    
```

```

CHKDNI:
MOV     R0,-(SP)      ; SAVE R0
MOV     R1,-(SP)      ; SAVE R1
MOV     R4,-(SP)      ; SAVE R4
MOV     #15,*SECOND,METER ;PUT SOME TIME IN THE TIMER      ;B0
JSR     PC,TIMON      ;TURN ON THE LINE CLOCK
MOV     @PCSRO,R4     ;GET PCSRO
BIT     #DNI,R4       ;IS DNI SET?
BNE     30$           ;YES
BREAK   ;NO, VISIT DRS FOR A MOMENT TRAP      C$BRK

TST     METER         ;HAS TIMER EXPIRED?
BNE     10$           ;NOT YET
MOV     R4,EPCSR0     ; PCSRO -> EPCSR0
MOV     @PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
JSR     PC,TIMOFF     ;TURN OFF THE TIMER
SEC     ; SET CARRY
BR      40$

JSR     PC,TIMOFF     ;TURN OFF THE TIMER
CLC     ; DNI SET SO CLEAR CARRY
MOV     (SP)+,R4      ; RESTORE R4
MOV     (SP)+,R1      ; RESTORE R1
MOV     (SP)+,R0      ; RESTORE R0
RTS     PC            ; AND RETURN
    
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031010 010046
031012 017700 151210
031016 032700 001000
031022 001410
031024
031024 012746 031064
031030 012746 000001
031034 010600
031036 104417
031040 062706 000004
031044 017737 151156 020516 1\$:
031052 017737 151152 020520
031060 012600
031062 000207
031064 045 116 045
031067 101 047 106
031072 101 124 114
031075 047 040 102
031100 111 124 040
031103 123 105 124
031106 040 055 040
031111 104 101 124
031114 101 040 111
031117 116 040 120
031122 103 123 122
031125 061 040 116
031130 117 124 040
031133 126 101 114
031136 111 104 040
031141 106 117 122
031144 040 124 110
031147 111 123 040
031152 105 122 122
031155 117 122 056
031160 000

```
*****
:
: SUBROUTINE - CHKFTL
:
: THIS SUBROUTINE WILL CHECK FOR FATAL ERROR BIT SET
: IF SET, WILL ISSUE MESSAGE TO IGNORE CONTENTS OF PCSR1
:
: INPUTS: NONE
: OUTPUTS: IF 'FATL' SET, MESSAGE PRINTED
:
: CALL: JSR PC,CHKFTL
:
*****
```

```
CHKFTL:
MOV RO,-(SP) ;SAVE RO
MOV @PCSR0,RO ;GET CONTENTS OF CSRO
BIT #FATL,RO ;CONTENTS OF PCSR1 VALID?
BEQ 1$ ;YES, EXIT
PRINTF #FTLSET
MOV #FTLSET,-(SP)
MOV #1,-(SP)
MOV SP,RO
TRAP C$PNTF
ADD #4,SP

1$: MOV @PCSR0,EPCSR0 ;SAVE CONTENTS OF PCSRO
MOV @PCSR1,EPCSR1 ;SAVE CONTENTS OF PCSR1
MOV (SP)+,RO ;RESTORE RO
RTS PC ;RETURN TO CALLING ROUTINE
```

FTLSET: .asciz/NOA'FATL' BIT SET - DATA IN PCSR1 NOT VALID FOR THIS ERROR./

.even

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2959 ;*****
2960 ;
2961 ;       SUBROUTINE - CHKOWN
2962 ;
2963 ;       THIS ROUTINE CHECKS FOR THE OWNERSHIP BIT IN
2964 ;       BOTH TRANSMIT AND RECEIVE DESCRIPTOR RINGS.
2965 ;
2966 ;       INPUTS:           R5 = ADDRESS OF DESCRIPTOR RING
2967 ;
2968 ;       OUTPUTS:         IF OWN BIT = 0 (PORT DRIVER)
2969 ;                           THEN CARRY = 0
2970 ;
2971 ;                           IF OWN BIT = 1 (UNA)
2972 ;                           THEN CARRY = 1
2973 ;
2974 ;*****
2975
2976 031162          CHKOWN:
2977 031162 010046   MOV     R0,-(SP)           ; SAVE R0
2978 031164 010446   MOV     R4,-(SP)           ; SAVE R4
2979 031166 012704 000010  MOV     #10,R4           ; DELAY VALUE
2980 031172 004737 035272  JSR     PC,TIMON           ; TURN ON CLOCK
2981 031176 016500 000004 1$:  MOV     4(R5),R0         ; GET TRDB+4
2982 031202 032700 100000  BIT     #OWN,R0          ; BIT15, OWNERSHIP SET?
2983 031206 001406      BEQ     10$           ; NO, EXIT ROUTINE
2984 031210      BREAK                    ; VISIT DRS WHILE WAITING
2985 031212 005737 020604      TST     METER           ; TIME UP?
2986 031216 001367      BNE     1$           ; NO, LOOP AGAIN
2987 031220 000261      SEC                    ; YES, SET CARRY = 1
2988 031222 000401      BR      20$           ; GET OUT
2989
2990 031224 000241 10$:  CLC                    ; CLEAR CARRY
2991 031226 004737 035256 20$:  JSR     PC,TIMOFF        ; TURN OFF TIMER
2992 031232 012604      MOV     (SP)+,R4         ; RESTORE R4
2993 031234 012600      MOV     (SP)+,R0         ; RESTORE R0
2994 031236 000207      RTS     PC           ; AND RETURN

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3020 031240 010046
3021 031242 010146
3022 031244 012737 000473 020604
3023 031252 004737 035272
3024 031256 017737 150744 002240 10\$:
3025 031264 032737 002000 002240
3026 031272 001016
3027 031274
3028 031276 005737 020604
3029 031302 001365
3030 031304 013737 002240 020516
3031 031312 017737 150712 020520
3032 031320 004737 035256
3033 031324 000261
3034 031326 000403
3035 031330 004737 035256 30\$:
3036 031334 000241
3037 031336 40\$:
3038 031336 012601
3039 031340 012600
3040 031342 000207

```
*****
:
: SUBROUTINE - CHKRCE
:
: THIS ROUTINE WAITS FOR RCBI TO SET.
:
: INPUTS: NONE
:
: OUTPUTS: IF RCBI SETS
: THEN CARRY = 0
:
: IF RCBI FAILS TO SET
: THEN CARRY = 1
: PCSRO -> EPSCRO
: PCSR1 -> EPCSR1
:
: CALLING SEQUENCE:
: JSR PC,CHKRCE
:
*****
```

```
CHKRCE:
MOV R0,-(SP) ; SAVE R0
MOV R1,-(SP) ; SAVE R1
MOV #5*SECOND,METER ; PUT SOME TIME IN THE TIMER
JSR PC,TIMON ; TURN ON THE LINE CLOCK
MOV @PCSRO,PCSROC ; GET PCSRO
BIT #RCBI,PCSROC ; IS RCBI SET?
BNE 30$ ; YES
BREAK ; NO, VISIT DRS FOR A MOMENT TRAP C$BRK
TST METER ; HAS TIMER EXPIRED?
BNE 10$ ; NOT YET
MOV PCSROC,EPCSRO ; PCSRO -> EPCSRO
MOV @PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
JSR PC,TIMOFF ; TURN OFF THE TIMER
SEC ; SET CARRY
BR 40$
JSR PC,TIMOFF ; TURN OFF THE TIMER
CLC ; RCBI SET SO CLEAR CARRY
MOV (SP)+,R1 ; RESTORE R1
MOV (SP)+,R0 ; RESTORE R0
RTS PC ; AND RETURN
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3074 031344 010046
3075 031346 010146
3076 031350 010346
3077 031352 010446
3078 031354 012700 000004
3079 031360 012703 020532
3080 031364 010504
3081 031366
3082 031366 022324
3083 031370 001012
3084 031372 005300
3085 031374 001374
3086
3087 031376 011400
3088 031400 042700 007777
3089 031404 011301
3090 031406 042701 007777
3091 031412 020001
3092 031414 001411
3093 031416
3094 031416 012703 020522
3095 031422 010504
3096 031424 012423
3097 031426 012423
3098 031430 012423

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*****
SUBROUTINE - CHKRDR
THIS SUBROUTINE COMPARES A RECEIVE DESCRIPTOR RING ENTRY
WITH EXPECTED DATA.
INPUTS:          R5 = ADDRESS OF RDRB TO BE COMPARED.
INPLICIT INPUTS: XRDRBO = TABLE WITH EXPECTED DATA
OUTPUTS:         IF COMPARE IS SUCCESSFUL
                  THEN CARRY = 0
                  IF COMPARE IS UNSUCCESSFUL
                  THEN CARRY = 1
                  EXPECTED RDRB+0 = XRDRB0
                  EXPECTED RDRB+2 = XRDRB2
                  EXPECTED RDRB+4 = XRDRB4
                  EXPECTED RDRB+6 = XRDRB6
                  ACTUAL RDRB+0  -> ERDRB0
                  ACTUAL RDRB+2  -> ERDRB2
                  ACTUAL RDRB+4  -> ERDRB4
                  ACTUAL RDRB+6  -> ERDRB6
CALLING SEQUENCE:
                  JSR    PC,CHKRDR
*****

```

```

CHKRDR:
MOV    R0,-(SP)      ; SAVE R0
MOV    R1,-(SP)      ; SAVE R1
MOV    R3,-(SP)      ; SAVE R3
MOV    R4,-(SP)      ; SAVE R4
MOV    #4,R0         ; DO FOUR COMPARES
MOV    #XRDRBO,R3    ; R3 POINTS TO EXPECTED DATA
MOV    R5,R4         ; R4 POINTS TO ACTUAL RDRB
10$:
CMP    (R3)+,(R4)+   ; ERROR IN ACTUAL TABLE DATA?
BNE    20$           ; YES
DEC    R0             ; REDUCE LOOP COUNT
BNE    10$           ; IF NOT FINISHED, LOOP AGAIN
MOV    (R4),R0       ; RDRB+6 -> R0
BIC    #TDRMSK,R0    ; MASK OUT TDR VALUE
MOV    (R3),R1       ; GET EXPECTED
BIC    #TDRMSK,R1    ; MASK OUT TDR VALUE
CMP    R0,R1         ; COMPARE ERROR ?
BEQ    30$           ; YES
20$:
MOV    #ERDRBO,R3    ; R3 POINTS TO ACTUAL TABLE
MOV    R5,R4         ; R4 POINTS TO ACTUAL RDRB
MOV    (R4)+,(R3)+   ; LOAD ACTUAL TABLE
MOV    (R4)+,(R3)+
MOV    (R4)+,(R3)+

```

L7

3099	031432	012423	MOV	(R4)+,(R3)+	
3100	031434	000261	SEC		; SET CARRY
3101	031436	000401	BR	40\$	
3102	031440	000241	30\$: CLC		; CLEAR CARRY
3103	031442	012604	40\$: MOV	(SP)+,R4	; RESTORE R4
3104	031444	012603	MOV	(SP)+,R3	; RESTORE R3
3105	031446	012601	MOV	(SP)+,R1	; RESTORE R1
3106	031450	012600	MOV	(SP)+,R0	; RESTORE R0
3107	031452	000207	RTS	PC	; AND RETURN

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 3131 031454
 3132 031454 010046
 3133 031456 010146
 3134 031460 010446
 3135 031462 012737 000176 020604
 3136 031470 004737 035272
 3137 031474 017704 150526 10\$:
 3138 031500 032704 020000
 3139 031504 001015
 3140 031506
 3141 031510 005737 020604
 3142 031514 001367
 3143 031516 010437 020516
 3144 031522 017737 150502 020520
 3145 031530 004737 035256
 3146 031534 000261
 3147 031536 000403
 3148 031540 004737 035256 30\$:
 3149 031544 000241
 3150 031546 012604 40\$:
 3151 031550 012601
 3152 031552 012600
 3153 031554 000207

```

*****
:
: SUBROUTINE - CHKRXI
:
: THIS ROUTINE WAITS FOR RXI TO SET.
:
: INPUTS:      NONE
:
: OUTPUTS:     IF RXI SETS
:                THEN CARRY = 0
:
:                IF RXI FAILS TO SET
:                THEN CARRY = 1
:                PCSRO -> EPSCRO
:                PCSR1 -> EPCSR1
:
: CALLING SEQUENCE:
:                JSR      PC,CHKRXI
*****
    
```

```

CHKRXI:
MOV      R0,-(SP)      ; SAVE R0
MOV      R1,-(SP)      ; SAVE R1
MOV      R4,-(SP)      ; SAVE R4
MOV      #2*SECOND,METER ; PUT SOME TIME IN THE TIMER
JSR      PC,TIMON      ; TURN ON THE LINE CLOCK
10$:    MOV      @PCSRO,R4 ; GET PCSRO
        BIT      #RXI,R4  ; IS RXI SET?
        BNE     30$      ; YES
        BREAK    ; NO, VISIT DRS FOR A MOMENT
                                TRAP      C$BRK
3141:   TST      METER    ; HAS TIMER EXPIRED?
        BNE     10$      ; NOT YET
        MOV     R4,EPCSR0 ; PCSRO -> EPCSR0
        MOV     @PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
        JSR    PC,TIMOFF  ; TURN OFF THE TIMER
        SEC     ; SET CARRY
3146:   BR      40$
3148:   JSR    PC,TIMOFF  ; TURN OFF THE TIMER
        CLC     ; RXI SET SO CLEAR CARRY
40$:   MOV     (SP)+,R4   ; RESTORE R4
        MOV     (SP)+,R1   ; RESTORE R1
        MOV     (SP)+,R0   ; RESTORE R0
        RTS     PC        ; AND RETURN
    
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 3177 031556 010046
 3178 031560 010446
 3179 031562 017704 150442
 3180 031566 042704 140377
 3181 031572 022704 000000
 3182 031576 001413
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 3185 031600 042704 140377
 3186 031604 012700 000010
 3187 031610 006204
 3188 031612 005300
 3189 031614 001375
 3190 031616 010437 020602
 3191 031622 000261
 3192 031624 000401
 3193 031626 000241
 3194 031630 012604
 3195 031632 012600
 3196 031634 000207

```

*****
:
: SUBROUTINE - CHKSTR
:
: THIS TEST CHECKS THE SELF TEST RESULTS.
:
: INPUTS:      NONE
:
: OUTPUTS:     IF SELF TEST SUCCESSFUL
:              THEN CARRY = 0
:
:              IF SELF TEST FAILED
:              THEN CARRY = 1
:              SELF TEST CODE SHIFTED RIGHT -> ECODE
:
: CALLING SEQUENCE:
:              JSR      PC,CHKSTR
*****
    
```

```

CHKSTR:
    MOV     R0,-(SP)      ; SAVE R0
    MOV     R4,-(SP)      ; SAVE R4
    MOV     @PCSR1,R4    ; PCSR1 -> R4
    BIC     #STMASK,R4   ; MASK SELF TEST CODE BITS
    CMP     #GOODST,R4  ; SELF TEST SUCCESSFUL ?
    BEQ     10$          ; YES
:
: SELF TEST FAILED
:
: SHIFT CODE RIGHT
5$:
    BIC     #STMASK,R4
    MOV     #8.,R0
    ASR     R4
    DEC     R0
    BNE     5$
    MOV     R4,ECODE    ; SHIFTED CODE -> ECODE
    SEC
: SET CARRY
    BR     20$
10$:
    CLC
: SELF TEST PASSED CLEAR CARRY
20$:
    MOV     (SP)+,R4    ; RESTORE R4
    MOV     (SP)+,R0    ; RESTORE R0
    RTS     PC          ; AND RETURN
    
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3228 031636
3229 031636 010046
3230 031640 010346
3231 031642 010446
3232 031644 012700 000004
3233 031650 012703 020552
3234 031654 010504
3235 031656
3236 031656 022324
3237 031660 001003
3238 031662 005300
3239 031664 001374
3240 031666 000411
3241 031670 012703 020542
3242 031674 010504
3243 031676 012423
3244 031700 012423
3245 031702 012423
3246 031704 012423
3247 031706 000261
3248 031710 000401
3249 031712 000241
3250 031714 012604
3251 031716 012603
3252 031720 012600
3253 031722 000207

```

*****
:
: SUBROUTINE - CHKTDR
:
: THIS SUBROUTINE COMPARES A TRANSMIT DESCRIPTOR RING ENTRY
: WITH EXPECTED DATA.
:
: INPUTS:      R5 = ADDRESS OF TDRB TO BE COMPARED
:
: IMPLICIT INPUTS:
:              XTDRB0 = TABLE WITH EXPECTED DATA
:
: OUTPUTS:     IF COMPARE IS SUCCESSFUL
:              THEN CARRY = 0
:
:              IF COMPARE IS UNSUCCESSFUL
:              THEN CARRY = 1
:              EXPECTED TDRB+0 = XTDRB0
:              EXPECTED TDRB+2 = XTDRB2
:              EXPECTED TDRB+4 = XTDRB4
:              EXPECTED TDRB+6 = XTDRB6
:              ACTUAL TDRB+0 -> ETDRB0
:              ACTUAL TDRB+2 -> ETDRB2
:              ACTUAL TDRB+4 -> ETDRB4
:              ACTUAL TDRB+6 -> ETDRB6
:
: CALLING SEQUENCE:
: JSR      PC,CHKTDR
:
*****

```

```

CHKTDR:
      MOV      R0,-(SP)      ; SAVE R0
      MOV      R3,-(SP)      ; SAVE R3
      MOV      R4,-(SP)      ; SAVE R4
      MOV      #4,R0         ; DO FOUR COMPARES
      MOV      #XTDRB0,R3    ; R3 POINTS TO EXPECTED DATA
      MOV      R5,R4         ; R4 POINTS TO ACTUAL TDRB
10$:   CMP      (R3)+,(R4)+   ; ERROR IN ACTUAL TABLE DATA?
      BNE      20$           ; YES
      DEC      R0            ; REDUCE LOOP COUNT
      BNE      10$          ; IF NOT FINISHED, LOOP AGAIN
      BR       30$
20$:   MOV      #ETDRB0,R3   ; R3 POINTS TO ACTUAL TABLE
      MOV      R5,R4         ; R4 POINTS TO ACTUAL TDRB
      MOV      (R4)+,(R3)+   ; LOAD ACTUAL TABLE
      MOV      (R4)+,(R3)+
      MOV      (R4)+,(R3)+
      MOV      (R4)+,(R3)+
      SEC
      BR       40$          ; SET CARRY
30$:   CLC
40$:   MOV      (SP)+,R4     ; CLEAR CARRY
      MOV      (SP)+,R3     ; RESTORE R4
      MOV      (SP)+,R3     ; RESTORE R3
      MOV      (SP)+,R0     ; RESTORE R0
      RTS      PC           ; AND RETURN

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 3277 031724
 3278 031724 010046
 3279 031726 010146
 3280 031730 010446
 3281 031732 012737 000176 020604
 3282 031740 004737 035272
 3283 031744 017737 150256 002240 10\$:
 3284 031752 032737 010000 002240
 3285 031760 001016
 3286 031762
 031762 104422
 3287 031764 005737 020604
 3288 031770 001365
 3289 031772 013737 002240 020516
 3290 032000 017737 150224 020520
 3291 032006 004737 035256
 3292 032012 000261
 3293 032014 000403
 3294 032016 004737 035256 30\$:
 3295 032022 000241
 3296 032024 012604 40\$:
 3297 032026 012601
 3298 032030 012600
 3299 032032 000207

```

*****
:
: SUBROUTINE - CHKTXI
:
: THIS ROUTINE WAITS FOR TXI TO SET.
:
: INPUTS:      NONE
:
: OUTPUTS:     IF TXI SETS
:               THEN CARRY = 0
:
:               IF TXI FAILS TO SET
:                 THEN CARRY = 1
:                 PCSRO -> EPSCRO
:                 PCSR1 -> EPCSR1
:
: CALLING SEQUENCE:
: JSR      PC,CHKTXI
*****
    
```

```

CHKTXI:
MOV      R0,-(SP)      ; SAVE R0
MOV      R1,-(SP)      ; SAVE R1
MOV      R4,-(SP)      ; SAVE R4
MOV      #2*SECOND,METER ; PUT SOME TIME IN THE TIMER
JSR      PC,TIMON      ; TURN ON THE LINE CLOCK
10$:    MOV      @PCSRO,PCSROC ; GET PCSRO
BIT      #TXI,PCSROC   ; IS TXI SET?
BNE      30$          ; YES
BREAK    ; NO, VISIT DRS FOR A MOMENT
                                TRAP    C$BRK
30$:    TST      METER    ; HAS TIMER EXPIRED?
BNE      10$          ; NOT YET
MOV      PCSROC,EPCSR0 ; PCSRO -> EPCSR0
MOV      @PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
JSR      PC,TIMOFF     ; TURN OFF THE TIMER
SEC      ; SET CARRY
BR       40$
30$:    JSR      PC,TIMOFF ; TURN OFF THE TIMER
CLC      ; TXI SET SO CLEAR CARRY
40$:    MOV      (SP)+,R4 ; RESTORE R4
MOV      (SP)+,R1      ; RESTORE R1
MOV      (SP)+,R0      ; RESTORE R0
RTS      PC            ; AND RETURN
    
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 3327 032034
 3328 032034 010046
 3329 032036 010146
 3330 032040 010446
 3331 032042 012737 001661 020604
 3332 032050 004737 035272
 3333 032054
 3334 032054 017704 150146
 3335 032060 032704 004000
 3336 032064 001025
 3337 032066
 032066 104422
 3338 032070 005737 020604
 3339 032074 001367
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 3343 032076 004737 035256
 3344 032102
 032102 012746 032156
 032106 012746 000001
 032112 010600
 032114 104417
 032116 062706 000004
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 3346 032122 010437 020516
 3347 032126 017737 150076 020520
 3348 032134 000261
 3349 032136 000403
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 3351 032140

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*****
:
: SUBROUTINE - CKDNI
:
: THIS SUBROUTINE WAITS FOR DONE INTERRUPT (DNI) TO SET.
: IF A DNI IS RECEIVED BEFORE TIMER EXPIRES, PROCEED OK. IF
: TIMER EXPIRES PRIOR TO AN INTERRUPT, OR THE INTERRUPT WAS
: NOT CAUSED BY A DNI, THEN THE APPROPRIATE ERROR MESSAGE IS
: ISSUED.
:
: INPUTS:          NONE
:
: OUTPUTS:        IF DNI SETS PRIOR TO TIMER TIME OUT
:                  THEN CARRY BIT = 0
:
:                  ELSE
:                  CARRY BIT = 1
:                  PCSRO -> EPSCRO
:                  PCSR1 -> EPSCR1
:
: CALLING SEQUENCE:
: JSR      PC,CKDNI
*****
    
```

```

CKDNI:
    MOV     R0,-(SP)      ; SAVE R0
    MOV     R1,-(SP)      ; SAVE R1
    MOV     R4,-(SP)      ; SAVE R4
    MOV     #15,*SECOND,METER ; PUT ENOUGH TIME ON TIMER
    JSR     PC,TIMON      ; TURN ON THE LINE CLOCK
10$:
    MOV     @PCSRO,R4     ; READ AND SAVE CONTENTS OF PCSRO
    BIT     #DNI,R4       ; DID WE GET A DNI INTERRUPT?
    BNE     20$           ; YES EXIT DELAY LOOP
    BREAK   20$           ; NO, VISIT DRS FOR A MOMENT
                                TRAP      C$BRK
    TST     METER         ; HAS TIMER EXPIRED?
    BNE     10$           ; NOT YET
;TIMER EXPIRED BEFORE DNI SET
    JSR     PC,TIMOFF     ; TURN OFF THE TIMER
    PRINTF #INTMG1       ; PRINT TIMED OUT MESSAGE
                                MOV     #INTMG1,-(SP)
                                MOV     #1,-(SP)
                                MOV     SP,R0
                                TRAP   C$PNTF
                                ADD     #4,SP
    MOV     R4,EPCSRO     ; PCSRO -> EPCSRO
    MOV     @PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
    SEC                     ; SET CARRY BIT
    BR     40$           ; GO EXIT
20$:
    
```

E8

```

3352 032140 004737 035256          JSR    PC,TIMOFF          ; TURN OFF THE TIMER
3353 032144 000241                   CLC                      ; DNI SET, SO CLEAR C BIT
3354 032146                   40$:
3355 032146 012604                   MOV    (SP)+,R4          ; RESTORE R4
3356 032150 012601                   MOV    (SP)+,R1          ; RESTORE R1
3357 032152 012600                   MOV    (SP)+,R0          ; RESTORE R0
3358 032154 000207                   RTS     PC                ; AND RETURN
3359
3360 032156 045 116 045 INTMG1:.ASCIZ/%N%A DNI DID NOT SET PRIOR TO SOFTWARE TIMER TIME OUT./
      032161 101 040 104
      032164 116 111 040
      032167 104 111 104
      032172 040 116 117
      032175 124 040 123
      032200 105 124 040
      032203 120 122 111
      032206 117 122 040
      032211 124 117 040
      032214 123 117 106
      032217 124 127 101
      032222 122 105 040
      032225 124 111 115
      032230 105 122 040
      032233 124 111 115
      032236 105 040 117
      032241 125 124 056
      032244 000
3361 .even
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3384 032246
3385 032246 004737 032272
3386 032252 004737 032550
3387 032256 000207
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```
*****  
: SUBROUTINE - CLRBUF  
: THIS SUBROUTINE WILL CLEAR BOTH THE SOFTWARE BUFFERS NAMED  
: RECEIVE BUFFER (RBUF) AND TRANSMIT BUFFER (TBUF), BY CALLING  
: IN SEQUENCE, SUBROUTINES 'CLRCV' AND 'CLRXT'.  
: INPUT: NONE  
: OUTPUT: NONE  
: SUBSIDIARY ROUTINES: SUBROUTINES 'CLRCV' AND 'CLRXT'  
: PARAMTERS MODIFIED: ON EXIT BOTH RBUF AND TBUF WILL BE CLEARED  
: CALL: JSR PC,CLRBUF  
:*****
```

```
CLRBUF: JSR PC,CLRCV ;CLEAR RECEIVE BUFFERS  
JSR PC,CLRXT ;CLEAR TRANSMIT BUFFERS  
RTS PC
```

```

3390 ;*****
3391 ;
3392 ;       SUBROUTINE - CLBYTE
3393 ;
3394 ;       THIS ROUTINE WILL CLEAR A NUMBER OF BYTES (NUMBER PASSED IN R4),
3395 ;       STARTING AT ADDRESS POINTED TO BY R3.
3396 ;
3397 ;       INPUT   -   R3 POINTS TO STARTING ADDRESS OF BYTES
3398 ;                   R4 CONTAINS NUMBER OF BYTES TO BE CLEARED
3399 ;
3400 ;       OUTPUT: -   NONE
3401 ;
3402 ;       CALL:   MOV   #X,R3           ;STARTING ADDRESS OF BYTES
3403 ;              MOV   #Y,R4           ;NUMBER OF BYTES TO BE CLEARED
3404 ;              JSR   PC,CLBYTE       ;CLEAR THE BYTES
3405 ;
3406 ;*****
3407
3408 032260 CLBYTE:
3409
3410 032260 1$:
3411 032260 005304 DEC   R4
3412 032262 002402 BLT   2$
3413 032264 105023 CLRB  (R3)+
3414 032266 000774 BR    1$
3415 032270
3416 032270 000207 2$:
3417 032270 RTS   PC

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3436 032272
3437 032272 010346
3438 032274 010446
3439 032276 012703 010442
3440 032302 013704 010440
3441 032306 004737 032260
3442 032312 012604
3443 032314 012603
3444 032316 000207

```
*****  
: SUBROUTINE - CLRCV  
: THIS SUBROUTINE WILL CLEAR ALL LOCATIONS IN SOFTWARE BUFFER  
: 'RBUF'.  
: INPUT: NONE  
: OUTPUT: NONE  
: SUBSIDIARY ROUTINES: SUBROUTINE 'CLBYTE'  
: CALL: JSR PC,CLRCV  
*****
```

```
CLRCV: MOV R3,-(SP)  
MOV R4,-(SP)  
MOV #RBUF,R3  
MOV RBUF-2,R4  
JSR PC,CLBYTE  
MOV (SP)+,R4  
MOV (SP)+,R3  
RTS PC
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3469 032320
3470 032320 010446
3471 032322 017737 147700 002240
3472 032330 042737 173400 002240
3473 032336 113777 002241 147672
3474 032344 017704 147656
3475 032350 032704 004000
3476 032354 001407
3477 032356 010437 020516
3478 032362 017737 147642 020520
3479 032370 000261
3480 032372 000401
3481 032374 000241
3482 032376 012604
3483 032400 000207

```

*****
:
: SUBROUTINE - CLRDNI
:
: THIS SUBROUTINE PERFORMS A WRITE ONE TO CLEAR OPERATION ON
: THE DNI BIT AND VERIFIES ITS SUCCESS.
:
: INPUTS: NONE
:
: OUTPUTS:      IF SUCCESSFUL ( DNI = 0 )
:                THEN CARRY = 0
:
:                IF UNSUCCESSFUL ( DNI = 1 )
:                THEN CARRY = 1
:                PCSRO -> EPCSRO
:                PCSR1 -> EPCSR1
:
: CALLING SEQUENCE:
:                JSR      PC,CLRDNI
*****

```

```

CLRDNI:
MOV      R4,-(SP)           ; SAVE R4
MOV      @PCSRO,PCSROC     ; READ AND SAVE PCSRO DATA
BIC      #173400,PCSROC    ; MASK ALL UPPER BYTE EXCEPT DNI
MOVB    PCSROC+1,@PCSROUB ; CLEAR DNI
MOV      @PCSRO,R4        ; PCSRO -> R4
BIT      #DNI,R4          ; DNI = 0 ?
BEQ     10$               ; YES
MOV      R4,EPCSRO        ; NO, PCSRO -> EPCSRO
MOV      @PCSR1,EPCSR1    ; PCSR1 -> EPCSR1
SEC     ; SET CARRY
BR      20$
10$:    CLC                ; CLEAR CARRY
20$:    MOV      (SP)+,R4   ; RESTORE R4
RTS     PC                 ; AND RETURN

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032402
032402 112777 000400 147616
032410 112777 000000 147610
032416 017737 147604 002240
032424 113777 002241 147604
000207

```

*****
:
: SUBROUTINE - CLINTR
:
: THIS SUBROUTINE CLEARS LOWER BYTE OF PCSRO (DISABLE INTERRUPTS),
: THEN SAVES PCSRO DATA. IT THEN WRITES UPPER BYTE OF SAVED DATA
: TO THE UPPER BYTE OF PCSRO IN ORDER TO CLEAR ANY INTERRUPT BITS
: (WRITE 1 TO CLEAR), THAT HAVE BEEN PREVIOUSLY SET.
:
: INPUTS: NONE
:
: OUTPUTS: NONE
:
: CALLING SEQUENCE: JSR PC,CLINTR
*****
CLINTR:
MOV  #USCI,@PCSRO ;CLEAR LOWER BYTE
MOV  #ZERO,@PCSRO ;MAY REQUIRE TWO WRITES
MOV  @PCSRO,PCSROC ;SAVE PCSRO DATA
MOV  PCSROC+1,@PCSROUB
RTS  PC ;CLEAR STATUS BITS IN PCSRO UPPER BYTE

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032434
032434 010446
032436 112777 000040 147572
032444 017704 147556
032450 032704 020000
032454 001407
032456 010437 020516
032462 017737 147542 020520
032470 000261
032472 000401
032474 000241
032476 012604
032500 000207

```
*****  
: SUBROUTINE - CLRRXI  
: THIS SUBROUTINE PERFORMS A WRITE ONE TO CLEAR OPERATION ON  
: THE RXI BIT AND VERIFIES ITS SUCCESS.  
: INPUTS: NONE  
: OUTPUTS: IF SUCCESSFUL ( RXI = 0 )  
: THEN CARRY = 0  
: IF UNSUCCESSFUL ( RXI = 1 )  
: THEN CARRY = 1  
: PCSRO -> EPCSRO  
: PCSR1 -> EPCSR1  
: CALLING SEQUENCE:  
: JSR PC,CLRRXI  
*****
```

```
CLRRXI: MOV R4, -(SP) ; SAVE R4  
MOVB #RXIB, @PCSROUB ; WRITE ONE TO CLEAR RXI BIT  
MOV @PCSRO, R4 ; PCSRO -> R4  
BIT #RXI, R4 ; RXI = 0 ?  
BEQ 10$ ; YES  
MOV R4, EPCSRO ; NO, PCSRO -> EPCSRO  
MOV @PCSR1, EPCSR1 ; PCSR1 -> EPCSR1  
SEC ; SET CARRY  
BR 20$  
10$: CLC ; CLEAR CARRY  
20$: MOV (SP)+, R4 ; RESTORE R4  
RTS PC ; AND RETURN
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3573 032504 112777 000020 147524
3574 032512 017704 147510
3575 032516 032704 010000
3576 032522 001407
3577 032524 010437 020516
3578 032530 017737 147474 020520
3579 032536 000261
3580 032540 000401
3581 032542 000241
3582 032544 012604
3583 032546 000207

```

*****
:
: SUBROUTINE - CLRTXI
:
: THIS SUBROUTINE PERFORMS A WRITE ONE TO CLEAR OPERATION ON
: THE TXI BIT AND VERIFIES ITS SUCCESS.
:
: INPUTS: NONE
:
: OUTPUTS: IF SUCCESSFUL ( TXI = 0 )
:          THEN CARRY = 0
:
:          IF UNSUCCESSFUL ( TXI = 1 )
:            THEN CARRY = 1
:            PCSRO -> EPCSRO
:            PCSR1 -> EPCSR1
:
: CALLING SEQUENCE:
:          JSR PC,CLRTXI
*****

```

```

CLRTXI:
MOV R4,-(SP) ; SAVE R4
MOVB #TXIB,@PCSROUB ; WRITE ONE TO CLEAR TXI BIT
MOV @PCSRO,R4 ; PCSRO -> R4
BIT #TXI,R4 ; TXI = 0 ?
BEQ 10$ ; YES
MOV R4,EPCSRO ; NO, PCSRO -> EPCSRO
MOV @PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
SEC ; SET CARRY
BR 20$
10$: CLC ; CLEAR CARRY
20$: MOV (SP)+,R4 ; RESTORE R4
RTS PC ; AND RETURN

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032550 010346
032552 010446
032554 012703 004440
032560 013704 004436
032564 004737 032260
032570 012604
032572 012603
032574 000207

```

*****
:
: SUBROUTINE - CLRXMT
:
: THIS SUBROUTINE WILL CLEAR ALL LOCATIONS IN SOFTWARE BUFFER
: 'TBUF'.
:
: INPUT: NONE
:
: OUTPUT: NONE
:
: SUBSIDIARY ROUTINES: SUBROUTINE CLBYTE
:
: CALL: JSR PC,CLRXMT
:
*****
CLRXMT:
MOV R3,-(SP)
MOV R4,-(SP)
MOV #TBUF,R3
MOV TBUF-2,R4
JSR PC,CLBYTE
MOV (SP)+,R4
MOV (SP)+,R3
RTS PC

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 3641 032576 010346
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 3643 032602 012703 020576
 3644 032606 010504
 3645 032610 022324
 3646 032612 001004
 3647 032614 022324
 3648 032616 001002
 3649 032620 000241
 3650 032622 000406
 3651 032624 012703 020572
 3652 032630 010504
 3653 032632 012423
 3654 032634 012423
 3655 032636 000261
 3656 032640 012604
 3657 032642 012603
 3658 032644 000207

```

*****
:
: SUBROUTINE - CMPCRC
:
: THIS SUBROUTINE COMPARES A CRC VALUE WITH
: AN EXPECTED CRC VALUE.
:
: INPUTS: R5 = ADDRESS OF ACTUAL CRC VALUE RECEIVED.
:
: INPLICIT INPUTS:
: XCRC = EXPECTED CRC VALUE
:
: OUTPUTS: IF SUCCESSFUL CRC COMPARE
: THEN CARRY = 0
:
: IF UNSUCCESSFUL CRC COMPARE
: THEN CARRY = 1
: EXPECTED CRC = XCRC
: ACTUAL CRC -> ECRC
:
: CALLING SEQUENCE:
: JSR PC,CMPCRC
*****
    
```

```

CMPCRC:
    MOV R3,-(SP) ; SAVE R3
    MOV R4,-(SP) ; SAVE R4
    MOV #XCRC,R3 ; R3 POINTS TO EXPECTED CRC
    MOV R5,R4 ; R4 POINTS TO ACTUAL CRC
    CMP (R3)+,(R4)+ ; FIRST CRC WORD COMPARE ?
    BNE 10$ ; NO
    CMP (R3)+,(R4)+ ; SECOND CRC WORD COMPARE ?
    BNE 10$ ; NO
    CLC ; YES, CLEAR CARRY
    BR 20$
10$: MOV #ECRC,R3 ; POINT TO ERROR TABLE
    MOV R5,R4 ; POINT TO ACTUAL DATA
    MOV (R4)+,(R3)+ ; LOAD ECRC TABLE
    MOV (R4)+,(R3)+
    SEC ; AND SET CARRY
20$: MOV (SP)+,R4 ; RESTORE R4
    MOV (SP)+,R3 ; RESTORE R3
    RTS PC ; AND RETURN
    
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 3683 032646 010046
 3684 032650 010346
 3685 032652 010446
 3686 032654 010500
 3687 032656 012703 004456
 3688 032662 012704 010460
 3689 032666 022324
 3690 032670 001003
 3691 032672 005300
 3692 032674 001374
 3693 032676 000406
 3694 032700 014337 020570
 3695 032704 014437 020566
 3696 032710 000261
 3697 032712 000401
 3698 032714 000241
 3699 032716 012604
 3700 032720 012603
 3701 032722 012600
 3702 032724 000207
 3703

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*****
:
: SUBROUTINE - CMPDAT
:
: THIS SUBROUTINE COMPARES THE RECEIVE BUFFER (RBUF) DATA FIELD
: WITH THE TRANSMIT BUFFER (TBUF) DATA FIELD.
:
: INPUTS:      R5 = NUMBER OF WORDS TO COMPARE
:
: OUTPUTS:     IF SUCCESSFUL DATA COMPARE
:               THEN CARRY = 0
:
:               IF UNSUCCESSFUL DATA COMPARE
:               THEN CARRY = 1
:               EXPECTED DATA -> XDAT
:               ACTUAL DATA  -> EDAT
:
: CALLING SEQUENCE:
:               JSR      PC,CMPDAT
*****
    
```

```

CMPDAT:
MOV      R0,-(SP)           ; SAVE R0
MOV      R3,-(SP)           ; SAVE R3
MOV      R4,-(SP)           ; SAVE R4
MOV      R5,R0              ; R0 = NUMBER OF WORDS TO COMPARE
MOV      #TBUF+14.,R3       ; R3 POINTS TO EXPECTED DATA
MOV      #RBUF+14.,R4       ; R4 POINTS TO ACTUAL DATA
10$:    CMP      (R3)+,(R4)+  ; DATA COMPARE ?
        BNE      20$         ; NO
        DEC      R0          ; YES, DONE ?
        BNE      10$        ; NO
        BR       30$        ; YES
20$:    MOV      -(R3),XDAT   ; SAVE EXPECTED DATA
        MOV      -(R4),EDAT  ; SAVE ACTUAL ERROR DATA
        SEC          ; SET CARRY
        BR       40$
30$:    CLC          ; CLEAR CARRY
40$:    MOV      (SP)+,R4     ; RESTORE R4
        MOV      (SP)+,R3     ; RESTORE R3
        MOV      (SP)+,R0     ; RESTORE R0
        RTS      PC          ; AND RETURN
    
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3729 032726 010046
3730 032730 010346
3731 032732 010446
3732 032734 010500
3733 032736 012703 004440
3734 032742 012704 010442
3735 032746 022324
3736 032750 001003
3737 032752 005300
3738 032754 001374
3739 032756 000406
3740 032760 014337 020570
3741 032764 014437 020566
3742 032770 000261
3743 032772 000401
3744 032774 000241
3745 032776 012604
3746 033000 012603
3747 033002 012600
3748 033004 000207
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```
*****  
: SUBROUTINE - CMPMEM  
: THIS SUBROUTINE COMPARES THE READ MEMORY BUFFER (RBUF)  
: WITH THE WRITE MEMORY BUFFER (TBUF).  
: INPUTS: R5 = NUMBER OF WORDS TO COMPARE  
: OUTPUTS: IF SUCCESSFUL DATA COMPARE  
: THEN CARRY = 0  
: IF UNSUCCESSFUL DATA COMPARE  
: THEN CARRY = 1  
: EXPECTED DATA -> XDAT  
: ACTUAL DATA -> EDAT  
: CALLING SEQUENCE:  
: JSR PC,CMPMEM  
*****
```

```
CMPMEM: MOV R0,-(SP) ; SAVE R0  
MOV R3,-(SP) ; SAVE R3  
MOV R4,-(SP) ; SAVE R4  
MOV R5,R0 ; R0 = NUMBER OF WORDS TO COMPARE  
MOV #TBUF,R3 ; R3 POINTS TO EXPECTED DATA  
MOV #RBUF,R4 ; R4 POINTS TO ACTUAL DATA  
10$: CMP (R3)+,(R4)+ ; DATA COMPARE ?  
BNE 20$ ; NO  
DEC R0 ; YES, DONE ?  
BNE 10$ ; NO  
BR 30$ ; YES  
20$: MOV -(R3),XDAT ; SAVE EXPECTED DATA  
MOV -(R4),EDAT ; SAVE ACTUAL ERROR DATA  
SEC ; SET CARRY  
BR 40$  
30$: CLC ; CLEAR CARRY  
40$: MOV (SP)+,R4 ; RESTORE R4  
MOV (SP)+,R3 ; RESTORE R3  
MOV (SP)+,R0 ; RESTORE R0  
RTS PC ; AND RETURN
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033006
033006 010437 020604
033012 004737 035272
033016 104422
033020 005737 020604
033024 001374
033026 004737 035256
033032 000207

```
*****  
: SUBROUTINE - DELAY  
: THIS SUBROUTINE WILL USE THE SYTEM CLOCK TO ENABLE A WAITING  
: PERIOD DETERMINED BY THE VALUE PASSED IN R4.  
: INPUT: R4 CONTAINS DELAY VALUE  
: OUTPUT: NONE  
: CALL:  MOV  #DELAY_VALUE,R4  
:        JSR  PC,DELAY  
:*****
```

```
DELAY:  MOV  R4,METER          ;GET DELAY VALUE  
        JSR PC,TIMON        ;START DELAY  
1$:     BREAK              ;VISIT DRS WHILE WAITING  
        TST METER          TRAP  C$BRK  
        BNE 1$             ;FINISHED?  
        JSR PC,TIMOFF      ;CONTINUE WAIT  
        RTS  PC            ;TURN OFF SYSTEM CLOCK  
                          ;RETURN TO CALLING ROUTINE
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033034 010146
033036 010246
033040 010546
033042 042705 177400
033046 074504
033050 013701 020616
033054 013702 020620
033060 012705 000010
033064
033064 000241
033066 006003
033070 006004
033072 103002
033074 074103
033076 074204
033100
033100 077507
033102 012605
033104 012602
033106 012601
033110 000207

```

*****
:
: SUBROUTINE - GETCRC
:
: THIS SUBROUTINE IS A BYTE WISE 32-BIT CRC CALCULATOR
:
: INPUTS: R5 CONTAINS NEW BYTE TO ADD TO CRC
:         R3,R4 CONTAIN CURRENT PARTIAL CRC CODE
:
: IMPLICIT INPUTS:      POLYH = CRC FUNCTION POLYNOMIAL HIGH WORD
:                       POLYL = CRC FUNCTION POLYNOMIAL LOW WORD
:
: OUTPUTS:      R3,R4 CONTAIN UPDATED CRC
:
: CALLING SEQUENCE:      MOV#  (R1)+,R5      ;GET NEXT BYTE
:                         JSR    PC,GETCRC    ;CALCULATE CRC
:
*****
GETCRC:
MOV     R1,-(SP)          ;SAVE R1
MOV     R2,-(SP)          ;SAVE R2
MOV     R5,-(SP)          ;SAVE R5
BIC     #+C377,R5         ;CLEAR HIGH BYTE
XOR     R5,R4             ;MERGE NEW BYTE WITH OLD CRC
MOV     POLYH,R1          ;GET CRC POLYNOMIAL HIGH WORD
MOV     POLYL,R2          ;GET CRC POLYNOMIAL LOW WORD
MOV     #8.,R5            ;LOOP COUNT

1$:
CLC                                ;CLEAR THE CARRY
ROR     R3                 ;SHIFT RIGHT THE CRC
ROR     R4                 ;32 BITS WORTH
BCC     2$                 ;SKIP IF BIT 0 NOT SET
XOR     R1,R3              ;EXCLUSIVE OR IN THE POLY
XOR     R2,R4              ;BOTH HIGH AND LOW WORDS

2$:
SOB     R5,1$              ;AND LOOP ON ALL 8 BITS
MOV     (SP)+,R5          ;RESTORE R5
MOV     (SP)+,R2          ;RESTORE R2
MOV     (SP)+,R1          ;RESTORE R1
RTS     PC                 ;RETURN TO CALLING PROGRAM

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 3843 033112
 3844 033112 010046
 3845 033114 010346
 3846 033116 010546
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 3848 033120 012700 000006
 3849 033124 012703 103643
 3850 033130 012705 103560
 3851
 3852 033134 112537 103576
 3853 033140 004737 033174
 3854 033144 113723 103577
 3855 033150 004737 033232
 3856 033154 113723 103577
 3857 033160 105723
 3858 033162 077014
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 3860 033164 012605
 3861 033166 012603
 3862 033170 012600
 3863 033172 000207

```

*****
:
: SUBROUTINE - HEXDPA
:
: THIS SUBROUTINE LOADS DEFADR WITH THE ASCII HEX VALUE
: FOR THE DEFAULT PHYSICAL ADDRESS DPA.
:
: INPUTS: NONE
:
: IMPLICIT
: INPUTS: DPA = DEFAULT PHYSICAL ADDRESS
:
: OUTPUTS: DEFADR = ASCII HEX VALUE FOR DPA
:
: CALLING SEQUENCE:
: JSR PC,HEXDPA
*****
    
```

```

HEXDPA:
: MOV R0,-(SP) ; SAVE R0
: MOV R3,-(SP) ; SAVE R3
: MOV R5,-(SP) ; SAVE R5
:
: MOV #6,R0 ; DO LOOP = 6 BYTES
: MOV #DEFADR,R3 ; POINT TO ASCII MESSAGE
: MOV #DPA,R5 ; POINT TO DEFAULT PHYSICAL ADDR
:
10$: MOVB (R5)+,HEXDAT ; LOAD BYTE FOR CONVERSION
: JSR PC,HEXH ; CONVERT HIGH NIBBLE
: MOVB HEXVAL,(R3)+ ; LOAD INTO ASCII MESSAGE
: JSR PC,HEXL ; CONVERT LOW NIBBLE
: MOVB HEXVAL,(R3)+ ; LOAD INTO ASCII MESSAGE
: TSTB (R3)+ ; SKIP OVER HYPHEN IN MESSAGE
: SOB R0,10$ ; LOOP TILL ALL 6 BYTES ARE DONE
:
: MOV (SP)+,R5 ; RESTORE R5
: MOV (SP)+,R3 ; RESTORE R3
: MOV (SP)+,R0 ; RESTORE R0
: RTS PC ; AND RETURN
    
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 3885 033174
 3886 033174 010146
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 3888 033176 013701 103576
 3889 033202 042701 177417
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 3891 033206 006201
 3892 033210 006201
 3893 033212 006201
 3894 033214 006201
 3895
 3896 033216 062701 103667
 3897 033222 111137 103577
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 3899 033226 012601
 3900 033230 000207

```

:*****
:
:      SUBROUTINE - HEXH
:
:      THIS SUBROUTINE LOADS HEXVAL WITH THE ASCII HEX VALUE
:      FOR THE HIGH NIBBLE IN HEXDAT
:
:      INPUTS:          NONE
:
:      IMPLICIT
:      INPUTS:          HEXDAT = BYTE TO BE CONVERTED
:
:      OUTPUTS:         HEXVAL = ASCII HEX VALUE FOR THE HIGH NIBBLE
:
:      CALLING SEQUENCE:
:                      JSR      PC,HEXH
:*****
    
```

```

HEXH:
:      MOV      R1,-(SP)          ; SAVE R1
:
:      MOV      HEXDAT,R1        ; LOAD DATA FOR CONVERSION
:      BIC      #177417,R1      ; MASK HIGH NIBBLE
:
:      ASR      R1                ; SHIFT RIGHT
:      ASR      R1
:      ASR      R1
:      ASR      R1
:
:      ADD      #HEXTBL,R1        ; GET INDEX INTO HEXTBL
:      MOVB    (R1),HEXVAL      ; AND LOAD HEXVAL
:
:      MOV      (SP)+,R1         ; RESTORE R1
:      RTS     PC                ; AND RETURN
    
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033232
033232 010146
033234 013701 103576
033240 042701 177760
033244 062701 103667
033250 111137 103577
033254 012601
033256 000207

```

*****
:
: SUBROUTINE - HEXL
:
: THIS SUBROUTINE LOADS HEXVAL WITH THE ASCII HEX VALUE
: FOR THE LOW NIBBLE IN HEXDAT
:
: INPUTS: NONE
:
: IMPLICIT
: INPUTS: HEXDAT = BYTE TO BE CONVERTED
:
: OUTPUTS: HEXVAL = ASCII HEX VALUE FOR THE LOW NIBBLE
:
: CALLING SEQUENCE:
: JSR PC,HEXL
:
*****
HEXL: MOV R1,-(SP) ; SAVE R1
: MOV HEXDAT,R1 ; LOAD DATA FOR CONVERSION
: BIC #177760,R1 ; MASK LOW NIBBLE
:
: ADD #HEXTBL,R1 ; GET INDEX INTO HEXTBL
: MOVB (R1),HEXVAL ; AND LOAD HEXVAL
:
: MOV (SP)+,R1 ; RESTORE R1
: RTS PC ; AND RETURN

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3951 033260
3952 033260 010146
3953 033262 010346
3954 033264 010446
3955 033266 012701 002000
3956 033272 011504
3957 033274 012703 004440
3958 033300 010423
3959 033302 062704 000002
3960 033306 005301
3961 033310 001373
3962 033312 012604
3963 033314 012603
3964 033316 012601
3965 033320 000207

```

```

:*****
:
: SUBROUTINE - LDBUF
:
: THIS SUBROUTINE LOADS TBUF WITH AN ADDRESS DATA PATTERN
: STARTING WITH THE ADDRESS POINTED TO BY R5
:
: INPUTS:          R5 = ADDRESS OF SPECIFIED DATA ADDRESS
:
: OUTPUTS:         TBUF = ADDRESS DATA PATTERN
:
: CALLING SEQUENCE:
:                   JSR    PC,LDBUF
:*****
LDBUF:
MOV    R1,-(SP)      ; SAVE R1
MOV    R3,-(SP)      ; SAVE R3
MOV    R4,-(SP)      ; SAVE R4
MOV    #1024,R1      ; DO 1024 WORDS
MOV    (R5),R4       ; R4 = STARTING DATA ADDRESS
MOV    #TBUF,R3      ; R3 POINTS TO TBUF
10$:  MOV    R4,(R3)+  ; LOAD TBUF
      ADD    #2,R4    ; ADD 2 TO DATA
      DEC    R1       ; DONE 1K BLOCK ?
      BNE   10$      ; NO
      MOV   (SP)+,R4  ; RESTORE R4
      MOV   (SP)+,R3  ; RESTORE R3
      MOV   (SP)+,R1  ; RESTORE R1
      RTS    PC      ; AND RETURN

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3985 033322 010146
3986 033324 010246
3987 033326 010346
3988 033330 010446
3989 033332 012701 002000
3990 033336 011504
3991 033340 012703 004440
3992 033344 010402
3993 033346 005102
3994 033350 010223
3995 033352 062704 000002
3996 033356 005301
3997 033360 001371
3998 033362 012604
3999 033364 012603
4000 033366 012602
4001 033370 012601
4002 033372 000207

```
*****  
: SUBROUTINE - LDBUFC  
: THIS SUBROUTINE LOADS TBUF WITH THE COMPLIMENT OF AN  
: ADDRESS DATA PATTERN STARTING WITH THE ADDRESS SPECIFIED BY R5  
: INPUTS: R5 = ADDRESS OF SPECIFIED DATA ADDRESS  
: OUTPUTS: TBUF = COMPLIMENTTED ADDRESS DATA PATTERN  
: CALLING SEQUENCE:  
: JSR PC,LDBUFC  
: *****
```

```
LDBUFC: MOV R1,-(SP) ; SAVE R1  
MOV R2,-(SP) ; SAVE R2  
MOV R3,-(SP) ; SAVE R3  
MOV R4,-(SP) ; SAVE R4  
MOV #1024.,R1 ; DO 1024. WORDS  
MOV (R5),R4 ; R4 = STARTING DATA ADDRESS  
MOV #TBUF,R3 ; R3 POINTS TO TBUF  
10$: MOV R4,R2  
COM R2 ; COMPLIMENT DATA  
MOV R2,(R3)+ ; LOAD TBUF  
ADD #2,R4 ; ADD 2 TO DATA  
DEC R1 ; DONE 1K BLOCK?  
BNE 10$ ; NO  
MOV (SP)+,R4 ; RESTORE R4  
MOV (SP)+,R3 ; RESTORE R3  
MOV (SP)+,R2 ; RESTORE R2  
MOV (SP)+,R1 ; RESTORE R1  
RTS PC ; AND RETURN
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4039 033374 010046
4040 033376 010146
4041 033400 010246
4042 033402 010346
4043 033404 010446
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4050 033414 012701 004440
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4057 033426 012705 002266
4058 033432 012521
4059 033434 012521
4060 033436 011521

```

*****
SUBROUTINE - LDBUFR    (USED IN ADDRESS TESTS)

THIS ROUTINE SETS UP THE TRANSMIT AND RECEIVE BUFFERS. THE
NUMBER OF BYTES IN A PACKET IS DETERMINED BY THE CONTENTS
PASSED IN 'BYTCNT'. IN ANY CASE, A PACKET LENGHT WILL BE NO
MORE THAN 32 BYTES, OR 36 INCLUDING CRC IF 'DOCRC' SET.

A. LOAD TRANSMIT BUFFER TBUF (DEST. ADDR,SOURCE ADDR,TYPE,DATA)
B. APPEND CRC IF 'DOCRC' FLAG SET

INPUTS:                DOCRC = 0 THEN NO CRC
                       1 THEN CALCULATE CRC AND APPEND
                       BYTCNT= # OF DATA BYTES IN PACKET

IMPLICIT INPUTS:      DEST: = DESTINATION ADDRESS

OUTPUTS:              TBUF IS SET UP FOR TRANSMIT

PARAMETERS MODIFIED: 'DOCRC' WILL ALWAYS BE CLEARED ON EXIT

CALLING SEQUENCE:    INSURE 'DOCRC' FLAG CONTAINS CORRECT DATA

                       MOV     #X,R3           ;CRC LOW WORD
                       MOV     #Y,R4           ;CRC HIGH WORD
                       MOV     #Z,BYTCNT       ;NUMBER OF BYTES THIS PACKET
                       JSR     PC,LDBUFR

*****

LDBUFR:
MOV     R0,-(SP)           ; SAVE R0
MOV     R1,-(SP)           ; SAVE R1
MOV     R2,-(SP)           ; SAVE R2
MOV     R3,-(SP)           ; SAVE R3
MOV     R4,-(SP)           ; SAVE R4
MOV     R5,-(SP)           ; SAVE R5

;SET UP TRANSMIT BUFFER TBUF
;LOAD DESTINATION ADDRESS

MOV     #DEST,R5           ; POINT TO DESTINATION ADDRESS
MOV     #TBUF,R1           ; POINT TO TBUF
MOV     (R5)+,(R1)+       ; LOAD DESTINATION ADDRESS
MOV     (R5)+,(R1)+
MOV     (R5),(R1)+

;LOAD SOURCE ADDRESS

MOV     #SRC,R5           ; LOAD FOR LATER COMPARISON
MOV     (R5)+,(R1)+
MOV     (R5)+,(R1)+
MOV     (R5),(R1)+
    
```

L9

```

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4064 033440 012721 000005
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4067
4068 033444 013700 020562
4069 033450 012705 020630
4070 033454 012521
4071 033456 005300
4072 033460 002375
4073
4074
4075
4076 033462 010146
4077 033464 010246
4078 033466 013702 020562
4079 033472 006302
4080 033474 062702 000020
4081 033500 012701 004440
4082 033504 012703 177777
4083 033510 012704 177777
4084 033514 004737 030644
4085 033520 012602
4086 033522 012601
4087
4088
4089
4090 033524 005737 020564
4091 033530 001402
4092 033532 010421
4093 033534 010321
4094
4095
4096 033536
4097 033536 005037 020564
4098
4099 033542 012605
4100 033544 012604
4101 033546 012603
4102 033550 012602
4103 033552 012601
4104 033554 012600
4105 033556 000207
4106

;SET TYPE FIELD
MOV #5,(R1)+ ; ENTER DIAGNOSTIC ID IN TYPE FIELD

;LOAD DATA FIELD (LENGTH DEPENDENT ON CONTENTS OF 'BYTCNT')
MOV BYTCNT,R0 ; BYTE COUNT
MOV #PATRN1,R5 ; POINT TO DATA PATTERN
20$: MOV (R5)+,(R1)+ ; LOAD DATA PATTERN
DEC R0 ; DONE ?
BGE 20$ ; NO

;CALCULATE CRC AND SAVE IN 'XCRC'
MOV R1,-(SP) ; SAVE R1
MOV R2,-(SP) ; SAVE R2
MOV BYTCNT,R2 ; GET DATA BYTE COUNT
ASL R2 ; ALIGN
ADD #16.,R2 ; ADD HEADER
MOV #TBUF,R1 ; BASE ADDR OF TRANSMIT BUFFER
MOV #-1,R3 ; INIT CRC
MOV #-1,R4 ; INIT CRC
JSR PC,BLKCRC ; CALCULATE AND SAVE CRC
MOV (SP)+,R2 ; RESTORE R2
MOV (SP)+,R1 ; RESTORE R1

;IF CRC FLAG SET, APPEND CRC, THEN SAVE EXPECTED CRC IN 'XCRC' TABLE
TST D0CRC ; APPEND CRC?
BEQ 30$ ; NO, SKIP APPENDING CRC
MOV R4,(R1)+ ; APPEND CRC LOW WORD
MOV R3,(R1)+ ; APPEND CRC HIGH WORD

30$: CLR D0CRC ;INSURE CRC FLAG IS CLEARED

MOV (SP)+,R5 ; RESTORE R5
MOV (SP)+,R4 ; RESTORE R4
MOV (SP)+,R3 ; RESTORE R3
MOV (SP)+,R2 ; RESTORE R2
MOV (SP)+,R1 ; RESTORE R1
MOV (SP)+,R0 ; RESTORE R0
RTS PC ; AND RESTORE

```

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4125 033560
4126 033560 010346
4127 033562 010446
4128 033564 010504
4129 033566 012703 002260
4130 033572 012423
4131 033574 012423
4132 033576 012423
4133 033600 012604
4134 033602 012603
4135 033604 000207

```
*****  
: SUBROUTINE - LDDEST  
:  
: THIS SUBROUTINE LOADS A SPECIFIED DESTINATION ADDRESS  
: INTO DEST: .  
:  
: INPUTS: R5 = ADDRESS OF SPECIFIED DESTINATION ADDRESS  
:  
: OUTPUTS: DEST = SPECIFIED DESTINATION ADDRESS  
:  
: CALLING SEQUENCE:  
: JSR PC,LDDEST  
: *****
```

```
LDDEST: MOV R3,-(SP) ; SAVE R3  
MOV R4,-(SP) ; SAVE R4  
MOV R5,R4 ; R4 POINTS TO DESTINATION ADDRESS  
MOV #DEST,R3 ; R3 POINTS TO DEST:  
MOV (R4)+,(R3)+ ; LOAD DEST:  
MOV (R4)+,(R3)+  
MOV (SP)+,R4 ; RESTORE R4  
MOV (SP)+,R3 ; RESTORE R3  
RTS PC ; AND RETURN
```

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 4157 033606
 4158 033606 010046
 4159 033610 010146
 4160 033612 010446
 4161 033614 010546
 4162
 4163 033616 012700 002274
 4164 033622 012704 002266
 4165 033626 012705 002260
 4166 033632 012701 000003
 4167 033636
 4168 033636 011024
 4169 033640 012025
 4170 033642 077103
 4171
 4172 033644 012605
 4173 033646 012604
 4174 033650 012601
 4175 033652 012600
 4176
 4177 033654 000207
 4178

```

*****
:
: SUBROUTINE - LDDFLT
:
: THIS SUBROUTINE WILL LOAD THE DEFAULT PHYSICAL ADDRESS
: (TABLE 'DFAULT') INTO BOTH TABLES 'SRC' AND 'DEST'.
:
: INPUTS - NONE
:
: IMPLICIT INPUTS - TABLE 'DFAULT' CONTAINS DEFAULT PHYSICAL ADDR.
:
: OUTPUTS - NONE
:
: PARAMETERS MODIFIED - TABLES 'SRC' AND 'DEST' WILL BE MODIFIED
:
: CALLING SEQUENCE - JSR PC,LDDFLT ;GET DEFAULT ADDRESS DATA
*****
    
```

```

LDDFLT:
    MOV     R0,-(SP)           ; SAVE R0
    MOV     R1,-(SP)           ; SAVE R1
    MOV     R4,-(SP)           ; SAVE R4
    MOV     R5,-(SP)           ; SAVE R5
    MOV     #DFAULT,R0        ; BASE ADDRESS OF DEFAULT ADDRESS
    MOV     #SRC,R4            ; BASE ADDRESS OF SOURCE ADDRESS
    MOV     #DEST,R5          ; BASE ADDRESS OF DEST. ADDRESS
    MOV     #3,R1              ; INIT COUNTER
1$:
    MOV     (R0),(R4)+        ; LOAD ADDRESS
    MOV     (R0)+,(R5)+      ; IN EACH TABLE
    SOB     R1,1$            ; UNTIL DONE
    MOV     (SP)+,R5          ; RESTORE R5
    MOV     (SP)+,R4          ; RESTORE R4
    MOV     (SP)+,R1          ; RESTORE R1
    MOV     (SP)+,R0          ; RESTORE R0
    RTS     PC
    
```

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4196 033656
4197 033656 010346
4198 033660 010446
4199 033662 012703 002302
4200 033666 010504
4201 033670 012423
4202 033672 012423
4203 033674 012423
4204 033676 012423
4205 033700 012604
4206 033702 012603
4207 033704 000207

```
*****  
: SUBROUTINE - LDPCBB  
: THIS SUBROUTINE MOVES A SELECTED DEFAULT  
: PORT CONTROL FUNCTION INTO PCBB.  
: INPUTS: R5 = ADDRESS OF DEFAULT PORT CONTROL FUNCTION  
: OUTPUTS: PCBB = SELECTED DEFAULT PORT FUNCTION  
: CALLING SEQUENCE:  
: JSR PC,LDPCBB  
:*****
```

```
LDPCBB: MOV R3,-(SP) ; SAVE R3  
MOV R4,-(SP) ; SAVE R4  
MOV #PCBB,R3 ; ADDRESS OF PCBB -> R3  
MOV R5,R4 ; R4 = ADDRESS OF DEFAULT FUNCTION  
MOV (R4)+,(R3)+ ; LOAD PCBB+0  
MOV (R4)+,(R3)+ ; LOAD PCBB+2  
MOV (R4)+,(R3)+ ; LOAD PCBB+4  
MOV (R4)+,(R3)+ ; LOAD PCBB+6  
MOV (SP)+,R4 ; RESTORE R4  
MOV (SP)+,R3 ; RESTORE R3  
RTS PC ; AND RETURN
```

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```

;*****
;
; SUBROUTINE - LDPCSR
;
; THIS ROUTINE MOVES THE ADDRESS OF PCBB
; INTO PCSR2 AND PCSR3.
;
; INPUTS:          NONE
;
; OUTPUTS:         PCSR2 AND PCSR3 = ADDRESS OF PCBB
;
; CALLING SEQUENCE:
;                   JSR      PC,LDPCSR
;*****

```

```

4226 033706
4227 033706 012777 002302 146316
4228 033714 012777 000000 146312
4229 033722 000207

```

```

LDPCSR:  MOV    #PCBB,@PCSR2      ; ADDRESS OF PCBB -> PCSR2
         MOV    #ZERO,@PCSR3   ; CLEAR PCSR3
         RTS    PC              ; AND RETURN

```


4231
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 4250 033724
 4251 033724 010046
 4252
 4253 033726 012700 014504
 4254 033732 012520
 4255 033734 012520
 4256 033736 012520
 4257
 4258 033740 012600
 4259 033742 000207
 4260

```

*****
:
: SUBROUTINE - LDPHYA
:
: THIS SUBROUTINE WILL MODIFY THE DEFAULT PHYSICAL ADDRESS
: TABLE AS DETERMINED BY THE DATA IN THE TABLE WHOSE BASE
: ADDRESS IS PASSED TO THIS ROUTINE.
:
: INPUT - R5 - CONTAINS BASE ADDRESS OF TABLE OF NEW ADDRESSES
:
: OUTPUT - NONE
:
: PARAMETERS MODIFIED - TABLE 'WTPHYA' MAY BE MODIFIED
:
: SUBROUTINE CALL - MOV #PC,R5 ;GET BASE ADDR. OF NEW ADDR.TABLE
: JSR LDPHYA ;MODIFY TABLE 'WTPHYA'
*****
    
```

```

LDPHYA:
    MOV     R0,-(SP)           ;SAVE R0
    MOV     #WTPHYA+2,R0      ;POINT TO 2ND ENTRY IN TABLE
    MOV     (R5)+,(R0)+       ;LOAD
    MOV     (R5)+,(R0)+       ; NEW
    MOV     (R5)+,(R0)+       ; ADDRESS
    MOV     (SP)+,R0          ;RESTORE R0
    RTS     PC
    
```

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 4278 033744
 4279 033744 010046
 4280 033746 010346
 4281 033750 010446
 4282 033752 012700 000020
 4283 033756 012703 002662
 4284 033762 010504
 4285 033764 012423
 4286 033766 005300
 4287 033770 001375
 4288 033772 012604
 4289 033774 012603
 4290 033776 012600
 4291 034000 000207
 4292

```

*****
:
:   SUBROUTINE - LDRDRB
:
:   THIS SUBROUTINE MOVES A SELECTED DEFAULT
:   RECEIVE DESCRIPTOR RING INTO RDRB.
:
:   INPUTS:           R5 = ADDRESS OF DATA TO BE MOVED INTO RDRB
:
:   OUTPUTS:          RDRB = SELECTED DEFAULT RECEIVE DESCRIPTOR RING
:
:   CALLING SEQUENCE:
:   JSR      PC,LDRDRB
:
*****
    
```

```

LDRDRB:
MOV      R0,-(SP)           ; SAVE R0
MOV      R3,-(SP)           ; SAVE R3
MOV      R4,-(SP)           ; SAVE R4
MOV      #16,R0             ; LOAD 16 WORDS
MOV      #RDRB,R3          ; ADDRESS OF RDRB -> R3
MOV      R5,R4             ; R4 = ADDRESS OF DEFAULT RDRB
10$:    MOV      (R4)+,(R3)+ ; LOAD WORD INTO RDRB
DEC      R0                 ; DONE ?
BNE     10$                ; NO, KEEP ON LOADING RDRB
MOV      (SP)+,R4          ; YES, RESTORE R4
MOV      (SP)+,R3          ; RESTORE R3
MOV      (SP)+,R0          ; RESTORE R0
RTS     PC                  ; AND RETURN
    
```

```

4294 ;*****
4295 ;
4296 ; SUBROUTINE - LDRDRX
4297 ;
4298 ; THIS SUBROUTINE MOVES A SELECTED DEFAULT RECEIVE
4299 ; DESCRIPTOR RING INTO RDRBX.
4300 ;
4301 ; INPUTS: R5 = ADDRESS OF DATA TO BE MOVED INTO RDRBX
4302 ;
4303 ; OUTPUTS: DRRBX = SELECTED DEFAULT RECEIVE DESCR. RING
4304 ;
4305 ; CALLING SEQUENCE:
4306 ; JSR PC,LDRDRX
4307 ;
4308 ;*****
4309
4310 034002 LDRDRX:
4311 034002 010046 MOV R0,-(SP) ; SAVE R0
4312 034004 010346 MOV R3,-(SP) ; SAVE R3
4313 034006 010446 MOV R4,-(SP) ; SAVE R4
4314 034010 012700 000304 MOV #196.,R0 ; LOAD 196 WORDS (49 ENTRIES)
4315 034014 012703 003626 MOV #RDRX,R3 ; BASE ADDRESS OF RDRBX --> R3
4316 034020 010504 MOV R5,R4 ; BASE ADDRESS OF DATA --> R4
4317 034022
4318 034022 012423 10$: MOV (R4)+,(R3)+ ; LOAD WORD INTO RDRBX
4319 034024 005300 DEC R0 ; DONE?
4320 034026 001375 BNE 10$ ; NO, KEEP ON LOADING
4321 034030 012604 MOV (SP)+,R4 ; YES, RESTORE R4
4322 034032 012603 MOV (SP)+,R3 ; RESTORE R3
4323 034034 012600 MOV (SP)+,R0 ; RESTORE R0
4324 034036 000207 RTS PC ; AND RETURN
4325
    
```

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4343 034040
 4344 034040 010046
 4345 034042 010346
 4346 034044 010446
 4347 034046 012700 000020
 4348 034052 012703 002622
 4349 034056 010504
 4350 034060 012423
 4351 034062 005300
 4352 034064 001375
 4353 034066 012604
 4354 034070 012603
 4355 034072 012600
 4356 034074 000207

```

*****
:
:      SUBROUTINE - LDTDRB
:
:      THIS SUBROUTINE MOVES A SELECTED DEFAULT
:      TRANSMIT DESCRIPTOR RING INTO TDRB.
:
:      INPUTS:          R5 = ADDRESS OF DATA TO BE MOVED INTO TDRB
:
:      OUTPUTS:         TDRB = SELECTED DEFAULT TRANSMIT DESCRIPTOR RING
:
:      CALLING SEQUENCE:
:                      JSR      PC,LDTDRB
*****
    
```

```

LDTDRB:
      MOV      R0,-(SP)          ; SAVE R0
      MOV      R3,-(SP)          ; SAVE R3
      MOV      R4,-(SP)          ; SAVE R4
      MOV      #16,R0           ; LOAD 16 WORDS
      MOV      #TDRB,R3         ; ADDRESS OF TDRB -> R3
      MOV      R5,R4           ; R4 = ADDRESS OF DEFAULT TDRB
10$:   MOV      (R4)+,(R3)+      ; LOAD WORD INTO TDRB
      DEC      R0               ; DONE ?
      BNE     10$              ; NO, KEEP ON LOADING TDRB
      MOV      (SP)+,R4         ; YES, RESTORE R4
      MOV      (SP)+,R3         ; RESTORE R3
      MOV      (SP)+,R0         ; RESTORE R0
      RTS      PC              ; AND RETURN
    
```

4358
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```

;*****
;
; SUBROUTINE - LDTDRX
;
; THIS SUBROUTINE MOVES A SELECTED DEFAULT
; TRANSMIT DESCRIPTOR RING INTO TDRX.
;
; INPUTS:          R5 = ADDRESS OF DATA TO BE MOVED INTO TDRX
;
; OUTPUTS:         TDRX = SELECTED DEFAULT TRANSMIT DESCRIPTOR RING
;
; CALLING SEQUENCE:
;                   JSR      PC,LDTDRX
;*****
    
```

4375 034076
 4376 034076 010046
 4377 034100 010346
 4378 034102 010446
 4379 034104 012700 000304
 4380 034110 012703 003016
 4381 034114 010504
 4382 034116 012423
 4383 034120 005300
 4384 034122 001375
 4385 034124 012604
 4386 034126 012603
 4387 034130 012600
 4388 034132 000207

```

LDTDRX:
    MOV     R0,-(SP)          ; SAVE R0
    MOV     R3,-(SP)          ; SAVE R3
    MOV     R4,-(SP)          ; SAVE R4
    MOV     #196.,R0         ; LOAD 196 WORDS (49 ENTRIES)
    MOV     #TDRX,R3         ; ADDRESS OF TDRX -> R3
    MOV     R5,R4            ; R4 = ADDRESS OF DEFAULT TDRB
10$:     MOV     (R4)+,(R3)+   ; LOAD WORD INTO TDRB
    DEC     R0                ; DONE ?
    BNE     10$              ; NO, KEEP ON LOADING TDRB
    MOV     (SP)+,R4         ; YES, RESTORE R4
    MOV     (SP)+,R3         ; RESTORE R3
    MOV     (SP)+,R0         ; RESTORE R0
    RTS     PC                ; AND RETURN
    
```

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```

*****
:
: SUBROUTINE - LDUDBB
:
: THIS ROUTINE MOVES A SELECTED DEFAULT
: DATA STRUCTURE INTO UDBB.
:
: INPUTS:          R5 = ADDRESS OF DATA TO BE MOVED INTO UDBB
:                  R0 = NUMBER OF WORDS TO BE MOVED
:
: OUTPUTS:         UDBB = SELECTED DEFAULT DATA STRUCTURE
:
: CALLING SEQUENCE:
:                  JSR      PC,LDUDBB
*****
    
```

4408 034134
 4409 034134 010146
 4410 034136 010346
 4411 034140 010446
 4412 034142 010001
 4413 034144 012703 002312
 4414 034150 010504
 4415 034152 012423
 4416 034154 005301
 4417 034156 001375
 4418 034160 012604
 4419 034162 012603
 4420 034164 012601
 4421 034166 000207

```

LDUDBB:
        MOV     R1,-(SP)          ; SAVE R1
        MOV     R3,-(SP)          ; SAVE R3
        MOV     R4,-(SP)          ; SAVE R4
        MOV     R0,R1             ; R1= NUMBER OF WORDS TO BE MOVED
        MOV     #UDBB,R3         ; ADDRESS OF UDBB -> R3
        MOV     R5,R4             ; R4= ADDRESS OF DATA TO BE MOVED
10$:    MOV     (R4)+,(R3)+       ; LOAD WORD INTO UDBB
        DEC     R1                ; DONE ?
        BNE    10$                ; NO, KEEP ON LOADING
        MOV     (SP)+,R4          ; YES, RESTORE R4
        MOV     (SP)+,R3          ; RESTORE R3
        MOV     (SP)+,R1          ; RESTORE R1
        RTS     PC                ; AND RETURN
    
```

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 4441 034170
 4442 034170 010346
 4443 034172 010446
 4444 034174 012704 020576
 4445 034200 010503
 4446 034202 012324
 4447 034204 012324
 4448 034206 012604
 4449 034210 012603
 4450 034212 000207

```

;*****
;
; NOTE: MAY BE ABLE TO DELETE THIS FROM FINAL PRODUCT
;
; SUBROUTINE - LDXCRC
;
; THIS SUBROUTINE LOADS XCRC WITH EXPECTED CRC DATA.
;
; INPUTS:          R5 = ADDRESS OF EXPECTED DATA
;
; OUTPUTS:         XCRC TABLE = EXPECTED CRC DATA
;
; CALLING SEQUENCE:
;                   JSR      PC,LDXCRC
;*****
    
```

```

LDXCRC:
MOV     R3,-(SP)          ; SAVE R3
MOV     R4,-(SP)          ; SAVE R4
MOV     #XCRC,R4         ; R4 POINTS TO XCRC
MOV     R5,R3            ; R3 POINTS TO DATA
MOV     (R3)+,(R4)+      ; LOAD XCRC TABLE
MOV     (R3)+,(R4)+
MOV     (SP)+,R4         ; RESTORE R4
MOV     (SP)+,R3         ; RESTORE R3
RTS     PC               ; AND RETURN
    
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4452
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4468 034214
4469 034214 010346
4470 034216 010446
4471 034220 012704 020532
4472 034224 010503
4473 034226 012324
4474 034230 012324
4475 034232 012324
4476 034234 012324
4477 034236 012604
4478 034240 012603
4479 034242 000207

```
*****  
: SUBROUTINE - LDXRDR  
: THIS SUBROUTINE LOADS XRDRBO WITH EXPECTED RDRB DATA.  
: INPUTS: R5 = ADDRESS OF EXPECTED DATA  
: OUTPUTS: XRDRBO TABLE = EXPECTED RDRB DATA  
: CALLING SEQUENCE:  
: JSR PC,LDXRDR  
*****
```

```
LDXRDR: MOV R3,-(SP) ; SAVE R3  
MOV R4,-(SP) ; SAVE R4  
MOV #XRDRBO,R4 ; R4 POINTS TO XRDRBO  
MOV R5,R3 ; R3 POINTS TO DATA  
MOV (R3)+,(R4)+ ; LOAD XRDRBO TABLE  
MOV (R3)+,(R4)+  
MOV (R3)+,(R4)+  
MOV (R3)+,(R4)+  
MOV (SP)+,R4 ; RESTORE R4  
MOV (SP)+,R3 ; RESTORE R3  
RTS PC ; AND RETURN
```


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4497 034244
4498 034244 010346
4499 034246 010446
4500 034250 012700 000004
4501 034254 012704 020552
4502 034260 010503
4503 034262
4504 034262 012324
4505 034264 005300
4506 034266 001375
4507
4508 034270 012604
4509 034272 012603
4510 034274 000207

```
*****
:
: SUBROUTINE - LDXTDR
:
: THIS SUBROUTINE LOADS XTDRBO WITH EXPECTED TDRB DATA.
:
: INPUTS: R5 = ADDRESS OF EXPECTED DATA
:
: OUTPUTS: XTDRBO TABLE = EXPECTED TDRB DATA
:
: CALLING SEQUENCE:
: JSR PC,LDXTDR
:
*****
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```
LDXTDR:
MOV R3,-(SP) ; SAVE R3
MOV R4,-(SP) ; SAVE R4
MOV #4,R0 ; LOOP COUNT
MOV #XTDRBO,R4 ; R4 POINTS TO XTDRBO
MOV R5,R3 ; R3 POINTS TO DATA

10$:
MOV (R3)+,(R4)+ ; LOAD XTDRBO TABLE
DEC R0 ; REDUCE LOOP COUNT
BNE 10$ ; LOOP AGAIN IF NOT COMPLETED

MOV (SP)+,R4 ; RESTORE R4
MOV (SP)+,R3 ; RESTORE R3
RTS PC ; AND RETURN
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 4534 034276
 4535 034276 010446
 4536 034300 017704 145722
 4537 034304 032704 020000
 4538 034310 001407
 4539 034312 010437 020516
 4540 034316 017737 145706 020520
 4541 034324 000261
 4542 034326 000401
 4543 034330 000241
 4544 034332 012604
 4545 034334 000207

```

*****
:
: SUBROUTINE - NORXI
:
: THIS SUBROUTINE VERIFIES THE RXI BIT IS NOT SET.
:
: INPUTS: NONE
:
: OUTPUTS: IF RXI NOT SET ( RXI = 0 )
:          THEN CARRY = 0
:
:          IF RXI IS SET ( RXI = 1 )
:            THEN CARRY = 1
:            PCSRO -> EPCSRO
:            PCSR1 -> EPCSR1
:
: CALLING SEQUENCE:
: JSR PC,NORXI
*****
    
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NORXI:
MOV R4,-(SP) ; SAVE R4
MOV @PCSRO,R4 ; PCSRO -> R4
BIT #RXI,R4 ; RXI = 0 ?
BEQ 10$ ; YES
MOV R4,EPCSRO ; NO, PCSRO -> EPCSRO
MOV @PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
SEC ; SET CARRY
BR 20$
10$: CLC ; CLEAR CARRY
20$: MOV (SP)+,R4 ; RESTORE R4
RTS PC ; AND RETURN
    
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 4568 034336 010046
 4569 034340 010146
 4570 034342 010246
 4571 034344 010546
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 4573 034346 012701 010442
 4574 034352 013702 020562
 4575 034356 012700 020576
 4576 034362 012003
 4577 034364 011004
 4578 034366
 4579 034366 112105
 4580 034370 004737 033034
 4581 034374 077204
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 4583 034376 012700 020576
 4584 034402 010320
 4585 034404 010410
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 4587 034406 012605
 4588 034410 012602
 4589 034412 012601
 4590 034414 012600
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 4592 034416 000207
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*****
:
:   SUBROUTINE - ROMCRC (Used specifically in Read Int.ROM Test)
:
:   This subroutine calculates a 16 bit CRC on a block of data.
:   Used explicitly for ROM CRC calculation.
:
:   IMPLICIT
:   INPUTS:      RBUF = BASE ADDRESS OF DATA BLOCK
:                BYTCNT = DATA BLOCK BYTE COUNT
:
:   OUTPUTS:    R4,R3 = CRC
:                XCRC = BASE ADDRESS OF CRC STORAGE TABLE,
:                CONTAINING UPDATED DATA FROM R4,R3
:
:   CALLING SEQUENCE:
:                JSR      PC,ROMCRC      ;GO CALCULATE CRC
*****
    
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ROMCRC:
    MOV     R0,-(SP)      ; SAVE R0
    MOV     R1,-(SP)      ; SAVE R1
    MOV     R2,-(SP)      ; SAVE R2
    MOV     R5,-(SP)      ; SAVE R5
    MOV     #RBUF,R1      ; GET BASE ADDRESS OF DATA BLOCK
    MOV     BYTCNT,R2      ; GET DATA BLOCK BYTE COUNT
    MOV     #XCRC,R0      ; GET BASE ADDRESS OF INITIAL CRC
    MOV     (R0)+,R3      ; LOAD INITIAL
    MOV     (R0),R4       ; CRC
1$:
    MOVB   (R1)+,R5      ; GET NEXT CHARACTER
    JSR    PC,GETCRC     ; CALCULATE CRC
    SOB   R2,1$         ; DO NEXT CHARACTER IF NOT FINISHED
    MOV   #XCRC,R0      ; POINT TO BASE STORAGE ADDRESS
    MOV   R3,(R0)+      ; UPDATE 1ST WORD
    MOV   R4,(R0)       ; UPDATE 2ND WORD
    MOV   (SP)+,R5      ; RESTORE R5
    MOV   (SP)+,R2      ; RESTORE R2
    MOV   (SP)+,R1      ; RESTORE R1
    MOV   (SP)+,R0      ; RESTORE R0
    RTS   PC
    
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4634 034420 010046
4635 034422 010146
4636 034424 010346
4637 034426 010446
4638 034430 010546
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4642 034432 012703 010442
4643 034436 012700 000036
4644 034442 005023
4645 034444 005300
4646 034446 001375
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4651 034450 012705 002266
4652 034454 012703 004440

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*****
SUBROUTINE - SETBF (Used specifically in Int. Loopback Length Err Tst)

THIS ROUTINE SETS UP THE TRANSMIT AND RECEIVE BUFFERS
FOR A DATA BYTE LENGTH DETERMINED BY VALUE PASSED IN
R2. CRC WILL ALSO BE CALCULATED, SAVED, AND IF REQUIRED,
APPENDED TO END OF DATA IF PARAMETER 'DOCRC' SO INDICATES.

A. CLEAR RECEIVE BUFFER RBUF
B. LOAD TRANSMIT BUFFER TBUF (DEST. ADDRESS,SOURCE ADDRESS,DATA)
C. CALCULATE CRC IF CRC FLAG SET

INPUTS:          DOCRC = 0 THEN NO CRC CALCULATION
                  1 THEN CALCULATE CRC, SAVE, AND APPEND
                  -1 THEN CALCULATE CRC, SAVE, DO NOT APPEND

                  R2 = number of data bytes

IMPLICIT INPUTS:
                  DEST: = DESTINATION ADDRESS

OUTPUTS:         RBUF IS CLEARED
                  TBUF IS SET UP FOR TRANSMIT
                  R3,R4 AND ALSO 'XCRC' CONTAIN
                  CRC IF 'DOCRC' WAS SET.

PARAMETERS MODIFIED: 'DOCRC' WILL ALWAYS BE CLEARED ON EXIT
                     R3,R4 MODIFIED IF 'DOCRC' SET.

CALLING SEQUENCE:
                  INSURE 'DOCRC' FLAG CONTAINS CORRECT DATA

                  JSR    PC,SETBF
*****

SETBF:
      MOV     R0,-(SP)          ;SAVE R0
      MOV     R1,-(SP)          ;SAVE R1
      MOV     R3,-(SP)          ;SAVE R3
      MOV     R4,-(SP)          ;SAVE R4
      MOV     R5,-(SP)          ;SAVE R5

;CLEAR 'RBUF' 30. WORDS

      MOV     #RBUF,R3          ;POINT TO RBUF
      MOV     #30.,R0           ;COUNT = 60 BYTES
10$:  CLR     (R3)+              ;CLEAR BUFFER
      DEC     R0                ;DONE?
      BNE    10$               ;NO

;SET UP TRANSMIT BUFFER 'TBUF'
;LOAD DESTINATION ADDRESS

      MOV     #SRC,R5           ;POINT TO DESTINATION ADDRESS
      MOV     #TBUF,R3         ;POINT TO TBUF

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4653 034460 012523          MOV      (R5)+,(R3)+      ;LOAD DESTINATION ADDRESS
4654 034462 012523          MOV      (R5)+,(R3)+      ;
4655 034464 012523          MOV      (R5)+,(R3)+      ;
4656
4657          ;LOAD SOURCE ADDRESS
4658
4659 034466 012705 002266    MOV      #SRC,R5          ;LOAD FOR LATER COMPARISON
4660 034472 012523          MOV      (R5)+,(R3)+      ;
4661 034474 012523          MOV      (R5)+,(R3)+      ;
4662 034476 012523          MOV      (R5)+,(R3)+      ;
4663
4664          ;SET TYPE FIELD
4665
4666 034500 012723 002540    MOV      #2540,(R3)+      ;TYPE FIELD = DIAGNOSTICS
4667
4668          ;LOAD DATA FIELD
4669
4670 034504 010200          MOV      R2,R0            ;NUMBER OF WORDS
4671 034506 012705 020630    MOV      #PATRN1,R5       ;POINT TO DATA PATTERN
4672 034512 012523          20$: MOV      (R5)+,(R3)+   ;LOAD DATA PATTERN
4673 034514 005300          DEC      R0                ;DONE?
4674 034516 001375          BNE     20$                ;NO
4675
4676          ;CALCULATE CRC AND SAVE IN 'XCRC'
4677
4678 034520 010146          MOV      R1,-(SP)         ;SAVE R1
4679 034522 010246          MOV      R2,-(SP)         ;SAVE R2
4680 034524 010346          MOV      R3,-(SP)         ;SAVE R3
4681 034526 006302          ASL     R2                ;MULTIPLY BY 2 FOR BYTES
4682 034530 062702 000020    ADD     #16,R2            ;ADD HEADER
4683 034534 012701 004440    MOV      #TBUF,R1         ;BASE ADDR OF TRANSMIT BUFFER
4684 034540 012703 177777    MOV      #-1,R3           ;INIT CRC
4685 034544 012704 177777    MOV      #-1,R4           ;INIT CRC
4686 034550 004737 030644    JSR     PC,BLKCRC         ;CALCULATE AND SAVE CRC
4687 034554 012603          MOV      (SP)+,R3         ;RESTORE R3
4688 034556 012602          MOV      (SP)+,R2         ;RESTORE R2
4689 034560 012601          MOV      (SP)+,R1         ;RESTORE R1
4690
4691          ;IF CRC FLAG SET, APPEND CRC
4692
4693 034562 005737 020564    TST     DOCRC             ;GENERATE CRC?
4694 034566 001402          BEQ     30$              ;NO, SKIP CRC GENERATION
4695 034570 010423          MOV      R4,(R3)+        ;APPEND CRC LOW WORD
4696 034572 010313          MOV      R3,(R3)         ;APPEND CRC HIGH WORD
4697 034574
4698 034574 012605          30$: MOV      (SP)+,R5        ;RESTORE R5
4699 034576 012604          MOV      (SP)+,R4        ;RESTORE R4
4700 034600 012603          MOV      (SP)+,R3        ;RESTORE R3
4701 034602 012601          MOV      (SP)+,R1        ;RESTORE R1
4702 034604 012600          MOV      (SP)+,R0        ;RESTORE R0
4703 034606 000207          RTS     PC                ;RETURN TO CALLING ROUTINE
4704

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4706 ;*****
4707 ;
4708 ; SUBROUTINE PNTID
4709 ;
4710 ; PRINTS THE NAME OF EACH TEST THAT IS RUN, IF PRINT FLAG
4711 ; SET, AND IS 1ST LOOP THROUGH TEST.
4712 ;
4713 ; INPUTS: R4 = POINTER TO TEST NAME MESSAGE
4714 ;
4715 ; OUTPUT: IF PRINT FLAG SET, TEST NAME WILL BE PRINTED
4716 ;
4717 ; CALL: MOV #MSGNO,R4 ;GET ADDRESS OF MESSAGE
4718 ; JSR PC,PNTID ;PRINT TEST NAME
4719 ;
4720 ;*****
4721
4722 034610 PNTID:
4723 034610 005737 020622 TST PRNTIT ;PRINT THE TEST NAME?
4724 034614 001412 BEQ 10$ ;NO
4725 034616 010400 MOV R4,R0 ;SETUP FOR PRINT
4726 034620 PRINTF #TSTFMT,R0 ;PRINT TEST NAME
;
; MOV RO,-(SP)
; MOV #TSTFMT,-(SP)
; MOV #2,-(SP)
; MOV SP,R0
; TRAP C$PNTF
; ADD #6,SP
;
4727 034642 10$:
4728 034642 000207 RTS PC ;RETURN TO CALLING PROGRAM
4729
4730 034644 045 123 045 TSTFMT:.ASCIZ '#S#T#A TEST '
;
; 034647 124 045 101
; 034652 040 124 105
; 034655 123 124 040
; 034660 040 000
;
4731
4732 .EVEN
4733
4734

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4736 *****
4737 :
4738 : SUBROUTINE - SETBUF
4739 :
4740 : THIS ROUTINE SETS UP THE TRANSMIT AND RECEIVE BUFFERS. THE
4741 : NUMBER OF BYTES IN A PACKET IS DETERMINED BY THE CONTENTS
4742 : PASSED IN 'BYTCNT'. IN ANY CASE, A PACKET LENGHT WILL BE NO
4743 : MORE THAN 32 BYTES, OR 36 INCLUDING CRC IF 'DOCRC' SET.
4744 :
4745 :
4746 : A. LOAD TRANSMIT BUFFER TBUF (DEST. ADDR,SOURCE ADDR,TYPE,DATA)
4747 : B. APPEND CRC IF 'DOCRC' FLAG SET
4748 :
4749 : INPUTS: DOCRC = 0 THEN NO CRC
4750 : 1 THEN CALCULATE CRC AND APPEND
4751 : BYTCNT= # OF DATA BYTES IN PACKET
4752 :
4753 : IMPLICIT INPUTS:
4754 : SRC: = SOURCE ADDRESS
4755 : DEST: = DESTINATION ADDRESS
4756 :
4757 : OUTPUTS:
4758 : TBUF IS SET UP FOR TRANSMIT
4759 :
4760 : PARAMETERS MODIFIED: 'DOCRC' WILL ALWAYS BE CLEARED ON EXIT
4761 :
4762 : CALLING SEQUENCE:
4763 : INSURE 'DOCRC' FLAG CONTAINS CORRECT DATA
4764 :
4765 : MOV #Z,BYTCNT ;NUMBER OF BYTES THIS PACKET
4766 : JSR PC,SETBUF
4767 :
4768 *****
4769 :
4770 SETBUF:
4771 MOV R0,-(SP) ; SAVE R0
4772 MOV R1,-(SP) ; SAVE R1
4773 MOV R2,-(SP) ; SAVE R2
4774 MOV R3,-(SP) ; SAVE R3
4775 MOV R4,-(SP) ; SAVE R4
4776 MOV R5,-(SP) ; SAVE R5
4777 :
4778 ;SET UP TRANSMIT BUFFER TBUF
4779 ;LOAD DESTINATION ADDRESS
4780 :
4781 MOV #DEST,R5 ; POINT TO DESTINATION ADDRESS
4782 MOV #TBUF,R1 ; POINT TO TBUF
4783 MOV (R5)+,(R1)+ ; LOAD DESTINATION ADDRESS
4784 MOV (R5)+,(R1)+
4785 MOV (R5)+,(R1)+
4786 :
4787 ;LOAD SOURCE ADDRESS
4788 :
4789 MOV #SRC,R5 ; LOAD FOR LATER COMPARISON
4790 MOV (R5)+,(R1)+
4791 MOV (R5)+,(R1)+
4792 MOV (R5)+,(R1)+

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4800 034732 013700 020562
4801 034736 012705 020630
4802 034742 012521
4803 034744 005300
4804 034746 002375
4805
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4808 034750 010146
4809 034752 010246
4810 034754 013702 020562
4811 034760 006302
4812 034762 005737 020564
4813 034766 001003
4814 034770 062702 000016
4815 034774 000402
4816 034776 062702 000020
4817 035002 012701 004440
4818 035006 012703 177777
4819 035012 012704 177777
4820 035016 004737 030644
4821 035022 012602
4822 035024 012601
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4826 035026 005737 020564
4827 035032 001402
4828 035034 010421
4829 035036 010321
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4832 035040
4833 035040 005037 020564
4834
4835 035044 012605
4836 035046 012604
4837 035050 012603
4838 035052 012602
4839 035054 012601
4840 035056 012600
4841 035060 000207

;SET TYPE FIELD
MOV #2540,(R1)+ ; ENTER DIAGNOSTIC ID IN TYPE FIELD

;LOAD DATA FIELD (LENGTH DEPENDENT ON CONTENTS OF 'BYTCNT')
MOV BYTCNT,R0 ; BYTE COUNT
MOV #PATRN1,R5 ; POINT TO DATA PATTERN
20$: MOV (R5)+,(R1)+ ; LOAD DATA PATTERN
DEC R0 ; DONE ?
BGE 20$ ; NO

;CALCULATE CRC AND SAVE IN 'XCRC'
MOV R1,-(SP) ; SAVE R1
MOV R2,-(SP) ; SAVE R2
MOV BYTCNT,R2 ; GET DATA BYTE COUNT
ASL R2 ; ALIGN
TST DOCRC ; ADD CRC TO PACKET?
BNE 22$ ; YES
ADD #14.,R2 ; NO
BR 25$ ; SKIP NO ADD CRC DATA
22$: ADD #16.,R2 ; WILL ADD CRC TO PACKET
25$: MOV #TBUF,R1 ; BASE ADDR OF TRANSMIT BUFFER
MOV #-1,R3 ; INIT CRC
MOV #-1,R4 ; INIT CRC
JSR PC,BLKCRC ; CALCULATE AND SAVE CRC
MOV (SP)+,R2 ; RESTORE R2
MOV (SP)+,R1 ; RESTORE R1

;IF CRC FLAG SET, APPEND CRC, THEN SAVE EXPECTED CRC IN 'XCRC' TABLE
TST DOCRC ;APPEND CRC?
BEQ 30$ ;NO, SKIP APPENDING CRC
MOV R4,(R1)+ ;APPEND CRC LOW WORD
MOV R3,(R1)+ ;APPEND CRC HIGH WORD

30$: CLR DOCRC ;INSURE CRC FLAG IS CLEARED

MOV (SP)+,R5 ; RESTORE R5
MOV (SP)+,R4 ; RESTORE R4
MOV (SP)+,R3 ; RESTORE R3
MOV (SP)+,R2 ; RESTORE R2
MOV (SP)+,R1 ; RESTORE R1
MOV (SP)+,R0 ; RESTORE R0
RTS PC ; AND RESTORE

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4843 *****
4844 :
4845 :       SUBROUTINE - SRCDST
4846 :
4847 :       THIS SUBROUTINE WILL INDEPENDENTLY, LOAD BOTH TABLES
4848 :       'SRC' AND 'DEST' WITH PHYSICAL ADDRESSES OBTAINED FROM
4849 :       TABLE ADDRESSES PASSED TO THIS ROUTINE.
4850 :
4851 :       INPUT - R1 - CONTAINS ADDRESS OF TABLE TO LOAD INTO 'SRC'
4852 :              R2 - CONTAINS ADDRESS OF TABLE TO LOAD INTO 'DEST'
4853 :
4854 :       OUTPUT - NONE
4855 :
4856 :       PARAMETERS MODIFIED - TABLES 'SRC' AND 'DEST' MAY BE CHANGED
4857 :
4858 :       CALLING SEQUENCE - MOV #----,R1      ; ADDR. OF TABLE TO LOAD 'SRC'
4859 :                        MOV #----,R2      ; ADDR. OF TABLE TO LOAD 'DEST'
4860 :                        JSR PC,SRCDST     ; LOAD ADDRESS TABLES
4861 :
4862 : *****
4863 :
4864 035062 SRCDST:
4865 035062      MOV    R0,-(SP)                ;SAVE R0
4866 035064      MOV    R1,-(SP)                ;SAVE R1
4867 035066      MOV    R2,-(SP)                ;SAVE R2
4868 035070      MOV    R4,-(SP)                ;SAVE R4
4869 035072      MOV    R5,-(SP)                ;SAVE R5
4870
4871 035074      MOV    #SRC,R4                ;GET BASE ADDR. OF TABLE 'SRC'
4872 035100      MOV    #DEST,R5              ;GET BASE ADDR. OF TABLE 'DEST'
4873 035104      MOV    #3,R0                  ;INIT COUNTER
4874
4875 035110      1$:  MOV    (R1)+,(R4)+        ;LOAD BOTH
4876 035112      MOV    (R2)+,(R5)+        ; ADDRESS TABLES
4877 035114      SOB    R0,1$              ;UNTIL DONE
4878
4879 035116      MOV    (SP)+,R5              ;RESTORE R5
4880 035120      MOV    (SP)+,R4              ;RESTORE R4
4881 035122      MOV    (SP)+,R2              ;RESTORE R2
4882 035124      MOV    (SP)+,R1              ;RESTORE R1
4883 035126      MOV    (SP)+,R0              ;RESTORE R0
4884
4885 035130      RTS    PC

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 4909 035132 010246
 4910 035134 010502
 4911 035136 004737 033656
 4912 035142 012705 017676
 4913 035146 012700 000005
 4914 035152 004737 034134
 4915 035156 022712 000021
 4916 035162 001404
 4917 035164 012737 010442 002314
 4918 035172 000403
 4919 035174 012737 004440 002314 1\$:
 4920 035202 011337 002320 2\$:
 4921 035206 005737 020610
 4922 035212 001006
 4923 035214 022713 176000
 4924 035220 001006
 4925 035222 005237 020610
 4926 035226 000403
 4927 035230 012737 000001 002322 3\$:
 4928 035236 022701 000001 4\$:
 4929 035242 001003
 4930 035244 012737 001200 002312 5\$:
 4931 035252
 4932 035252 012602
 4933 035254 000207
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*****
:
: Subroutine - SRWRAM
:
: THIS SUBROUTINE SETS UP FOR EITHER A LOAD OR A DUMP
: OF A 1K SEGMENT OF INTERNAL RAM. LOAD OR DUMP FUNCTION
: IS DETERMINED BY VALUE PASSED IN R5.
:
: INPUTS: R5 - IF R5 = 20 THEN DUMP MEMORY
:           IF R5 = 21 THEN LOAD MEMORY
:           R1 - CONTAINS NUMBER OF 1K RAM BLOCKS TO ACCESS
:           R3 - CONTAINS BASE ADDR OF 1K RAM TO R/W
:
: OUTPUTS: NONE
:
: CALLING SEQUENCE:      MOV FUNCTION#,R5      ;GET VALUE OF FUNCTION
:                       JSR PC,SRWRAM         ;EXECUTE
*****
    
```

```

SRWRAM:
MOV R2,-(SP)      ;SAVE R2
MOV R5,R2        ;SAVE R5
JSR PC,LDPCBB    ;LOAD FUNCTION -> PCBB (USES R5)
MOV #UDB11A,R5   ;DEFAULT UDBB
MOV #5,R0        ;FOUR WORDS
JSR PC,LDUDBB    ;LOAD INTO UDBB
CMP #21,(R2)     ;IS THIS A LOAD MEMORY?
BEQ 1$           ;YES
MOV #RBUF,UDBB+2 ;THIS IS A READ MEMORY
BR 2$           ;SKIP SETTING FOR TBUF
MOV #TBUF,UDBB+2 ;THIS IS A LOAD MEMORY
MOV (R3),UDBB+6  ;LOAD LINK ADDR -> UDBB+6
TST EAFLAG      ;NEED TO SET EXT ADDR BITS?
BNE 3$          ;YES
CMP #176000,(R3) ;TIME TO SET 'EAFLAG'?
BNE 4$          ;NO
INC EAFLAG      ;YES
BR 4$           ;BUT, ONLY NEXT TIME
MOV #1,UDBB+10  ;EXT ADDRESS BIT
CMP #1,R1       ;IS THIS LAST 1K?
BNE 5$          ;NO
MOV #1200,UDBB  ;YES, ONLY READ 1200(8) WORDS
MOV (SP)+,R2    ;RESTORE R3
RTS PC          ;RETURN TO CALLING PROGRAM
    
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035256
 035256 005077 144766
 035262
 035262 012700 000340
 035266 104441
 035270 000207
 035272
 035272 012700 000240
 035276 104441
 035300 012777 000100 144742
 035306 000207

```

*****
:
:   THIS ROUTINE TURNS THE CLOCK OFF
:
:   INPUT:  NONE
:
:   OUTPUT: NONE, ON EXIT SUBROUTINE, CLOCK IS OFF
:
:   CALL:   JSR   PC,TIMOFF
:
*****
    
```

```

TIMOFF:
    CLR   @CLKCSR           ;CLEAR THE INTERRUPT ENABLE
    SETPRI #PRI07          ;UP THE PRIORITY
                                MOV   #PRI07,R0
                                TRAP  C$SPRI
    RTS   PC                ;RETURN TO CALLING ROUTINE
    
```

```

*****
:
:   THIS SUBROUTINE TURNS ON THE CLOCK
:
:   INPUT:  NONE
:
:   OUTPUT: NONE,ON SUBROUTINE EXIT, CLOCK IS ON
:
:   CALL:   JSR   PC,TIMON
:
*****
    
```

```

TIMON:
    SETPRI #PRI05          ;SET PROCESSOR PRIORITY TO 5
                                MOV   #PRI05,R0
                                TRAP  C$SPRI
    MOV   #IE,@CLKCSR      ;ENABLE CLOCK INTERRUPTS
    RTS   PC                ;RETURN TO CALLING ROUTINE
    
```

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 4992
 4993 035310
 4994 035310 010446
 4995 035312 017704 144710
 4996 035316 004737 032402
 4997 035322 032704 001400
 4998
 4999 035326 001401
 5000 035330 000414
 5001 035332
 5002 035332 017704 144670
 5003 035336 001011
 5004 035340 017704 144664
 5005 035344 042704 177770
 5006 035350 022704 000002
 5007 035354 001002
 5008
 5009 035356 000241
 5010 035360 000401
 5011
 5012 035362 000261
 5013 035364
 5014 035364 012604
 5015 035366 000207
 5016
 5017
 5018

```

*****
SUBROUTINE - TINIT
THIS SUBROUTINE IS CALLED TO DETERMINE IF A DEVICE RESET
IS REQUIRED BEFORE CONTINUING.
INPUTS:          NONE
OUTPUTS:         IF A DEVICE RESET IS NOT REQUIRED
                  THEN CARRY = 0
                  IF A DEVICE RESET IS REQUIRED
                  THEN CARRY = 1
CALLING SEQUENCE:
                  JSR    PC,TINIT
*****

TINIT:
MOV    R4,-(SP)          ; SAVE R4
MOV    @PCSR0,R4        ; SAVE CONTENTS OF PCSRO          ;BO
JSR    PC,CLINTR        ; ATTEMPT TO CLEAR PCSRO
BIT    #FATL!USCI,R4    ; NI AND/OR UNIBUS HALTED, OR HAVE
                        ; ERROR          ;BO
BEQ    5$               ; NO          ;BO
BR     10$              ; YES,GO SET CARRY BIT          ;BO

5$:
MOV    @PCSR0,R4        ; PCSRO = 0 ?
BNE    10$              ; NO, A RESET IS REQUIRED
MOV    @PCSR1,R4        ; PCSR1 -> R4
BIC    #SMASK,R4        ; MASK DELUA STATE
CMP    #READY,R4        ; STATE = READY ?
BNE    10$              ; NO, A RESET IS REQUIRED

CLC                                ; NO RESET REQUIRED, CLEAR CARRY
BR     20$

10$:
SEC                                ; A RESET IS REQUIRED, SET CARRY

20$:
MOV    (SP)+,R4          ; RESTORE R4
RTS    PC                ; AND RETURN
    
```

K11

```
5031 .TITLE MISCELLANEOUS SECTIONS
5032 .SBTTL REPORT CODING SECTION
5053
5054
5055
5056 ;++
5057 ; THE REPORT CODING SECTION CONTAINS THE
5058 ; "PRINTS" CALLS THAT GENERATE STATISTICAL REPORTS.
5059 ;--
5060
5061 035370 BGNRPT
5062 035370
5063
5064 035370 EXIT RPT
5065 035370 000167 .WORD J$JMP
5066 035372 000000 .WORD L10015-2-.
5067
5068 .EVEN
5069 035374 ENDRPT
5070 035374
5071 035374 104425 L10015: TRAP C$RPT
```

```
5071          .SBTTL  PROTECTION TABLE
5072
5073          ;++
5074          ; THIS TABLE IS USED BY THE RUNTIME SERVICES
5075          ; TO PROTECT THE LOAD MEDIA.
5076          ;--
5077
5078 035376          BGNPROT
5079 035376
5080 035376 177777          L$PROT::
5081 035400 177777          -1          ;OFFSET INTO P-TABLE FOR CSR ADDRESS
5082 035402 177777          -1          ;OFFSET INTO P-TABLE FOR MASSBUS ADDRESS
5083
5084 035404          -1          ;OFFSET INTO P-TABLE FOR DRIVE NUMBER
5085          ENDPROT
```

INITIALIZE SECTION

```

5087          .SBTTL  INITIALIZE SECTION
5088
5089          ;++
5090          ; THE INITIALIZE SECTION CONTAINS THE CODING THAT IS PERFORMED
5091          ; AT THE BEGINNING OF EACH PASS.
5092          ;--
5093
5094          035404          BGNINIT
5095          035404          L$INIT::
5096          035404 005037 020612          CLR      DNIFLG          ;INIT EXPECT DNI FLAG
5097          035410          READEF #EF.CONTINUE          ;WAS A CONTINUE COMMAND ENTERED?
5098          035410 012700 000036          MOV      #EF.CONTINUE,R0
5099          035414 104447          TRAP     C$REFG
5100          035416          BNCOMPLETE          1$          ;NO, CONTINUE CHECK OF FLAGS
5101          035416 103002          BCC      1$
5102          035420 000137 036140          JMP      60$          ;YES, LEAVE INIT CODE
5103          035424          READEF #EF.PWR          ;WAS THERE A POWER FAILURE?
5104          035424 012700 000034          MOV      #EF.PWR,R0
5105          035430 104447          TRAP     C$REFG
5106          035432          BNCOMPLETE          3$          ;NO
5107          035432 103007          BCC      3$
5108
5109          ; DELAY A PERIOD OF TIME (APPROX 25 SECS ) FOR SELF TEST TO FINISH
5110
5111          035434 012701 000150          MOV      #150,R1          ;INIT OUTER LOOP
5112          035440 005000          CLR      R0          ;INIT INNER LOOP
5113          035442 005300          2$: DEC     R0
5114          035444 001376          BNE     2$
5115          035446 005301          DEC     R1
5116          035450 001374          BNE     2$
5117          035452          3$: READEF #EF.NEW          ;NEW PASS ?
5118          035452 012700 000035          MOV      #EF.NEW,R0
5119          035456 104447          TRAP     C$REFG
5120          035460          BNCOMPLETE          15$          ;NO
5121          035460 103065          BCC      15$
5122          035462          READEF #EF.START          ;START ?
5123          035462 012700 000040          MOV      #EF.START,R0
5124          035466 104447          TRAP     C$REFG
5125          035470          BNCOMPLETE          5$          ;NO
5126          035470 103054          BCC      5$
5127          035472 000005          RESET          ;CLEAR THE WORLD
5128          035474 005237 020612          INC     DNIFLG          ;SET TO EXPECT RESULTING DNI
5129          035500 012737 000001 020614          MOV     #1,FRSTIM          ;SET FIRST TIME FLAG
5130          035506          CLOCK L,R1          ;GET LINE CLOCK INFO
5131          035506 012700 000114          MOV     #'L,R0
5132          035512 104462          TRAP     C$CLCK
5133          035514 010001          MOV     R0,R1
5134          035516          BCOMPLETE          4$
5135          035516 103412          BCS     4$
5136          035520          PRINTF #NOCLK          ;ERROR MESSAGE
5137          035520 012746 023234          MOV     #NOCLK,-(SP)
5138          035524 012746 000001          MOV     #1,-(SP)
5139          035530 010600          MOV     SP,R0
5140          035532 104417          TRAP     C$PNTF
5141          035534 062706 000004          ADD     #4,SP
5142          035540          JMP      50$          ;CANNOT CONTINUE

```

```

5122 035544 012137 002250      4$:  MOV      (R1)+,CLKCSR      ;LINE CLOCK CSR
5123 035550 012102              MOV      (R1)+,R2        ;SET CLOCK PRIORITY
5124 035552 072227 000005      ASH      #5,R2
5125 035556 010237 002252      MOV      R2,CLKBR
5126 035562 012137 002254      MOV      (R1)+,CLKVEC    ;VECTOR
5127 035566 012137 002256      MOV      (R1)+,CLKFRE    ;FREQUENCY
5128 035572              SETVEC  CLKVEC,#CLKSRV,CLKBR ;SETUP CLOCK INTERRUPT VECTOR
                    MOV      CLKBR,-(SP)
                    MOV      #CLKSRV,-(SP)
                    MOV      CLKVEC,-(SP)
                    MOV      #3,-(SP)
                    TRAP    C$SVEC
                    ADD     #10,SP
5129 035620 000402              BR       10$
5130
5131 035622 005037 020614      5$:  CLR      FRSTIM          ;CLEAR FIRST TIME FLAG
5132 035626 012737 177777 002246 10$:  MOV      #-1,UNIT       ;YES, INITIALIZE UNIT NUMBER
5133 035634 005237 002246      15$:  INC      UNIT           ;SET UP FOR NEXT UNIT
5134 035640 023737 002246 002012  CMP      UNIT,L$UNIT    ;TESTED ALL AVAILABLE UNITS?
5135 035646 003132              BGT     50$            ;YES, LEAVE
5136 035650              GPHARD  UNIT,R1        ;GET P-TABLE POINTER FOR THIS UNIT
                    MOV      UNIT,RO
                    TRAP    C$GPHRD
                    MOV      RO,R1
5137 035660              BNCOMPLETE 15$        ;THIS ONE IS NOT AVAILABLE
                    BCC     15$
5138 035662 012137 002226      MOV      (R1)+,PCSR0     ;SAVE PCSRO
5139 035666 012137 002242      MOV      (R1)+,INTVEC    ;SAVE VECTOR
5140 035672 013737 002226 002236  MOV      PCSRO,PCSR0UB   ;SET UP ADDRESS OF UPPER BYTE OF PCSRO
5141 035700 062737 000001 002236  ADD      #1,PCSR0UB
5142 035706 013737 002226 002230  MOV      PCSRO,PCSR1     ;SET UP PCSR1
5143 035714 062737 000002 002230  ADD      #2,PCSR1
5144 035722 013737 002230 002232  MOV      PCSR1,PCSR2     ;SET UP PCSR2
5145 035730 062737 000002 002232  ADD      #2,PCSR2
5146 035736 013737 002232 002234  MOV      PCSR2,PCSR3     ;SET UP PCSR3
5147 035744 062737 000002 002234  ADD      #2,PCSR3
5148
5149              ;WAIT FOR DNI FROM PREVIOUS RESET IF APPROPRIATE
5150
5151 035752 005737 020612      TST     DNIFLG          ;EXPECTING DNI TO BE SET?
5152 035756 001470              BEQ     60$            ;NO, SKIP DNI HANDLING
5153 035760 004737 030706      JSR     PC,CHKDNI       ;WAIT FOR DNI
5154 035764 103046              BCC     30$            ;DNI?
5155
5156              ;PCSR0 NOT IN RESET STATE, CHECK STATUS
5157
5158 035766 017700 144234      MOV     @PCSR0,RO       ;SAVE CONTENTS OF PCSRO
5159 035772 032700 001400      BIT     #USCI!FATL,RO   ;UPROC. SUBSYSTEM FAILURE?
5160 035776 001011              BNE     22$            ;NO
5161 036000              PRINTF #M68FLD         ;YES, ISSUE ERROR MESSAGE
                    MOV     #M68FLD,-(SP)
                    MOV     #1,-(SP)
                    MOV     SP,RO
                    TRAP   C$PNTF
                    ADD    #4,SP
5162 036020 000445              BR     50$            ;CANNOT CONTINUE
5163 036022 032700 001000      22$:  BIT     #FATL,RO       ;DEVICE OR UNIBUS ERROR?

```



```

5164 036026 001411          BEQ      24$
5165 036030          PRINTF  #DEVUNI          ;NO
          012746 023404          ;YES, REPORT ERROR
          036034 012746 000001          MOV      #DEVUNI,-(SP)
          036040 010600          MOV      #1,-(SP)
          036042 104417          MOV      SP,RO
          036044 062706 000004          TRAP    C$PNTF
          5166 036050 000431          ADD      #4,SP
          5167 036052 032700 000400 24$: BR      50$          ;CANNOT CONTINUE
          5168 036056 001426          BIT      #USCI,RO          ;NI OR UNIBUS HALTED?
          5169 036060          BEQ      50$          ;NO
          036060 012746 023502          PRINTF  #NIUNIB          ;YES, REPORT ERROR
          036064 012746 000001          MOV      #NIUNIB,-(SP)
          036070 010600          MOV      #1,-(SP)
          036072 104417          MOV      SP,RO
          036074 062706 000004          TRAP    C$PNTF
          5170 036100 000415          ADD      #4,SP
          5171          BR      50$          ;CANNOT CONTINUE
          5172          ;DNI SET, SO CONTINUE
          5173          30$:
          5174 036102          JSR      PC,CLRDNI          ;YES, CLEAR IT
          5175 036102 004737 032320          BCC     40$          ;CONTINUE IF DNI CLEARED
          5176 036106 103011          PRINTF  #DNICLR          ; ELSE ISSUE ERROR MESSAGE
          5177 036110          MOV      #DNICLR,-(SP)
          036110 012746 023671          MOV      #1,-(SP)
          036114 012746 000001          MOV      SP,RO
          036120 010600          MOV      C$PNTF
          036122 104417          TRAP    #4,SP
          036124 062706 000004          ADD      #4,SP
          5178 036130 000401          BR      50$          ; AND EXIT
          5179 036132 000402          BR      60$          ;LEAVE
          5180 036134 005037 020614 40$: CLR      FRSTIM          ;CLEAR FIRST TIME FLAG
          5181          50$:
          5182 036140 005037 020612 60$: CLR      DNIFLG          ;CLEAR EXPECT DNI FLAG
          5183 036144 005037 020622          CLR      PRNTIT          ;CLEAR PRINT TEST ID FLAG
          5184 036150          RFLAGS  RO          ;READ FLAGS
          036150 104421          TRAP    C$RFLA
          5185 036152 032700 001000          BIT      #PNT,RO          ;PRINT ENABLED?
          5186 036156 001403          BEQ      70$          ;NO, DON'T SET PRINT TEST ID FLAG
          5187 036160 012737 000001 020622 MOV      #1,PRNTIT          ;YES, SET FLAG
          5188 036166          70$:
          5189 036166          ENDINIT
          036166 104411          L10017: TRAP    C$INIT
5190
  
```

C12

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5199

.SBTTL AUTODROP SECTION

;++
: THIS CODE IS EXECUTED IMMEDIATELY AFTER THE INITIALIZE CODE IF
: THE "ADR" FLAG WAS SET. THE UNIT(S) UNDER TEST ARE CHECKED TO
: SEE IF THEY WILL RESPOND. THOSE THAT DON'T ARE IMMEDIATELY
: DROPPED FROM TESTING.
:--

5200
5201 036170
036170

BGNAUTO

L\$AUTO::

5202
5203
5204 036170
036170
036170 104461

ENDAUTO

L10020: TRAP C\$AUTO

D12

```

5206      .SBTTL  CLEANUP CODING SECTION
5207
5208      ;**
5209      ;
5210      ; DELUA IS RESET BEFORE EXITING TEST             ;BO
5211      ;
5212      ;--
5213
5214      036172      BGNCLN
5215      036172      010246      MOV      R2,-(SP)      ;SAVE R2      L$CLEAN::
5216
5217      ;INSURE THAT UNIT IS PRESENT
5218
5219      036174      SETVEC  #4,#ISRNXM,#PRI07      ;SET UP TIMEOUT TRAP VECTOR
5219      036174      012746      000340      MOV      #PRI07,-(SP)
5219      036200      012746      036356      MOV      #ISRNXM,-(SP)
5219      036204      012746      000004      MOV      #4,-(SP)
5219      036210      012746      000003      MOV      #3,-(SP)
5219      036214      104437      TRAP    C$SVEC
5219      036216      062706      000010      ADD     #10,SP
5219      036222      005037      020606      CLR     NEXMEM      ;CLEAR NON-EXISTING MEMORY TIME
5220
5221
5222      036226      005002      CLR     R2      ; OUT LOCATION
5223      036230      012777      004000      143770      MOV     #4000,@PCSR0      ;R2=PCSR BEING ACCESSED
5224      036236      005737      020606      TST    NEXMEM      ;DOES PCSRO
5225      036242      001031      BNE    10$      ; EXIST?
5226      036244      CLRVEC  #4      ;NO, SKIP RESET
5226      036244      012700      000004      ;CLEAR TIMEOUT TRAP VECTOR
5226      036250      104436      MOV     #4,R0
5227      036252      017704      143750      TRAP   C$CVEC
5228      036256      004737      032402      MOV     @PCSR0,R4      ;READ AND SAVE CONTENTS OF PCSRO ;BO
5229      036262      032704      001400      JSR    PC,CLINTR      ;ATTEMPT TO CLEAR PCSRO      .BO
5230
5231      036266      001006      BIT    #FATL!USCI,R4      ;NI AND/OR UNIBUS HALTED OR HAVE
5232      036270      012777      000000      143730      BNE    5$      ; AN ERROR?      ;BO
5233      036276      017704      143724      MOV     #ZERO,@PCSR0      ;YES, PERFORM A RESET      ;BO
5234      036302      001411      MOV     @PCSR0,R4      ;PCSR0 SHOULD NOW BE CLEARED      ;BO
5235      036304      BEQ    10$      ;CHECK IT      ;BO
5236      036304      012777      004400      143714      5$:    MOV     #DNI!USCI,@PCSR0      ;PRE-CONDITION INTERRUPT ENABLE ;BO
5237      036312      012777      004040      143706      MOV     #DNI!RSET,@PCSR0      ;YES, RESET DELUA      ;BO
5238      036320      004737      032034      JSR    PC,CKDNI      ;WAIT FOR DONE INTERRUPT TO SET ;BO
5239      036324      000403      BR     20$      ;EXIT CLEANUP
5240      036326      10$:    CLRVEC  #4      ;CLEAR TIMEOUT TRAP VECTOR
5241      036326      012700      000004      MOV     #4,R0
5241      036332      104436      TRAP   C$CVEC
5242      036334      20$:    EXIT    CLN
5243      036334      104432      TRAP   C$EXIT
5243      036336      000002      .WORD  L10021-.
5244
5245      036340      .EVEN
5245      036340      ENDCLN
5245      036340      104412      L10021: TRAP    C$CLEAN

```

E12

```
5247          .SBTTL  DROP UNIT SECTION
5248
5249
5250          ;**
5251          ; THE DROP-UNIT SECTION CONTAINS THE CODING THAT CAUSES A DEVICE
5252          ; TO NO LONGER BE TESTED.
5253          ;--
5254 036342          BGNDU
5255          036342          L$DU::
5256
5257 036342          EXIT  DU
5258          036342 000167          .WORD  J$JMP
5259          036344 000000          .WORD  L10022-2-.
5260
5261          .EVEN
5262 036346          ENDDU
5263          036346          L10022: TRAP  C$DU
5264          036346 104453
```

F12

```
5264          .SBTTL  ADD UNIT SECTION
5265
5266          ;++
5267          ; THE ADD-UNIT SECTION CONTAINS ANY CODE THE PROGRAMMER WISHES
5268          ; TO BE EXECUTED IN CONJUNCTION WITH THE ADDING OF A UNIT BACK
5269          ; TO THE TEST CYCLE.
5270          ;--
5271
5272 036350      BGNAU
5273          L$AU::
5274          036350
5275 036350      EXIT  AU
5276          036350 000167      .WORD  J$JMP
5277          036352 000000      .WORD  L10023-2-.
5278
5279          .EVEN
5280 036354      ENDAU
5281          036354      L10023: TRAP  C$AU
5282          036354 104452
```

ADD UNIT SECTION

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5298
5299

036356
036356 012737 000001 020606
036364
036364 000002

```

.TITLE GLOBAL INTERRUPT SERVICE ROUTINES
.SBTTL ISRNXM - NON-EXISTANT MEMORY INTERRUPT SERVICE ROUTINE
;*****
;
; FUNCTIONAL DESCRIPTION:
;
;   THIS ROUTINE IS ASSIGNED TO VECTOR 4 BY THE ACCESS TESTS.
;   WHEN AN ACCESS IS ATTEMPTED ON NON-EXISTENT MEMORY
;   THE NEXMEM FLAG IS SET.
;*****
BGNSRV ISRNXM
MOV #1,NEXMEM ;SET NXM FLAG ISRNXM::
ENDSRV
L10024:
RTI

```

5301
5302
5303
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5324
5325

036366
036366
010446
036370 005037 020612
036374 005004
036376 017704 143624
036402 032704 004000
036406 001403
036410 012737 000001 020612
036416 012604
036420
036420
036420 000002

.SBTTL ISRDN I - DNI INTERRUPT SERVICE ROUTINE

: FUNCTIONAL DESCRIPTION:
: THIS ROUTINE IS ASSIGNED TO THE DELUA'S INTERRUPT VECTOR BY
: TEST 10.
: WHEN AN INTERRUPT OCCURS THE DNIFLG FLAG IS SET IF DNI IS SET.
: *****

BGNSRV ISRDN I

ISRDN I::

MOV R4,-(SP) ; SAVE R4
CLR DNIFLG ; INSURE DNI FLAG IS CLEAR
CLR R4 ; INSURE R4 IS CLEAR
MOV @PCSR0,R4 ; PCSRO -> R4
BIT #DNI,R4 ; DNI SET?
BEQ 10\$; NO, EXIT
MOV #1,DNIFLG ; YES, SET DNIFLG FLAG
MOV (SP)+,R4 ; RESTORE R4

ENDSRV

L10025: RTI

5327
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5335
5336
5337
5338
5339
5340
5341
5342
5343 036422
036422
5344 036422 005737 020604
5345 036426 001402
5346 036430 005337 020604
5347 036434
5348 036434
036434
036434 000002

```

;*****
;
;FUNCTIONAL DESCRIPTION:
;
;   THIS ROUTINE COUNTS A PRESET NUMBER OF CLOCK TICKS THEN IT
;   TURNS THE CLOCK OFF
;
;INPUTS: METER
;
;OUTPUTS:METER
;
;ROUTINES CALLED: NONE
;
;*****
BGNSRV  CLKSRV
;HAS THE METER EXPIRED? CLKSRV::
;YES, STOP COUNTING
;COUNT TICKS
20$:
ENDSRV
L10026: RTI

```


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5398

5399

5400
5401
5402
5403
5404
5405

5406

5407

5408
5409

5410
5411
5412
5413

036436
036436

036436 012704 036560
036442 004737 034610

036446
036446 012746 000340
036452 012746 036356
036456 012746 000004
036462 012746 000003
036466 104437
036470 062706 000010

036474 005037 020606
036500 005002
036502 012777 004000 143516
036510 005737 020606
036514 001412
036516
036516 012700 000004
036522 104436

036524
036524 104455
036526 000001
036530 024754
036532 023760

036534
036534 013700 002246
036540 104451

036542
036542 012700 000004
036546 104436
036550 004737 032402

036554
036554 104432
036556 000034

```
.TITLE HARDWARE TESTS
.SBTTL TEST 1: PCSRO READ ACCESS TEST
;*****
;
; THIS TEST WILL VERIFY THAT A DEVICE IS PRESENT AT THE PCSRO
; UNIBUS ADDRESS SPECIFIED.
;
; TEST SEQUENCE:
; 1. READ PCSRO
;*****
BGNTST
T1::
PNTMAC T01ID
MOV #T01ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME
;
; END OF MACRO EXPANSION OF 'PNTMAC'
SETVEC #4,#ISRNXM,#PRI07 ; SET UP TIMEOUT TRAP VECTOR
MOV #PRI07,-(SP)
MOV #ISRNXM,-(SP)
MOV #4,-(SP)
MOV #3,-(SP)
TRAP C$SVEC
ADD #10,SP
CLR NEXMEM ; CLEAR NXM TIMEOUT FLAG
CLR R2 ; R2 = WHICH PCSR IS BEING TESTED
MOV #4000,@PCSRO ; DOES PCSR EXIST?
TST NEXMEM
BEQ 10$ ; YES
CLRVEC #4
MOV TRAP #4,R0
TRAP C$CVEC
ERRDF 001,ERR001,MSG001 ; NO, PRINT DEVICE FATAL ERROR MESSAGE
TRAP C$ERDF
.WORD 1
.WORD ERR001
.WORD MSG001
DODU UNIT ; DROP UNIT
MOV TRAP UNIT,R0
TRAP C$DODU
10$: CLRVEC #4
MOV TRAP #4,R0
TRAP C$CVEC
JSR PC,CLINTR ;INSURE DELUA INTR ARE CLEAR
EXIT TST
TRAP C$EXIT
.WORD L10027-
```

K12

```
5414  
5415 ;LOCAL TEST MESSAGE  
5416  
5417 036560 104 105 114 T01ID:.ASCIZ 'DELUA PCSRO READ ACCESS '  
036563 125 101 040  
036566 120 103 123  
036571 122 060 040  
036574 122 105 101  
036577 104 040 101  
036602 103 103 105  
036605 123 123 040  
036610 000
```

```
5418 .EVEN  
5419  
5420 036612 ENDTST  
036612  
036612 104401  
5421
```

L10027: TRAP C4ETST

```

5423 .SBTTL TEST 2: PCSR1 READ ACCESS TEST
5424
5425 ;*****
5426 ;
5427 ; THIS TEST WILL VERIFY THAT A DEVICE IS PRESENT AT THE PCSR1
5428 ; UNIBUS ADDRESS SPECIFIED.
5429 ;
5430 ; TEST SEQUENCE:
5431 ; 1. READ PCSR1
5432 ;*****
5433
5434
5435 036614 BGNTST
036614 T2::
5436
5437 036614 PNTMAC T02ID
036614 012704 036744 MOV #T02ID,R4 ;GET POINTER TO TEST NAME MESSAGE
036620 004737 034610 JSR PC,PNTID ;PRINT TEST NUMBER AND NAME
;
; END OF MACRO EXPANSION OF 'PNTMAC'
5438 036624 012777 004000 143374 MOV #4000,@PCSR0 ; INSURE DNI CLEAR
5439 036632 SETVEC #4,#ISRNXM,#PRI07 ; SET UP TIMEOUT TRAP VECTOR
036632 012746 000340 MOV #PRI07,-(SP)
036636 012746 036356 MOV #ISRNXM,-(SP)
036642 012746 000004 MOV #4,-(SP)
036646 012746 000003 MOV #3,-(SP)
036652 104437 TRAP C$SVEC
036654 062706 000010 ADD #10,SP
5440 036660 005037 020606 CLR NEXMEM ; CLEAR NXM TIMEOUT FLAG
5441 036664 012702 000001 MOV #1,R2 ; R2 = WHICH PCSR IS BEING TESTED
5442 036670 017701 143334 MOV @PCSR1,R1 ; DOES PCSR EXIST?
5443 036674 005737 020606 TST NEXMEM
5444 036700 001412 BEQ 10$ ; YES
5445 036702 CLRVEC #4
036702 012700 000004 MOV #4,R0
036706 104436 TRAP C$CVEC
5446 036710 ERRDF 002,ERR001,MSG001 ; NO, PRINT DEVICE FATAL ERROR MESSAGE
036710 104455 TRAP C$ERDF
036712 000002 .WORD 2
036714 024754 .WORD ERR001
036716 023760 .WORD MSG001
5447 036720 DODU UNIT ; DROP UNIT
036720 013700 002246 MOV UNIT,R0
036724 104451 TRAP C$DODU
5448 036726 10$: CLRVEC #4
036726 013700 000004 MOV #4,R0
036732 013736 TRAP C$CVEC
5449 036734 JSR PC,CLINTR ;INSURE PCSRO INTR ARE CLEARED
5450
5451
5452 036737 032402 EXIT TST
036737 104432 TRAP C$EXIT
036737 000034 .WORD L10030-

```

M12

```
5454 ;LOCAL TEST MESSAGE
5455
5456 036744 104 105 114 T02ID: .ASCIZ 'DELUA PCSR1 READ ACCESS '
      036747 125 101 040
      036752 120 103 123
      036755 122 061 040
      036760 122 105 101
      036763 104 040 101
      036766 103 103 105
      036771 123 123 040
      036774 000
```

```
5457 .EVEN
5458
5459 036776 ENDTST
      036776
      036776 104401
```

L10030: TRAP C\$ETST

N12

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.SBTTL TEST 3: DELUA RESET TEST

```

*****
:
: THIS TEST VERIFIES THAT THE INTR, BIT07 AND DNI, BIT11 OF       :BO
: PCSRO WILL SET FOLLOWING A DELUA RESET BY RSET, BIT05.         :BO
:
: THIS TEST ALSO VERIFIES THAT BIT 06, AND NO OTHER BITS IN
: THE PCSR1 DEVICE ID FIELD IS SET FOLLOWING A DELUA RESET.
:
: TEST SEQUENCE:
:   1. RESET DELUA (SET BIT05 OF PCSRO)                         :BO
:   2. WAIT FOR DNI                                            :BO
:   3. VERIFY THAT BOTH DNI AND INTR BITS SET                  :BO
:   4. VERIFY THAT DELUA ID BIT NOW SET IN PCSR1
:
*****

```

5480 037000
037000
5481
5482 037000

BGNTST

T3::

PNTMAC T03ID

037000 012704 037176
037004 004737 034610

MOV #T03ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

; END OF MACRO EXPANSION OF 'PNTMAC'

5483
5484 037010
5485 037016
5486 037024
5487 037030
5488 037032
5489 037036
037036
037040
037042
037044
5490 037046
037046
037050

012777 004100 143210
112777 000140 143202
004737 032034
103010
004737 031010
104456
000003
025124
024032
104410
000152

MOV #DNI+INTE,@PCSRO ;PRECONDITION INTR ENABLE
MOVB #INTE+RSET,@PCSRO ;RESET DELUA
JSR PC,CKDNI ;DNI?
BCC 5\$;YES
JSR PC,CHKFTL ;FATAL BIT SET?
ERRHRD 003,ERR006,MSG003 ;NO, REPORT ERROR

TRAP C\$ERHRD
.WORD 3
.WORD ERR006
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10031-

5491
5492 037052
5493 037052
5494 037060
5495 037066
5496 037070
037070
037072
037074
037076

017737 143150 002240
032737 000200 002240
001004
104456
000011
030476
000000

5\$:
MOV @PCSRO,PCSROC ;SAVE CONTENTS OF PCSRO
BIT #INTR,PCSROC ;DID INTERRUPT SUMMARY BIT SET?
BNE 10\$;YES, SKIP ERROR REPORT
ERRHRD 009,ERR047 ;REPORT ERROR

TRAP C\$ERHRD
.WORD 9
.WORD ERR047
.WORD 0

5497
5498 037100
5499 037100
5500 037104

004737 032320
103010

10\$:
JSR PC,CLRDN1 ;WRITE 1 TO CLEAR DNI
BCC 20\$;OK TO CONTINUE

```

5501 037106 004737 031010      JSR    PC,CHKFTL      ;FATAL BIT SET?
5502 037112                      ERRHRD 004,ERR006,MSG003 ;NO, REPORT ERROR
      037112 104456                      TRAP  C$ERHRD
      037114 000004                      .WORD 4
      037116 025124                      .WORD  ERR006
      037120 024032                      .WORD  MSG003
5503 037122                      ESCAPE TST           ; AND ABORT TEST
      037122 104410                      TRAP  C$ESCAPE
      037124 000076                      .WORD  L10031-.
5504
5505
5506 037126                      20$:
5507 037126 017701 143076      MOV    @PCSR1,R1      ;GET CONTENTS OF PCSR1
5508 037132 142701 000217      BICB  #217,R1        ;CLEAR UNWANTED BITS
5509 037136 122701 000020      CMPB  #20,R1        ;ONLY BIT4 SET?
5510 037142 001411                      BEQ   30$            ;YES, SKIP ERROR REPORT
5511 037144 004737 031010      JSR    PC,CHKFTL      ;FATAL BIT SET?
5512 037150                      ERRDF 005,ERR040
      037150 104455                      TRAP  C$ERDF
      037152 000005                      .WORD 5
      037154 027772                      .WORD  ERR040
      037156 000000                      .WORD  0
5513 037160                      DODU  UNIT          ;ILLEGAL ID, DROP UNIT
      037160 013700 002246      MOV    TRAP          UNIT,R0
      037164 104451                      TRAP  C$DODU
5514
5515 037166                      30$:
5516 037166 004737 032402      JSR    PC,CLINTR     ;INSURE DELUA INTR BIT CLEAR
5517
5518 037172                      EXIT  TST
      037172 104432                      TRAP  C$EXIT
      037174 000026                      .WORD  L10031-.
5519
5520      ;LOCAL TEST MESSAGE
5521
5522 037176 104 105 114 T03ID:..ASCIZ 'DELUA PCSR1 ID BIT '
      037201 125 101 040
      037204 120 103 123
      037207 122 061 040
      037212 111 104 040
      037215 102 111 124
      037220 040 000
5523      .EVEN
5524
5525 037222                      ENDTST
      037222
      037222 104401                      L10031: TRAP  C$ETST
5526
  
```

```

5528      .SBTTL TEST 4: PCSR2 READ ACCESS TEST
5529
5530      ;*****
5531      ;
5532      ; THIS TEST WILL VERIFY THAT A DEVICE IS PRESENT AT THE PCSR2
5533      ; UNIBUS ADDRESS SPECIFIED.
5534      ;
5535      ; TEST SEQUENCE:
5536      ; 1. READ PCSR2
5537      ;
5538      ;*****
5539
5540 037224      BGNTST
5541 037224
5542 037224      PNTMAC T04ID
5543 037224 012704 037354      MOV #T04ID,R4 ;GET POINTER TO TEST NAME MESSAGE
5544 037230 004737 034610      JSR PC,PNTID ;PRINT TEST NUMBER AND NAME
5545      ;
5546      ; END OF MACRO EXPANSION OF 'PNTMAC'
5547
5548 037234 012777 004000 142764      MOV #4000,@PCSR0 ; INSURE DNI CLEAR
5549 037242 012746 000340      SETVEC #4,@ISRNXM,#PRI07 ; SET UP TIMEOUT TRAP VECTOR
5550 037242 012746 036356      MOV #PRI07,-(SP)
5551 037246 012746 000004      MOV #ISRNXM,-(SP)
5552 037252 012746 000003      MOV #4,-(SP)
5553 037256 012746 000003      MOV #3,-(SP)
5554 037262 104437      TRAP C$SVEC
5555 037264 062706 000010      ADD #10,SP
5556 037270 005037 020606      CLR NEXMEM ; CLEAR NXM TIMEOUT FLAG
5557 037274 012702 000002      MOV #2,R2 ; R2 = WHICH PCSR IS BEING TESTED
5558 037300 017701 142726      MOV @PCSR2,R1 ; DOES PCSR EXIST?
5559 037304 005737 020606      TST NEXMEM
5560 037310 001412      BEQ 10$ ; YES
5561 037312      CLRVEC #4
5562 037312 012700 000004      MOV TRAP #4,R0
5563 037316 104436      TRAP C$CVEC
5564 037320      ERRDF 006,ERR001,MSG001 ; NO, PRINT DEVICE FATAL ERROR MESSAGE
5565 037320 104455      TRAP C$ERDF
5566 037322 000006      .WORD 6
5567 037324 024754      .WORD ERR001
5568 037326 023760      .WORD MSG001
5569 037330      DODU UNIT ; DROP UNIT
5570 037330 013700 002246      MOV TRAP UNIT,R0
5571 037334 104451      TRAP C$DODU
5572 037336      10$: CLRVEC #4
5573 037336 012700 000004      MOV TRAP #4,R0
5574 037342 104436      TRAP C$CVEC
5575 037344 004737 032402      JSR PC,CLINTR ;INSURE DELUA INTR BITS CLEAR
5576 037350      EXIT TST
5577 037350 104432      TRAP C$EXIT
5578 037352 000034      .WORD L10032-
  
```

D13

```
5559          ;LOCAL TEST MESSAGE
5560
5561 037354    104    105    114  T04ID: .ASCIZ 'DELUA PCSR2 READ ACCESS '
      037357    125    101    040
      037362    120    103    123
      037365    122    062    040
      037370    122    105    101
      037373    104    040    101
      037376    103    103    105
      037401    123    123    040
      037404     000
```

```
5562          .EVEN
5563
5564 037406    ENDTST
      037406
      037406 104401
```

L10032: TRAP C#ETST


```

5566 .SBTTL TEST 5: PCSR3 READ ACCESS TEST
5567
5568 ;*****
5569 ;
5570 ; THIS TEST WILL VERIFY THAT A DEVICE IS PRESENT AT THE PCSR3
5571 ; UNIBUS ADDRESS SPECIFIED.
5572 ;
5573 ; TEST SEQUENCE:
5574 ; 1. READ PCSR3
5575 ;
5576 ;*****
5577 037410 BGNTST
5578 037410 T5::
5579 037410 PNTMAC T05ID
037410 012704 037540 MOV #T05ID,R4 ;GET POINTER TO TEST NAME MESSAGE
037414 004737 034610 JSR PC,PNTID ;PRINT TEST NUMBER AND NAME
; END OF MACRO EXPANSION OF 'PNTMAC'
5580 037420 012777 004000 142600 MOV #4000,@PCSR0 ; INSURE DNI CLEAR
5581 037426 012746 000340 SETVEC #4,#ISRNXM,#PRI07 ; SET UP TIMEOUT TRAP VECTOR
037432 012746 036356 MOV #PRI07,-(SP)
037436 012746 000004 MOV #ISRNXM,-(SP)
037442 012746 000003 MOV #4,-(SP)
037446 104437 MOV #3,-(SP)
037450 062706 000010 TRAP C$SVEC
037454 005037 020606 ADD #10,SP
5582 037454 005037 020606 CLR NEXMEM ; CLEAR NXM TIMEOUT FLAG
5583 037460 012702 000003 MOV #3,R2 ; R2 = WHICH PCSR IS BEING TESTED
5584 037464 017701 142544 MOV @PCSR3,R1 ; DOES PCSR EXIST?
5585 037470 005737 020606 TST NEXMEM
5586 037474 001412 BEQ 10$ ; YES
5587 037476 CLRVEC #4
037476 012700 000004 MOV #4,R0
037502 104436 TRAP C$CVEC
5588 037504 ERRDF 007,ERR001,MSG001 ; NO. PRINT DEVICE FATAL ERROR MESSAGE
037504 104455 TRAP C$ERDF
037506 000007 .WORD 7
037510 024754 .WORD ERR001
037512 023760 .WORD MSG001
5589 037514 DODU UNIT ; DROP UNIT
037514 013700 002246 MOV UNIT,R0
037520 104451 TRAP C$DODU
5590
5591 037522 10$: CLRVEC #4
037522 012700 000004 MOV #4,R0
037526 104436 TRAP C$CVEC
5592 037530 004737 032402 JSR PC,CLINTR ; INSURE DELUA INTR BITS DISABLED
5593
5594 037534 EXIT TST
037534 104432 TRAP C$EXIT
037536 000034 .WORD L10033-

```

F13

```
5596 ;LOCAL TEST MESSAGE
5597
5598 037540 104 105 114 T05ID:.ASCIZ 'DELUA PCSR3 READ ACCESS '
      037543 125 101 040
      037546 120 103 123
      037551 122 063 040
      037554 122 105 101
      037557 104 040 101
      037562 103 103 105
      037565 123 123 040
      037570 000
```

```
5599 .EVEN
5600
5601 037572 ENDTST
      037572
      037572 104401
```

L10033: TRAP C4ETST

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.SBTTL TEST 6: PCSR2 STATIC BIT TEST

: THIS TEST WILL CHECK PCSR2 FOR ALL SA0 AND SA1 ERRORS.
: THE HOST WILL WRITE PATTERNS TO PCSR2 AND READ THEM
: BACK TO VERIFY.
: NOTE: PCSR2 BIT00 SHOULD ALWAYS BE A ZERO.
: THIS BIT WILL BE MASKED BEFORE DOING THE COMPARE.
: TEST SEQUENCE:
: 1. WRITE PATTERN TO PCSR2
: 2. COMPARE MASKED PATTERN WITH PCSR2 CONTENTS
: 3. REPEAT STEPS 1 AND 2 FOR ALL PATTERNS
: *****

5621 037574
037574
5622
5623 037574

BGNTST

T6::

PNTMAC T06ID

037574 012704 037754
037600 004737 034610

MOV #T06ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

: END OF MACRO EXPANSION OF 'PNTMAC'

5624
5625 037604 004737 035310
5626 037610 103034
5627 037612 012777 004100 142406
5628 037620 112777 000140 142400
5629 037626 004737 032034
5630 037632 103010
5631 037634 004737 031010
5632 037640 104456
037642 000010
037644 030105
037646 024032

JSR PC,TINIT ;IS A DEVICE RESET NEEDED?
BCC 25\$;NO
MOV #DNI+INTE,@PCSR0 ;PRE-CONDITION INTR ENABLE
MOV #INTE+RSET,@PCSR0 ;RESET DELUA
JSR PC,CKDNI ;DNI?
BCC 15\$;YES
JSR PC,CHKFTL ;FATAL BIT SET?
ERRHRD 008.,ERR042,MSG003 ;NO, REPORT ERROR

TRAP ;B0
.WORD C\$ERHRD
.WORD 8
.WORD ERR042
.WORD MSG003

5633 037650
037650 104410
037652 000132

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10034--

5634 037654
5635 037654 004737 032320
5636 037660 103010
5637 037662 004737 031010
5638 037666 104456
037670 000012
037672 025124
037674 024032

15\$:

JSR PC,CLRDNI ;WRITE 1 TO CLEAR DNI BIT
BCC 25\$;NO
JSR PC,CHKFTL ;FATAL BIT SET?
ERRHRD 010.,ERR006,MSG003 ;YES, REPORT ERROR

TRAP C\$ERHRD
.WORD 10
.WORD ERR006
.WORD MSG003

5639 037676
037676 104410
037700 000104

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10034--

5640

```

5641 037702          25$:
5642
5643 037702 012701 020630      MOV    #PATRN1,R1      ; GET ADDRESS OF DATA PATTERNS
5644 037706 012705 000004      MOV    #4,R5          ; COUNT 4 PATTERNS (PASSES)
5645 037712 012103          30$:      MOV    (R1)+,R3      ; DATA PATTERN -> R3
5646
5647
5648 037714 010377 142312      MOV    R3,@PCSR2     ; DATA PATTERN -> PCSR2
5649 037720 017704 142306      MOV    @PCSR2,R4     ; READ PCSR2
5650 037724 020304          CMP    R3,R4         ; DATA COMPARE?
5651 037726 001406          BEQ    50$           ; YES, CONTINUE
5652 037730 004737 031010      JSR    PC,CHKFTL     ; FATAL BIT SET?
5653 037734          ERRHRD 011.,ERR002,MSG002 ; NO, REPORT ERROR
5654 037734 104456          TRAP  C$ERHRD
5655 037736 000013          .WORD 11
5656 037740 025004          .WORD ERR002
5657 037742 024004          .WORD MSG002
5658
5659 037744          50$:      DEC    R5            ; DONE?
5660 037746 005305          BNE   30$           ; NO
5661
5662
5663 037750          EXIT   TST
5664 037750 104432          TRAP  C$EXIT
5665 037752 000032          .WORD L10034-.
5666
5667
5668          ;LOCAL TEST MESSAGE
5669
5670          T06ID: .ASCIZ 'DELUA PCSR2 STATIC BIT '
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040006
040006

040006 012704 040166
040012 004737 034610

040016 004737 035310
040022 103034
040024 012777 004100 142174
040032 112777 000140 142166
040040 004737 032034
040044 103010
040046 004737 031010
040052
040052 104456
040054 000014
040056 030105
040060 024032
040062
040062 104410
040064 000132
040066
040066 004737 032320
040072 103010
040074 004737 031010
040100
040100 104456
040102 000015
040104 025124
040106 024032
040110
040110 104410
040112 000104

.SBTTL TEST 7: PCSR3 STATIC BIT TEST

: THIS TEST WILL CHECK PCSR3 FOR ALL SA0 AND SA1 ERRORS.
: THE HOST WILL WRITE PATTERNS TO PCSR3 AND READ THEM
: BACK TO VERIFY.
: NOTE: PCSR3 BIT02 THRU BIT15 SHOULD ALWAYS BE A ZERO.
: THESE BITS WILL BE MASKED BEFORE DOING THE COMPARE.
: TEST SEQUENCE:
: 1. WRITE PATTERN TO PCSR3
: 2. COMPARE MASKED PATTERN WITH PCSR3 CONTENTS
: 3. REPEAT STEPS 1 AND 2 FOR ALL PATTERNS

BGNTST

T7::

PNTMAC T07ID

MOV #T07ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

END OF MACRO EXPANSION OF 'PNTMAC'

JSR PC,TINIT ;IS A DEVICE RESET NEEDED?
BCC 20\$;NO
MOV #DNI+INTE,@PCSR0 ;PRE-CONDITION INTR ENABLE
MOVB #INTE+RSET,@PCSR0 ;YES, RESET DELUA
JSR PC,CKDNI ;DNI SET?
BCC 10\$;YES
JSR PC,CHKFTL ;FATAL BIT SET?
ERRHRD 012.,ERR042,MSG003 ;NO, REPORT ERROR

TRAP ;B0
.WORD C\$ERHRD
.WORD 12
.WORD ERR042
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10035-

10\$:

JSR PC,CLRDNI ;WRITE 1 TO CLEAR DNI BIT
BCC 20\$;CLEARED OK
JSR PC,CHKFTL ;FATAL BIT SET?
ERRHRD 013.,ERR006,MSG003 ;NO, REPORT ERROR

TRAP C\$ERHRD
.WORD 13
.WORD ERR006
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10035-

J13

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5706 040114          20$:
5707 040114 012701 020630      MOV    #PATRN1,R1      ; GET ADDRESS OF DATA PATTERNS
5708 040120 012705 000004      MOV    #4,R5          ; COUNT 4 PATTERNS (PASSES)
5709 040124 012103          40$:      MOV    (R1)+,R3      ; DATA PATTERN -> R3
5710
5711 040126 010377 142102      MOV    R3,@PCSR3     ; DATA PATTERN -> PCSR3
5712 040132 017704 142076      MOV    @PCSR3,R4     ; READ PCSR3
5713 040136 020304          CMP    R3,R4         ; DATA COMPARE?
5714 040140 001406          BEQ    50$           ; YES, CONTINUE
5715 040142 004737 031010      JSR    PC,CHKFTL     ; FATAL ERROR BIT SET?
5716 040146          ERRHRD 014.,ERR003,MSG002 ; NO, REPORT ERROR
          040146 104456          TRAP   C$ERHRD
          040150 000016          .WORD 14
          040152 025042          .WORD ERR003
          040154 024004          .WORD MSG002
5717
5718 040156          50$:
5719 040156 005305          DEC    R5             ; DONE?
5720 040160 001361          BNE   40$            ; NO
5721
5722
5723
5724 040162          EXIT   TST
          040162 104432          TRAP   C$EXIT
          040164 000032          .WORD L10035-.
5725
5726          ;LOCAL TEST MESSAGE
5727
5728 040166          104    105    114  T07ID: .ASCIZ 'DELUA PCSR3 STATIC BIT '
          040171          125    101    040
          040174          120    103    123
          040177          122    063    040
          040202          123    124    101
          040205          124    111    103
          040210          040    102    111
          040213          124    040    000
5729          .EVEN
5730
5731 040216          ENDTST
          040216          L10035: TRAP   C$ETST
          040216 104401

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5764 040220
040220
5765
5766 040220

040220 012704 040560
040224 004737 034610

5767 040230 004737 035310
5768 040234 103034
5769 040236 012777 004100 141762
5770 040244 112777 000140 141754
5771 040252 004737 032034
5772 040256 103010
5773 040260 004737 031010
5774 040264
040264 104456
040266 000017
040270 030105
040272 024032
5775 040274
040274 104410
040276 000302
5776

.SBTTL TEST 8: SELF TEST

THIS TEST VERIFIES THAT THE ROM BASED SELF TEST
CAN BE RUN SUCCESSFULLY WHEN INVOKED VIA THE
SELF TEST PORT COMMAND.

NOTE 1: ON A SELFTEST FAILURE, PCSR1 DATA WILL BE CONSIDERED ;B0
VALID ONLY IF THE FAILING TEST WAS THE PHYSICAL ADDR. ;B0
ROM TEST, TIMER INTERRUPT TEST, IBUS LOADING TEST (CLOG), ;B0
OR ONE OF THE LANCE TESTS. IN ALL OTHER CASES READ THE ;B0
ERROR CODE, IN OCTAL, DIRECTLY FROM THE LED DISPLAY. ;B0

NOTE 2: DIFFERENCE BETWEEN ERROR MESSAGES 'PCSR1 ERROR CODE ;B0
UNRELIABLE', AND 'PCSR1 CONTAINS UNDEFINED SELFTEST ;B0
ERROR CODE'. IN THE FIRST INSTANCE, AN ERROR IS BEING ;B0
REPORTED IN WHICH, DUE TO THE NATURE OF THE FAILED TEST, ;B0
THE CORRECT ERROR CODE MAY NOT BE ABLE TO BE LOADED INTO ;B0
THE PCSR1. IN THE SECOND CASE, THE DIAGNOSTIC FOUND AN ;B0
ERROR CODE IN PCSR1 FOR WHICH THERE IS NO DEFINED FAILURE. ;B0

TEST SEQUENCE:

- 1. ISSUE THE SELF TEST PORT COMMAND
- 2. WAIT FOR DNI
- 3. CHECK LITE BITE REGISTER FOR SUCCESSFUL SELF TEST
- 4. REPORT ANY ERROR ;B0
- 5. WRITE ONE TO CLEAR DNI

BGNTST

T8::

PNTMAC T08ID

MOV #T08ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

END OF MACRO EXPANSION OF 'PNTMAC'

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 25\$; NO
MOV #DNI+INTE,@PCSR0 ; SET INTERRUPT ENABLE
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
JSR PC,CHKFTL ; FATL BIT SET?
ERRHRD 015.,ERR042,MSG003 ; NO, REPORT ERROR

TRAP ;B0
.WORD C\$ERRHRD
.WORD 15
.WORD ERR042
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10036-

```

5777 040300 004737 032320      20$: JSR      PC,CLRDMI      ; WRITE ONE TO CLEAR DNI
5778                                ; ERROR
5779 040304 103010            BCC      25$      ; NO
5780 040306 004737 031010      JSR      PC,CHKFTL ; FATL BIT SET?
5781 040312                                ERRHRD  016.,ERR006,MSG003 ; YES, REPORT ERROR
                                TRAP      C$ERHRD
                                .WORD    16
                                .WORD    ERR006
                                .WORD    MSG003
5782 040322                                ESCAPE  TST      ; AND ABORT
                                TRAP      C$ESCAPE
                                .WORD    L10036-.
5783                                ;
5784 040326                                25$: MOV      #DNI+INTE,@PCSR0 ; PRE-CONDITION INTR ENABLE
5785 040326 012777 004100 141672 MOVB     #INTE+SLFT,@PCSR0 ; RUN SELF TEST
5786 040334 112777 000103 141664 JSR      PC,CKDNI  ; SELF TEST COMPLETED OK?
5787 040342 004737 032034      BCC      35$      ; YES, CHECK RESULTS
5788 040346 103025
5789
5790                                ;FIND OUT WHY SELF TEST DID NOT COMPLETE
5791
5792 040350 013700 020516      MOV      EPCSR0,R0 ; NO, GET CONTENTS OF PCSRO
5793 040354 042700 172377      BIC     #STATEM,R0 ; MASK UNWANTED BITS
5794 040360 005700            TST      R0        ; 68000 SUBSYSTEM FAULT
5795 040362 001006            BNE     30$      ; NO
5796 040364                                ERRHRD  017.,ERR011,MSG011 ; YES, REPORT ERROR
                                TRAP      C$ERHRD
                                .WORD    17
                                .WORD    ERR011
                                .WORD    MSG011
5797 040374                                EXIT    TST      ; AND EXIT TEST
                                TRAP      C$EXIT
                                .WORD    L10036-.
5798 040400
5799 040400 032700 001000      30$: BIT     #FATL,R0 ; DEVICE OR UNIBUS ERROR?
5800 040404 001406            BEQ     35$      ; NO
5801 040406                                ERRHRD  018.,ERR048,MSG011 ; YES, REPORT ERROR
                                TRAP      C$ERHRD
                                .WORD    18
                                .WORD    ERR048
                                .WORD    MSG011
5802 040416                                EXIT    TST      ; AND EXIT TEST
                                TRAP      C$EXIT
                                .WORD    L10036-.
5803
5804 040422                                35$: JSR      PC,CHKSTR ; SELF TEST SUCCESSFUL ?
5805 040422 004737 031556      BCC     40$      ; YES
5806 040426 103035            MOV     ECODE,R4 ; NO, SET UP TO PRINT ERROR
5807 040430 013704 020602      ASL     R4        ; SHIFT CODE FOR INDEX
5808 040434 006304            ADD     #STTBL,R4 ; INDEX INTO SELF TEST TABLE
5809 040436 062704 040604      MOV     (R4),STMSG ; LOAD INTO SELF TEST MESSAGE
5810 040442 011437 040602      JSR     PC,CHKFTL ; FATL BIT SET?
5811 040446 004737 031010
5812                                ;*****
5813 040452 022704 040624      CMP     #STTBL+20,R4 ; THIS SECTION ;B0
5814 040456 002406            BLT     36$      ; SELECTS WHETHER OR
5815 040460 022704 040704      CMP     #STTBL+100,R4 ; NOT THE ERROR CODE
    
```


5846
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5849 040602 000000
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5851
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5853 040604 040746
5854 040606 040771
5855
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5857 040610 040771
5858 040612 040771
5859 040614 040771
5860 040616 040771
5861 040620 040771
5862 040622 040771
5863
5864
5865 040624 041061
5866 040626 041115
5867
5868
5869 040630 041144
5870 040632 041144
5871 040634 041144
5872 040636 041144
5873 040640 041144
5874 040642 041144
5875
5876
5877 040644 041223
5878 040646 041262
5879 040650 041321
5880 040652 041350
5881 040654 041406
5882 040656 041445
5883 040660 041504
5884 040662 041551
5885
5886
5887 040664 041144
5888 040666 041144
5889 040670 041144
5890 040672 041144
5891 040674 041144
5892 040676 041144
5893 040700 041144
5894 040702 041144
5895 040704 040771
5896 040706 040771
5897 040710 040771
5898 040712 040771
5899 040714 040771
5900 040716 040771
5901 040720 040771
5902 040722 040771

;LOCAL STORAGE FOR TEST 8

STMSG: .WORD 0 ; SELF TEST MESSAGE ADDRESS

;SELF TEST MESSAGE TABLE

STTBL: .WORD SMSG00
.WORD SMSG01

.WORD SMSG01 ;B0

.WORD SMSG01

.WORD SMSG01

.WORD SMSG01

.WORD SMSG01

.WORD SMSG01

.WORD SMSG01

.WORD SMSG10
.WORD SMSG11

.WORD SMSG11

.WORD SMSG13 ;B0

.WORD SMSG13

.WORD SMSG13

.WORD SMSG13

.WORD SMSG13

.WORD SMSG13

.WORD SMSG13

.WORD SMSG20
.WORD SMSG21

.WORD SMSG21

.WORD SMSG22

.WORD SMSG23

.WORD SMSG24

.WORD SMSG25

.WORD SMSG26

.WORD SMSG27

.WORD SMSG13 ;B0

.WORD SMSG13

.WORD SMSG13

.WORD SMSG13

.WORD SMSG13

.WORD SMSG13

.WORD SMSG13

.WORD SMSG13

.WORD SMSG01

.WORD SMSG01

.WORD SMSG01

.WORD SMSG01

.WORD SMSG01

.WORD SMSG01

.WORD SMSG01

B14

5903 040724 040771
5904 040726 040771
5905 040730 040771
5906 040732 040771
5907 040734 040771
5908 040736 040771
5909 040740 040771
5910 040742 040771
5911
5912
5913 040744 041610
5914

.WORD SMSG01
.WORD SMSG01
.WORD SMSG01
.WORD SMSG01
.WORD SMSG01
.WORD SMSG01
.WORD SMSG01
.WORD SMSG01
.WORD SMSG01

.WORD SMSG60

```

5916 ;ASCII MESSAGES
5917 040746 120 101 123 SMSG00: .ASCIZ /PASSED SELF TEST/<15><12>
      040751 123 105 104
      040754 040 123 105
      040757 114 106 040
      040762 124 105 123
      040765 124 015 012
      040770 000
5918 040771 103 125 122 SMSG01: .ASCIZ /CURRENTLY,PCSR1 ERROR CODE UNRELIABLE, REFER TO LED'S/<15><12>
      040774 122 105 116
      040777 124 114 131
      041002 054 120 103
      041005 123 122 061
      041010 040 105 122
      041013 122 117 122
      041016 040 103 117
      041021 104 105 040
      041024 125 116 122
      041027 105 114 111
      041032 101 102 114
      041035 105 054 040
      041040 122 105 106
      041043 105 122 040
      041046 124 117 040
      041051 114 105 104
      041054 047 123 015
      041057 012 000
5919 041061 120 110 131 SMSG10: .ASCIZ /PHYSICAL ADDRESS ROM TEST/<15><12>
      041064 123 111 103
      041067 101 114 040
      041072 101 104 104
      041075 122 105 123
      041100 123 040 122
      041103 117 115 040
      041106 124 105 123
      041111 124 015 012
      041114 000
5920
5921 041115 124 111 115 SMSG11: .ASCIZ /TIMER INTERRUPT TEST/<15><12>
      041120 105 122 040
      041123 111 116 124
      041126 105 122 122
      041131 125 120 124
      041134 040 124 105
      041137 123 124 015
      041142 012 000
5922 041144 120 103 123 SMSG13: .ASCIZ /PCSR1 CONTAINS UNDEFINED SELFTEST ERROR CODE/<15><12>
      041147 122 061 040
      041152 103 117 116
      041155 124 101 111
      041160 116 123 040
      041163 125 116 104
      041166 105 106 111
      041171 116 105 104
      041174 040 123 105
      041177 114 106 124
      041202 105 123 124

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	041205	040	105	122	
	041210	122	117	122	
	041213	040	103	117	
	041216	104	105	015	
	041221	012	000		
5923					
5924	041223	114	101	116	SMSG20: .ASCIZ /LANCE INTERNAL LOOPBACK TEST/<15><12>
	041226	103	105	040	
	041231	111	116	124	
	041234	105	122	116	
	041237	101	114	040	
	041242	114	117	117	
	041245	120	102	101	
	041250	103	113	040	
	041253	124	105	123	
	041256	124	015	012	
	041261	000			
5925	041262	114	101	116	SMSG21: .ASCIZ /LANCE IBUS PARITY ERROR TEST/<15><12>
	041265	103	105	040	
	041270	111	102	125	
	041273	123	040	120	
	041276	101	122	111	
	041301	124	131	040	
	041304	105	122	122	
	041307	117	122	040	
	041312	124	105	123	
	041315	124	015	012	
	041320	000			
5926	041321	114	101	116	SMSG22: .ASCIZ /LANCE CRC LOGIC TEST/<15><12>
	041324	103	105	040	
	041327	103	122	103	
	041332	040	114	117	
	041335	107	111	103	
	041340	040	124	105	
	041343	123	124	015	
	041346	012	000		
5927	041350	114	101	116	SMSG23: .ASCIZ /LANCE COLLISION DETECT TEST/<15><12>
	041353	103	105	040	
	041356	103	117	114	
	041361	114	111	123	
	041364	111	117	116	
	041367	040	104	105	
	041372	124	105	103	
	041375	124	040	124	
	041400	105	123	124	
	041403	015	012	000	
5928	041406	114	101	116	SMSG24: .ASCIZ /LANCE MULTICAST ADDRESS TEST/<15><12>
	041411	103	105	040	
	041414	115	125	114	
	041417	124	111	103	
	041422	101	123	124	
	041425	040	101	104	
	041430	104	122	105	
	041433	123	123	040	
	041436	124	105	123	
	041441	124	015	012	
	041444	000			

E14

5929	041445	114	101	116	MSG25: .ASCIZ /LANCE BROADCAST ADDRESS TEST/<15><12>
	041450	103	105	040	
	041453	102	122	117	
	041456	101	104	103	
	041461	101	123	124	
	041464	040	101	104	
	041467	104	122	105	
	041472	123	123	040	
	041475	124	105	123	
	041500	124	015	012	
	041503	000			
5930	041504	114	101	116	MSG26: .ASCIZ /LANCE PHYSICAL ADDRESS REJECT TEST/<15><12>
	041507	103	105	040	
	041512	120	110	131	
	041515	123	111	103	
	041520	101	114	040	
	041523	101	104	104	
	041526	122	105	123	
	041531	123	040	122	
	041534	105	112	105	
	041537	103	124	040	
	041542	124	105	123	
	041545	124	015	012	
	041550	000			
5931	041551	114	101	116	MSG27: .ASCIZ /LANCE EXTERNAL LOOPBACK TEST/<15><12>
	041554	103	105	040	
	041557	105	130	124	
	041562	105	122	116	
	041565	101	114	040	
	041570	114	117	117	
	041573	120	102	101	
	041576	103	113	040	
	041601	124	105	123	
	041604	124	015	012	
	041607	000			
5932					
5933	041610	104	105	114	MSG60: .ASCIZ /DELUA IBUS LOADING TEST - CLOG/<15><12>
	041613	125	101	040	
	041616	111	102	125	
	041621	123	040	114	
	041624	117	101	104	
	041627	111	116	107	
	041632	040	124	105	
	041635	123	124	040	
	041640	055	040	103	
	041643	114	117	107	
	041646	015	012	000	
5934					.EVEN

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.SBTTL TEST 9: PORT COMMAND TEST

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*****
:
: THIS TEST VERIFIES THAT NO ERRORS OCCUR WHEN
: A DELUA PORT COMMAND IS ISSUED.
:
: TEST SEQUENCE:
:   1. ISSUE A DEVICE RESET
:   2. WAIT FOR DNI
:   3. WRITE A ONE TO CLEAR DNI
:   4. ISSUE A NOP PORT COMMAND
:   5. WAIT FOR DNI
:   6. WRITE ONE TO CLEAR DNI
:   7. MOVE NOP FUNCTION INTO PCBB
:   8. ISSUE A GETPCBB PORT COMMAND
:   9. WAIT FOR DNI
:  10. WRITE ONE TO CLEAR DNI
:  11. ISSUE A GETCMD PORT COMMAND
:  12. WAIT FOR DNI
:  13. WRITE ONE TO CLEAR DNI
:
*****

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5960 041652
041652
5961
5962 041652

BGNTST

T9::

PNTMAC T09ID

041652 012704 042250
041656 004737 034610

MOV #T09ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

END OF MACRO EXPANSION OF 'PNTMAC'

5963 041662 004737 035310
5964 041666 103034
5965 041670 012777 004100 140330
5966 041676 112777 000140 140322
5967 041704 004737 032034
5968 041710 103010
5969 041712 004737 031010
5970 041716
041716 104456
041720 000026
041722 030105
041724 024032

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 25\$; NO
MOV #DNI+INTE,@PCSR0 ; PRECONDITION INTR EN.
MOVB #INTE!RSET,@PCSR0 ; RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
JSR PC,CHKFTL ; FATL BIT SET?
ERRHRD 022.,ERR042,MSG003 ; REPORT ERROR

TRAP ;B0
.WORD C\$ERHRD
.WORD 22
.WORD ERR042
.WORD MSG003

5971 041726
041726 104410
041730 000344

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10037-

5972
5973 041732 004737 032320
5974
5975 041736 103010
5976 041740 004737 031010
5977 041744
041744 104456
041746 000027

20\$:

JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
; ERROR
BCC 25\$; NO
JSR PC,CHKFTL ; FATL BIT SET
ERRHRD 023.,ERR006,MSG003 ; YES, REPORT ERROR

TRAP C\$ERHRD
.WORD 23

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041750 025124 .WORD ERR006
041752 024032 .WORD MSG003
5978 041754 ESCAPE TST ; AND ABORT
041754 104410 TRAP C$ESCAPE
041756 000316 .WORD L10037-.

5979
5980 041760 012777 004100 140240 i25$: MOV #DNI+INTE,@PCSR0 ; PRE-CONDITION INTR EN.
5981 041766 112777 000106 140232 MOVB #INTE!PNOP,@PCSR0 ; ISSUE A NOP PORT COMMAND
5982 041774 004737 030706 JSR PC,CHKDNI ; DNI ?
5983 042000 103010 BCC 30$ ; YES
5984 042002 004737 031010 JSR PC,CHKFTL ; FATL BIT SET?
5985 042006 ERRHRD 024.,ERR008,MSG003 ; NO, REPORT ERROR
042006 104456 TRAP C$ERHRD
042010 000030 .WORD 24
042012 025262 .WORD ERR008
042014 024032 .WORD MSG003
5986 042016 ESCAPE TST ; AND ABORT TEST
042016 104410 TRAP C$ESCAPE
042020 000254 .WORD L10037-.

5987
5988 042022 004737 032320 i30$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
5989 .WORD ; ERROR
5990 042026 103010 BCC 40$ ; NO
5991 042030 004737 031010 JSR PC,CHKFTL ; FATL BIT SET?
5992 042034 ERRHRD 025.,ERR006,MSG003 ; YES, REPORT ERROR
042034 104456 TRAP C$ERHRD
042036 000031 .WORD 25
042040 025124 .WORD ERR006
042042 024032 .WORD MSG003
5993 042044 ESCAPE TST ; AND ABORT
042044 104410 TRAP C$ESCAPE
042046 000226 .WORD L10037-.

5994
5995 042050 i40$:
5996 042050 012705 014442 MOV #NOPF,R5 ; POINT TO DEFAULT NOP FUNCTION
5997 042054 004737 033656 JSR PC,LDPCCB ; LOAD FUNCTION INTO PCBB
5998 042060 004737 033706 JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2!3
5999 042064 012777 004100 140134 MOV #DNI+INTE,@PCSR0 ; PRECONDITION INTR EN.
6000 042072 112777 000101 140126 MOVB #INTE!GETPCB,@PCSR0 ; ISSUE A GETPCBB PORT COMMAND
6001 042100 004737 030706 JSR PC,CHKDNI ; DNI?
6002 042104 103010 BCC 50$ ; YES
6003 042106 004737 031010 JSR PC,CHKFTL ; FATL BIT SET
6004 042112 ERRHRD 026.,ERR009,MSG003 ; NO, REPORT ERROR
042112 104456 TRAP C$ERHRD
042114 000032 .WORD 26
042116 025341 .WORD ERR009
042120 024032 .WORD MSG003
6005 042122 ESCAPE TST ; AND ABORT TEST
042122 104410 TRAP C$ESCAPE
042124 000150 .WORD L10037-.

6006
6007 042126 004737 032320 i50$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
6008 .WORD ; ERROR ?
6009 042132 103010 BCC 60$ ; NO
6010 042134 004737 031010 JSR PC,CHKFTL ; FATL BIT SET?
6011 042140 ERRHRD 027.,ERR006,MSG003 ; YES, REPORT ERROR
042140 104456 TRAP C$ERHRD

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        042142 000033                                .WORD 27
        042144 025124                                .WORD ERR006
        042146 024032                                .WORD MSG003
6012 042150                                ESCAPE TST                                ; AND ABORT TEST
        042150 104410                                TRAP C$ESCAPE
        042152 000122                                .WORD L10037-.

6013
6014 042154 012777 004100 140044 60$: MOV #DNI+INTE,@PCSR0 ; PRECONDITION INTR EN.
6015 042162 112777 000102 140036 MOVB #INTE!GETCMD,@PCSR0 ; ISSUE A GETCMD PORT COMMAND
6016 042170 004737 030706 JSR PC,CHKDNI ; DNI ?
6017 042174 103010 BCC 70$ ; YES
6018 042176 004737 031010 JSR PC,CHKFTL ; FATL BIT SET?
6019 042202 ERRHRD 030.,ERR010,MSG003 ; NO, REPORT ERROR
        042202 104456                                TRAP C$ERHRD
        042204 000036                                .WORD 30
        042206 025425                                .WORD ERR010
        042210 024032                                .WORD MSG003
6020 042212                                ESCAPE TST                                ; AND ABORT TEST
        042212 104410                                TRAP C$ESCAPE
        042214 000060                                .WORD L10037-.

6021
6022 042216 004737 032320 70$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
6023 BCC 80$ ; ERROR ?
6024 042222 103010 BCC 80$ ; NO
6025 042224 004737 031010 JSR PC,CHKFTL ; FATL BIT SET?
6026 042230 ERRHRD 031.,ERR006,MSG003 ; YES, REPORT ERROR
        042230 104456                                TRAP C$ERHRD
        042232 000037                                .WORD 31
        042234 025124                                .WORD ERR006
        042236 024032                                .WORD MSG003
6027 042240                                ESCAPE TST                                ; AND ABORT TEST
        042240 104410                                TRAP C$ESCAPE
        042242 000032                                .WORD L10037-.

6028 042244 80$:
6029
6030 042244                                EXIT TST
        042244 104432                                TRAP C$EXIT
        042246 000026                                .WORD L10037-.

6031
6032 ;LOCAL TEST MESSAGE
6033
6034 042250 104 105 114 T09ID: .ASCIZ 'DELUA PORT COMMAND '
        042253 125 101 040
        042256 120 117 122
        042261 124 040 103
        042264 117 115 115
        042267 101 116 104
        042272 040 000

6035 .EVEN
6036
6037 042274                                ENDTST
        042274                                L10037: TRAP C$ETST
        042274 104401
    
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6039          .SBTTL TEST 10: INTERRUPT LOGIC TEST
6040
6041          ;*****
6042          ;
6043          ; THIS TEST VERIFIES THAT A DELUA INTERRUPT CAN BE GENERATED.
6044          ;
6045          ; TEST SEQUENCE:
6046          ;     1. SET UP THE INTERRUPT VECTOR
6047          ;     2. ISSUE A GET PCBB PORT COMMAND
6048          ;     3. WAIT FOR A DNI INTERRUPT
6049          ;     4. WRITE ONE TO CLEAR DNI
6050          ;*****
6051
6052
6053          042276          BGNTST
6054          042276
6055          042276          PNTMAC T10ID
6056          042276 012704 042612          MOV #T10ID,R4          ;GET POINTER TO TEST NAME MESSAGE
6057          042302 004737 034610          JSR PC,PNTID          ;PRINT TEST NUMBER AND NAME
6058          ;
6059          ; END OF MACRO EXPANSION OF 'PNTMAC'
6060          042306 004737 035310          JSR PC,TINIT          ; IS A DEVICE RESET NEEDED?
6061          042312 103034          BCC 25$          ; NO
6062          042314 012777 004100 137704          MOV #DNI+INTE,@PCSR0          ; PRECONDITION INTR EN.
6063          042322 112777 000140 137676          MOVB #INTE!RSET,@PCSR0          ; YES, RESET DELUA
6064          042330 004737 032034          JSR PC,CKDNI          ; DNI ?
6065          042334 103010          BCC 20$          ; YES
6066          042336          FTL
6067          042336 004737 031010          JSR PC,CHKFTL          ; 'FATL' BIT SET?
6068          042342          ERRHRD 032.,ERR042,MSG003          ; NO, REPORT ERROR
6069          042342 104456          TRAP C$ERRHRD          ;B0
6070          042344 000040          .WORD 32
6071          042346 030105          .WORD ERR042
6072          042350 024032          .WORD MSG003
6073          042352          ESCAPE TST          ; AND ABORT TEST
6074          042352 104410          TRAP C$ESCAPE          ;B0
6075          042354 000266          .WORD L10040-.
6076          042356 004737 032320          ; 20$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
6077          042362 103010          BCC 25$          ; ERROR
6078          042364          FTL          ; NO
6079          042364 004737 031010          JSR PC,CHKFTL          ; 'FATL' BIT SET?
6080          042370          ERRHRD 033.,ERR006,MSG003          ; YES, REPORT ERROR
6081          042370 104456          TRAP C$ERRHRD          ;B0
6082          042372 000041          .WORD 33
6083          042374 025124          .WORD ERR006
6084          042376 024032          .WORD MSG003
6085          042400          ESCAPE TST          ; AND ABORT
6086          042400 104410          TRAP C$ESCAPE

```

J14

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TEST 10: INTERRUPT LOGIC TEST

SEQ 178

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042402 000240                                .WORD  L10040-.
6072
6073      ; SET UP INTERRUPT VECTOR
6074
6075 25$: SETVEC INTVEC, #ISRDN1, UNAPRI
        MOV UNAPRI, -(SP)
        MOV #ISRDN1, -(SP)
        MOV INTVEC, -(SP)
        MOV #3, -(SP)
        TRAP C$SVEC
        ADD #10, SP
        MOV #PRI04, R0
        TRAP C$SPRI
6076 042404 013746 002244
        042410 012746 036366
        042414 013746 002242
        042420 012746 000003
        042424 104437
        042426 062706 000010
        SETPRI #PRI04      ; SET CPU PRIORITY = 4
        042432 012700 000200
        042436 104441
6077
6078      ; ISSUE GET PCBB PORT COMMAND WITH INTERRUPTS ENABLED
6079
6080 40$:
6081 042440 005037 020612      CLR DNIFLG      ; INSURE DNI BIT SET FLAG IS CLEAR
6082 042444 012705 014442      MOV #NOPF, R5  ; POINT TO DEFAULT NOP FUNCTION
6083 042450 004737 033656      JSR PC, LDPCBB ; LOAD FUNCTION INTO PCBB
6084 042454 004737 033706      JSR PC, LDPCSR ; ADDRESS OF PCBB -> PCSR2!3
6085 042460 012777 004100 137540 MOV #DNI!INTE, @PCSR0 ; PRECONDITION INTR EN.
6086 042466 112777 000101 137532 MOV #INTE!GETPCB, @PCSR0 ; ISSUE A GETPCBB PORT COMMAND
6087
6088      ; WAIT FOR DNI INTERRUPT
6089
6090 042474 012701 005000      MOV #5000, R1  ; INIT WAIT COUNT
6091 042500 50$:
6092 042500 005737 020612      TST DNIFLG    ; DID DNI INTERRUPT OCCUR?
6093 042504 001020                BNE 70$      ; YES, CONTINUE TEST
6094 042506 005301                DEC R1       ; REDUCE DELAY
6095 042510 001373                BNE 50$      ; NOT YET
6096 042512
        042512 004737 031010      JSR PC, CHKFTL ; 'FATL' BIT SET?
        ERRHRD 034., ERR007      ; YES, REPORT ERROR
        TRAP C$ERHRD
        .WORD 34
        .WORD ERR007
        .WORD 0
6097 042516
        042516 104456
        042520 000042
        042522 025172
        042524 000000
        CLRVEC INTVEC          ; DEALLOCATE VECTOR
        MOV INTVEC, R0
        TRAP C$CVEC
6098 042526
        042526 013700 002242
        042532 104436
        SETPRI #PRI07          ; RESTORE CPU PRIORITY TO 7
        MOV #PRI07, R0
        TRAP C$SPRI
6099 042534
        042534 012700 000340
        042540 104441
        ESCAPE TST             ; AND ABORT TEST
        TRAP C$ESCAPE
        .WORD L10040-.
6100 042542
        042542 104410
        042544 000076
6101
6102      ; WRITE ONE TO CLEAR DNI
6103
6104 70$: JSR PC, TIMOFF        ; TURN OFF THE TIMER
6105 042546 004737 035256      SETPRI #PRI07 ; RESTORE CPU PRIORITY TO 7
        MOV #PRI07, R0
        042552 012700 000340

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K14

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042556 104441
6106 042560 004737 032320 JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI TRAP C$SPRI
6107 ; ERROR?
6108 042564 103010 BCC 80$ ; NO
6109 042566 FTL

042566 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
6110 042572 ERRHRD 035.,ERR006,MSG003 ; YES, REPORT ERROR TRAP C$ERHRD
042572 104456 .WORD 35
042574 000043 .WORD ERR006
042576 025124 .WORD MSG003
042600 024032
6111 042602 ESCAPE TST ; AND ABORT TRAP C$ESCAPE
042602 104410 .WORD L10040-.
042604 000036
6112 042606 80$:
6113
6114 042606 EXIT TST TRAP C$EXIT
042606 104432 .WORD L10040-.
042610 000032
6115
6116 ;LOCAL TEST MESSAGE
6117
6118 042612 104 105 114 T10ID: .ASCIZ 'DELUA INTERRUPT LOGIC '
042615 125 101 040
042620 111 116 124
042623 105 122 122
042626 125 120 124
042631 040 114 117
042634 107 111 103
042637 040 000

6119 .EVEN
6120
6121 042642 ENDTST
042642
042642 104401 L10040: TRAP C$ETST

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6142 042644
042644
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6144 042644

042644 012704 043334
042650 004737 034610

6145 042654 004737 035310
6146 042660 103034
6147 042662 012777 004100 137336
6148 042670 112777 000140 137330
6149 042676 004737 032034
6150 042702 103010
6151 042704

042704 004737 031010

6152 042710
042710 104456
042712 000044
042714 030105
042716 024032

6153 042720
042720 104410
042722 000444

6154
6155 042724 004737 032320
6156
6157 042730 103010
6158 042732

042732 004737 031010

6159 042736
042736 104456

.SBTTL TEST 11: READ INTERNAL ROM TEST

: THIS TEST READS AND VERIFIES THE INTERNAL ROM.
: THE DUMP INTERNAL MEMORY FUNCTION IS USED TO READ THE ROM.
: A CRC IS GENERATED FROM THE ROM DATA READ.
: A CRC VALUE OF ZERO SHOULD BE GENERATED FROM THE ROM
: DATA READ WHICH INCLUDES THE STORED ROM CRC VALUE.
: TEST SEQUENCE:
: 1. CLEAR RBUF
: 2. READ 1K OF ROM INTO RBUF
: 3. CALCULATE CRC ON RBUF
: 4. REPEAT STEPS 1-3 FOR EACH 1K BLOCK OF ROM (8 TIMES)
: 5. VERIFY CRC GENERATED = 0

BGNTST

T11::

PNTMAC T11ID

MOV #T11ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

: END OF MACRO EXPANSION OF 'PNTMAC'

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

JSR PC,CHKFTL ; 'FATL' BIT SET?

ERRHRD 036.,ERR042,MSG003 ; NO, REPORT ERROR

TRAP ;B0
.WORD C\$ERHRD
.WORD 36
.WORD ERR042
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10041-.

: 20\$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 30\$; NO
FTL

JSR PC,CHKFTL ; 'FATL' BIT SET?

ERRHRD 037.,ERR006,MSG003 ; YES, REPORT ERROR

TRAP C\$ERHRD

M14

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TEST 11: READ INTERNAL ROM TEST

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042740 000045                                .WORD 37
042742 025124                                .WORD ERR006
042744 024032                                .WORD MSG003
6160 042746                                ESCAPE TST                                ; AND ABORT TEST
042746 104410                                TRAP C$ESCAPE
042750 000416                                .WORD L10041-.

6161
6162 042752 004737 033706                    ; 30$: JSR PC,LDPCSR                       ; ADDRESS OF PCBB -> PCSR2!3
6163 042756 012777 004100 137242            MOV #DNI!INTE,@PCSR0                     ; PRECONDITION INTR EN.
6164 042764 112777 000101 137234            MOV #INTE!GETPCB,@PCSR0                 ; ISSUE GET_PCBB PORT COMMAND
6165 042772 004737 030706                    JSR PC,CHKDNI                             ; DNI ?
6166 042776 103010                    BCC 40$                                  ; YES
6167 043000                    FTL

043000 004737 031010                    JSR PC,CHKFTL                             ; 'FATL' BIT SET?

6168 043004                    ERRHRD 040.,ERR009,MSG003                 ; NO, REPORT ERROR
043004 104456                                TRAP C$ERHRD
043006 000050                                .WORD 40
043010 025341                                .WORD ERR009
043012 024032                                .WORD MSG003
6169 043014                    ESCAPE TST                                ; AND ABORT TEST
043014 104410                                TRAP C$ESCAPE
043016 000350                                .WORD L10041-.

6170
6171 043020 004737 032320                    ; 40$: JSR PC,CLRDNI                       ; WRITE ONE TO CLEAR DNI
6172                                BCC 50$                                  ; ERROR ?
6173 043024 103010                    FTL                                       ; NO
6174 043026                                FTL

043026 004737 031010                    JSR PC,CHKFTL                             ; 'FATL' BIT SET?

6175 043032                    ERRHRD 041.,ERR006,MSG003                 ; YES, REPORT ERROR
043032 104456                                TRAP C$ERHRD
043034 000051                                .WORD 41
043036 025124                                .WORD ERR006
043040 024032                                .WORD MSG003
6176 043042                    ESCAPE TST                                ; AND ABORT TEST
043042 104410                                TRAP C$ESCAPE
043044 000322                                .WORD L10041-.

6177
6178 043046 012705 014666                    ; 50$: MOV #DMPMEM,R5                       ; DEFAULT DUMP INTERNAL MEMORY
6179 043052 004737 033656                    JSR PC,LDPCBB                             ; LOAD FUNCTION -> PCBB
6180 043056 012705 017624                    MOV #UDB10A,R5                            ; DEFAULT UDBB
6181 043062 012700 000005                    MOV #5,R0                                  ; FOUR WORDS
6182 043066 004737 034134                    JSR PC,LDUDBB                             ; LOAD INTO UDBB
6183                                ;
6184                                ;
6185 043072 012737 002000 020562            MOV #2000,BYTCNT                          ; 1K BYTES FOR SUBROUTINE 'ROMCRC'
6186 043100 012702 017636                    MOV #MEM10A,R2                            ; R2 POINTS TO ROM ADDRESS TABLE
6187 043104 012700 020576                    MOV #XCRC,R0                              ; POINT TO CRC STORAGE
6188 043110 012720 177777                    MOV #-1,(R0)+                             ; SET INITIAL
6189 043114 012710 177777                    MOV #-1,(R0)                              ; CRC
6190 043120 012701 000017                    MOV #15.,R1                               ; PERFORM 15 ROM DUMPS
6191                                ; AND CRC CALCULATIONS
6192
6193 043124 004737 032272                    ; 60$: JSR PC,CLRCV                       ; CLEAR RBUF

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6194
6195 043130 012237 002320      ;
6196 043134 012777 004100 137064  MOV      (R2)+,UDBB+6      ; LOAD ROM ADDRESS -> UDBB+6
6197 043142 112777 000102 137056  MOV      #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6198 043150 004737 030706      MOVVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET COMMAND PORT COMMAND
6199 043154 103010      JSR      PC,CHKDNI        ; DNI ?
6200 043156      BCC      70$             ; YES
                                FTL
                                JSR      PC,CHKFTL        ; 'FATL' BIT SET?
                                ERRHRD  042.,ERR010,MSG003 ; NO, REPORT ERROR
                                TRAP    C$ERHRD
                                .WORD   42
                                .WORD   ERR010
                                .WORD   MSG003
6201 043162      JSR      PC,CHKFTL        ; 'FATL' BIT SET?
                                ERRHRD  042.,ERR010,MSG003 ; NO, REPORT ERROR
                                TRAP    C$ERHRD
                                .WORD   42
                                .WORD   ERR010
                                .WORD   MSG003
                                ESCAPE  TST        ; AND ABORT TEST
                                TRAP    C$ESCAPE
                                .WORD   L10041-.
6202 043172      JSR      PC,CHKFTL        ; 'FATL' BIT SET?
                                ERRHRD  042.,ERR010,MSG003 ; NO, REPORT ERROR
                                TRAP    C$ERHRD
                                .WORD   42
                                .WORD   ERR010
                                .WORD   MSG003
                                ESCAPE  TST        ; AND ABORT TEST
                                TRAP    C$ESCAPE
                                .WORD   L10041-.
6203 043176 004737 032320      ;
6204 043176 004737 032320      70$: JSR      PC,CLRDN1        ; WRITE ONE TO CLEAR DNI
6205 043202 103010      BCC      80$             ; ERROR ?
6206 043204      FTL        ; NO
                                JSR      PC,CHKFTL        ; 'FATL' BIT SET?
                                ERRHRD  043.,ERR006,MSG003 ; YES, REPORT ERROR
                                TRAP    C$ERHRD
                                .WORD   43
                                .WORD   ERR006
                                .WORD   MSG003
6207 043204      FTL        ; NO
                                JSR      PC,CHKFTL        ; 'FATL' BIT SET?
                                ERRHRD  043.,ERR006,MSG003 ; YES, REPORT ERROR
                                TRAP    C$ERHRD
                                .WORD   43
                                .WORD   ERR006
                                .WORD   MSG003
                                ESCAPE  TST        ; AND ABORT TEST
                                TRAP    C$ESCAPE
                                .WORD   L10041-.
6208 043210      JSR      PC,CHKFTL        ; 'FATL' BIT SET?
                                ERRHRD  043.,ERR006,MSG003 ; YES, REPORT ERROR
                                TRAP    C$ERHRD
                                .WORD   43
                                .WORD   ERR006
                                .WORD   MSG003
                                ESCAPE  TST        ; AND ABORT TEST
                                TRAP    C$ESCAPE
                                .WORD   L10041-.
6209 043220      JSR      PC,CHKFTL        ; 'FATL' BIT SET?
                                ERRHRD  043.,ERR006,MSG003 ; YES, REPORT ERROR
                                TRAP    C$ERHRD
                                .WORD   43
                                .WORD   ERR006
                                .WORD   MSG003
                                ESCAPE  TST        ; AND ABORT TEST
                                TRAP    C$ESCAPE
                                .WORD   L10041-.
6210 043224      JSR      PC,CHKFTL        ; 'FATL' BIT SET?
                                ERRHRD  043.,ERR006,MSG003 ; YES, REPORT ERROR
                                TRAP    C$ERHRD
                                .WORD   43
                                .WORD   ERR006
                                .WORD   MSG003
                                ESCAPE  TST        ; AND ABORT TEST
                                TRAP    C$ESCAPE
                                .WORD   L10041-.
6211 043224 004737 034336      ;
6212 043224 004737 034336      80$: JSR      PC,ROMCRC        ; CALCULATE CRC ON 1K RBUF
6213 043230 005301      DEC      R1              ; REDUCE 1K BLOCK COUNT
6214 043232 020127 000001      CMP      R1,#1          ; NEXT BLOCK LAST ONE?
6215 043236 002332      BGE      60$            ; NO
6216 043240 005701      TST      R1             ; ALL DONE?
6217 043242 100404      BMI      85$            ; YES
6218 043244 012737 001774 020562  MOV      #1774,BYTCNT   ; NO, BUT,DON'T INCLUDE CRC
6219 043252 000724      BR       60$            ; IN LAST 1K CRC CALCULATION
6220
6221      ;VERIFY CRC
6222
6223 043254      COM      R3              ; COMPLIMENT
6224 043254 005103      COM      R4              ; CRC
6225 043256 005104      MOV      #XCRC,R0       ; BASE ADDRESS OF CALCULATED CRC
6226 043260 012700 020576      MOV      R4,(R0)+       ; SAVE
6227 043264 010420      MOV      R3,(R0)        ; CRC
6228 043266 010310      MOV      #XCRC,R0       ; RESET POINTER
6229 043270 012700 020576      MOV      #XCRC,R0
6230
6231 043274 012701 012436      MOV      #RBUF+1774,R1   ; POINT TO ROM CRC
6232 043300 022021      CMP      (R0)+,(R1)+    ; 1ST 2 BYTES CHECK?

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6233 043302 001002          BNE      90$          ; NO, GO REPORT ERROR
6234 043304 021011          CMP      (R0),(R1)   ; 2ND 2 BYTES COMPARE?
6235 043306 001410          BEQ      95$          ; YES, GO EXIT TEST
6236 043310          90$:
6237 043310          FTL
          043310 004737 031010 JSR      PC,CHKFTL   ; 'FATL' BIT SET?
6238 043314          ERRHRD 044.,ERR024 ; NO, ROM CRC ERROR, REPORT ERROR
          043314 104456          TRAP    C$ERHRD
          043316 000054          .WORD  44
          043320 026540          .WORD  ERR024
          043322 000000          .WORD  0
6239 043324          ESCAPE TST          ; AND ABORT TEST
          043324 104410          TRAP    C$ESCAPE
          043326 000040          .WORD  L10041-.
6240 043330          95$:
6241
6242 043330          EXIT   TST
          043330 104432          TRAP    C$EXIT
          043332 000034          .WORD  L10041-.
6243
6244          ;LOCAL TEST MESSAGE
6245
6246 043334          104    105    114  T11ID: .ASCIZ 'DELUA READ INTERNAL ROM '
          043337          125    101    040
          043342          122    105    101
          043345          104    040    111
          043350          116    124    105
          043353          122    116    101
          043356          114    040    122
          043361          117    115    040
          043364          000
6247          .EVEN
6248
6249 043366          ENDTST
          043366          L10041: TRAP    C$ETST
          043366 104401
  
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043374
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004737
044560
034610

043400
043404
043406
043414
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043434
043434
043436
043440
043442
043444
043444
043446
012704
004737
035310
103034
012777
112777
004100
000140
103010
004737
031010
10456
000055
030105
024032
104410
001154

136612
136604

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.SBTTL TEST 12: READ/WRITE INTERNAL MEMORY TEST
:*****
:
: THIS TEST READS AND WRITES THE INTERNAL RAM MEMORY.
: THE DUMP/LOAD INTERNAL MEMORY FUNCTIONS ARE USED TO
: READ/WRITE THE ENTIRE INTERNAL RAM ABOVE THAT USED
: FOR THE LOADED PROCESS.
:
:         LOWEST ADDRESS: 08400(16)
:         HIGHEST ADDRESS: 1F400(16)
:
: TEST SEQUENCE:
:
: 1. WRITE MODE REGISTER = INTERNAL LOOPBACK MODE
:    TO REMOVE MEMORY FROM THE WIRE
: 2. LOAD TBUF WITH DATA = ADDRESS
: 3. LOAD 1K OF INTERNAL MEMORY WITH TBUF
: 4. REPEAT STEPS 1 AND 2 FOR
:    EACH 1K BLOCK OF MEMORY (  TIMES)
: 5. RESETUP TBUF FOR DATA COMPARE
: 6. CLEAR RBUF
: 7. DUMP INTERNAL MEMORY -> RBUF
: 8. COMPARE RBUF WITH TBUF
: 9. REPEAT STEPS 4,5,6 AND 7 FOR EACH 1K BLOCK
:10. REPEAT STEPS 1 THRU 8 WITH COMPLIMENT DATA
:*****
:
: BGNTST
:
:                                     T12::
:
: PNTMAC T12ID
:
: MOV #T12ID,R4 ;GET POINTER TO TEST NAME MESSAGE
: JSR PC,PNTID ;PRINT TEST NUMBER AND NAME
:
: END OF MACRO EXPANSION OF 'PNTMAC'
:
: JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
: BCC 30$ ; NO
: MOV #DNI!INTE,@PCSRO ; PRECONDITION INTR EN.
: MOVB #INTE!RSET,@PCSRO ; YES, RESET DELUA
: JSR PC,CKDNI ; DNI ?
: BCC 20$ ; YES
: FTL
:
: JSR PC,CHKFTL ; 'FATL' BIT SET?
:
: ERRHRD 045.,ERR042,MSG003 ; NO, REPORT ERROR
:
:                                     ;B0
: TRAP C$ERHRD
: .WORD 45
: .WORD ERR042
: .WORD MSG003
:
: ESCAPE TST ; AND ABORT TEST
:
: TRAP C$ESCAPE
: .WORD L10042-
```

D15

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 TEST 12: READ/WRITE INTERNAL MEMORY TEST

SEQ 185

```

6292
6293 043450 004737 032320      ; 20$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
6294                                ; BCC    30$                ; ERROR ?
6295 043454 103010            ; FTL                                ; NO
6296 043456
                                JSR    PC,CHKFTL          ; 'FATL' BIT SET?
                                ERRHRD 046.,ERR006,MSG003      ; YES, REPORT ERROR
6297 043462                                TRAP  C$ERHRD
                                043462 104456                .WORD 46
                                043464 000056                .WORD ERR006
                                043466 025124                .WORD MSG003
                                043470 024032
6298 043472                                ESCAPE TST                ; AND ABORT TEST
                                043472 104410                TRAP  C$ESCAPE
                                043474 001126                .WORD L10042-.
6299
6300 043476 004737 033706      ; 30$: JSR    PC,LDPCSR      ; ADDRESS OF PCBB -> PCSR2!3
6301 043502 012777 004100 136516  ; MOV    #DNI!INTE,@PCSR0    ; PRECONDITION INTR EN.
6302 043510 112777 000101 136510  ; MOVB   #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
6303 043516 004737 030706      ; JSR    PC,CHKDNI
6304 043522 103010            ; BCC    40$                ; YES
6305 043524
                                JSR    PC,CHKFTL          ; 'FATL' BIT SET?
                                ERRHRD 047.,ERR009,MSG003      ; NO, REPORT ERROR
6306 043530                                TRAP  C$ERHRD
                                043530 104456                .WORD 47
                                043532 000057                .WORD ERR009
                                043534 025341                .WORD MSG003
                                043536 024032
6307 043540                                ESCAPE TST                ; AND ABORT TEST
                                043540 104410                TRAP  C$ESCAPE
                                043542 001060                .WORD L10042-.
6308
6309 043544 004737 032320      ; 40$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
6310                                ; BCC    45$                ; ERROR ?
6311 043550 103010            ; FTL                                ; NO
6312 043552
                                JSR    PC,CHKFTL          ; 'FATL' BIT SET?
                                ERRHRD 050.,ERR006,MSG003      ; YES, REPORT ERROR
6313 043556                                TRAP  C$ERHRD
                                043556 104456                .WORD 50
                                043560 000062                .WORD ERR006
                                043562 025124                .WORD MSG003
                                043564 024032
6314 043566                                ESCAPE TST                ; AND ABORT TEST
                                043566 104410                TRAP  C$ESCAPE
                                043570 001032                .WORD L10042-.
6315
6316                                ; ISSUE A PORT HALT TO INHIBIT NI ACTIVITY
6317
6318 043572      ; 45$:
6319
6320 043572 012777 004100 136426  ; MOV    #DNI!INTE,@PCSR0    ; PRECONDITION INTR EN.
6321 043600 112777 000116 136420  ; MOVB   #INTE!HALT,@PCSR0   ; PORT HALT

```

E15

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TEST 12: READ/WRITE INTERNAL MEMORY TEST

SEQ 186

```

6322 043606 004737 030706      JSR    PC,CHKDNI      ; DNI ?
6323 043612 103010      BCC    47$           ; YES
6324 043614

      043614 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?
6325 043620      ERRHRD 051.,ERR038,MSG003 ; NO, REPORT ERROR
      043620 104456      TRAP   C$ERHRD
      043622 000063      .WORD 51
      043624 027616      .WORD ERR038
      043626 024032      .WORD MSG003
6326 043630      ESCAPE TST          ; AND ABORT TEST
      043630 104410      TRAP   C$ESCAPE
      043632 000770      .WORD L10042-.
6327
6328 043634 004737 032320      47$: JSR    PC,CLRDN1  ; WRITE ONE TO CLEAR DNI
6329
6330 043640 103010      BCC    50$           ; ERROR ?
6331 043642      FTL
      043642 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?
6332 043646      ERRHRD 052.,ERR006,MSG003 ; YES, REPORT ERROR
      043646 104456      TRAP   C$ERHRD
      043650 000064      .WORD 52
      043652 025124      .WORD ERR006
      043654 024032      .WORD MSG003
6333 043656      ESCAPE TST          ; AND ABORT TEST
      043656 104410      TRAP   C$ESCAPE
      043660 000742      .WORD L10042-.
6334
6335      ;WRITE RAM MEMORY WITH DATA = ADDRESS BY 1K BLOCKS
6336 043662 50$:
6337 043662 005037 020610      CLR    EAFLAG        ; CLEAR EXT ADDR BITS FLAG
6338 043666 012703 017714      MOV    #MEM13A,R3    ; R3 POINTS TO LINK MEM ADDRESS TABLE
6339 043672 012701 000065      MOV    #53.,R1       ; DO LOOP
6340
6341      ;WRITE TBUF WITH DATA = ADDRESS
6342 043676 010305 60$:
6343 043700 004737 033322      MUV   R3,R5          ; R5 POINTS TO ADDRESS
      JSR    PC,LDBUFC   ; LOAD TBUF WITH ADDRESS DATA PATTERN
6344
6345      ;LOAD INTERNAL RAM MEMORY
6346 043704 012705 014676      MOV    #LDMEM,R5     ; DEFAULT LOAD INTERNAL MEMORY
6347 043710 004737 035132      JSR    PC,SRWRAM     ; LOAD PCBB AND UDBB
6348
6349 043714 012777 004100 136304 65$:
6350 043722 112777 000102 136276      MOV    #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
      MOVB  #INTE!GETCMD,@PCSR0 ; ISSUE GET COMMAND PORT COMMAND
6351 043730 004737 030706      JSR    PC,CHKDNI     ; DNI ?
6352 043734 103010      BCC    70$           ; YES
6353 043736

      043736 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?
6354 043742      ERRHRD 053.,ERR010,MSG003 ; NO, REPORT ERROR
      043742 104456      TRAP   C$ERHRD
      043744 000065      .WORD 53
      043746 025425      .WORD ERR010

```

```

6355 043750 024032          ESCAPE TST          ; AND ABORT TEST          .WORD  MSG003
      043752          ;                               TRAP   C$ESCAPE
      043752 104410          ;                               .WORD  L10042-.
      043754 000646          ;

6356          ;
6357 043756 004737 032320  70$: JSR      PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
6358          ;                               ; ERROR ?
6359 043762 103010          BCC      80$          ; NO
6360 043764          FTL

      043764 004737 031010          JSR      PC,CHKFTL      ; 'FATL' BIT SET?

6361 043770          ERRHRD 054.,ERR006,MSG003 ; YES, REPORT ERROR
      043770 104456          ;                               TRAP   C$ERHRD
      043772 000066          ;                               .WORD  54
      043774 025124          ;                               .WORD  ERR006
      043776 024032          ;                               .WORD  MSG003

6362 044000          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
      044000 104410          ;                               .WORD  L10042-.
      044002 000620          ;

6363 044004          80$: TST      (R3)+      ; BUMP TABLE POINTER
6364 044004 005723          DEC      R1          ; DONE 16 WRITES ?
6365 044006 005301          BNE     60$          ; NO
6366 044010 001332          ;
6367          ;
6368          ;READ INTERNAL RAM MEMORY BY 1K BLOCKS AND COMPARE DATA
6369          ;
6370 044012 005037 020610          CLR     EAFLAG      ; CLEAR EXT ADDR BITS FLAG
6371 044016 012703 017714          MOV     #MEM13A,R3  ; R3 POINTS TO LINK MEM ADDRESS TABLE
6372 044022 012701 000065          MOV     #53.,R1     ; DO LOOP
6373          ;
6374          ;SETUP TBUF FOR DATA COMPARE
6375 044026 010305          100$: MOV     R3,R5      ; R5 POINTS TO ADDRESS
6376 044030 004737 033322          JSR     PC,LDBUFC   ; LOAD TBUF WITH ADDRESS DATA PATTERN
6377          ;
6378          ;CLEAR RBUF
6379          ;
6380 044034 004737 032272          JSR     PC,CLRCV    ; CLEAR RECEIVE BUFFER
6381          ;
6382          ;DUMP INTERNAL MEMORY INTO RBUF
6383 044040 012705 014666          MOV     #DMPMEM,R5  ; DEFAULT DUMP INTERNAL MEMORY
6384 044044 004737 035132          JSR     PC,SRWRAM   ; LOAD PCBB AND UDBB
6385          ;
6386 044050 012777 004100 136150 115$: MOV     #DNI!INTE,@PCSRO ; PRECONDITION INTR EN.
6387 044056 112777 000102 136142  MOVB    #INTE!GETCMD,@PCSRO ; ISSUE GET COMMAND PORT COMMAND
6388 044064 004737 030706          JSR     PC,CHKDNI   ; DNI ?
6389 044070 103010          BCC     120$        ; YES
6390 044072          FTL

      044072 004737 031010          JSR     PC,CHKFTL      ; 'FATL' BIT SET?

6391 044076          ERRHRD 055.,ERR010,MSG003 ; NO, REPORT ERROR
      044076 104456          ;                               TRAP   C$ERHRD
      044100 000067          ;                               .WORD  55
      044102 025425          ;                               .WORD  ERR010
      044104 024032          ;                               .WORD  MSG003

6392 044106          ESCAPE TST          ; AND ABORT TEST

```

G15

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TEST 12: READ/WRITE INTERNAL MEMORY TEST

SEQ 188

```

044106 104410
044110 000512
6393
6394 044112 004737 032320      ;120$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
6395                                ; ERROR ?
6396 044116 103010              BCC    130$                ; NO
6397 044120                                FTL
                                JSR    PC,CHKFTL          ; 'FATL' BIT SET?
                                ERRHRD 056.,ERR006,MSG003 ; YES, REPORT ERROR
6398 044124                                TRAP  C$ERHRD
044124 104456                                .WORD 56
044126 000070                                .WORD ERR006
044130 025124                                .WORD MSG003
044132 024032
6399 044134                                ESCAPE TST                ; AND ABORT TEST
044134 104410                                TRAP  C$ESCAPE
044136 000464                                .WORD L10042-.
6400
6401      ;COMPARE RBUF WITH TBUF
6402
6403 044140 022701 000001      ;130$: CMP    #1,R1          ; IS THIS THE LAST 1K BLOCK ?
6404 044144 001003              BNE    135$                ; NO
6405 044146 012705 000500      MOV    #500,R5            ; YES, ONLY COMPARE 500 WORDS
6406 044152 000402              BR     136$
6407
6408 044154 012705 002000      ;135$: MOV    #1024.,R5     ; COMPARE 1024. WORDS OF DATA
6409 044160 004737 032726      ;136$: JSR    PC,CMPMEM     ; DATA COMPARE ERROR ?
6410 044164 103010              BCC    140$                ; NO
6411 044166                                FTL
                                JSR    PC,CHKFTL          ; 'FATL' BIT SET?
                                ERRHRD 057.,ERR041,MSG007 ; YES, REPORT ERROR
6412 044172                                TRAP  C$ERHRD
044172 104456                                .WORD 57
044174 000071                                .WORD ERR041
044176 030037                                .WORD MSG007
044200 024442
6413 044202                                ESCAPE TST                ; AND ABORT TEST
044202 104410                                TRAP  C$ESCAPE
044204 000416                                .WORD L10042-.
6414
6415 044206      ;140$: TST    (R3)+         ; BUMP UP TABLE POINTER
6416 044206 005723              DEC    R1                  ; DONE 103 READS ?
6417 044210 005301              BNE    100$
6418 044212 001305
6419
6420      ;REPEAT TEST WITH COMPLIMENTED DATA PATTERN
6421
6422      ;WRITE INTERNAL MEMORY WITH DATA = COMPLIMENT OF ADDRESS BY 1K BLOCKS
6423
6424 044214 005037 020610      CLR    EAFLAG              ; CLEAR EXT ADDR BITS FLAG
6425 044220 012703 017714      MOV    #MEM13A,R3         ; R3 POINTS TO LINK MEM ADDRESS TABLE
6426 044224 012701 000065      MOV    #53.,R1            ; DO LOOP
6427
6428      ;WRITE RBUF WITH DATA = ADDRESS
6429 044230 010305      ;160$: MOV    R3,R5        ; R5 POINTS TO ADDRESS

```

H15

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TEST 12: READ/WRITE INTERNAL MEMORY TEST

SEQ 189

```

6430 044232 004737 033322          JSR    PC,LDBUFC          ; LOAD TBUF WITH COMPLIMENTED DATA
6431                               ;
6432                               ;LOAD INTERNAL RAM MEMORY
6433 044236 012705 014676          MOV    #LDMEM,R5        ; DEFAULT LOAD INTERNAL MEMORY
6434 044242 004737 035132          JSR    PC,SRWRAM        ; LOAD PCBB AND UDBB
6435                               ;
6436 044246 012777 004100 135752 165$: MOV    #DNI!INTE,@PCSR0    ; PRECONDITION INTR EN.
6437 044254 112777 000102 135744  MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET COMMAND PORT COMMAND
6438 044262 004737 030706          JSR    PC,CHKDNI        ; DNI ?
6439 044266 103010                  BCC    170$             ; YES
6440 044270                          FTL
                                044270 004737 031010          JSR    PC,CHKFTL        ; 'FATL' BIT SET?
6441 044274                          ERRHRD 060.,ERR010,MSG003    ; NO, REPORT ERROR
                                044274 104456                TRAP   C$ERHRD
                                044276 000074                .WORD 60
                                044300 025425                .WORD ERR010
                                044302 024032                .WORD MSG003
6442 044304                          ESCAPE TST              ; AND ABORT TEST
                                044304 104410                TRAP   C$ESCAPE
                                044306 000314                .WORD L10042-.
6443                               ;
6444 044310 004737 032320 170$:  JSR    PC,CLRDNI        ; WRITE ONE TO CLEAR DNI
6445                               ; ERROR ?
6446 044314 103010                  BCC    180$             ; NO
6447 044316                          FTL
                                044316 004737 031010          JSR    PC,CHKFTL        ; 'FATL' BIT SET?
6448 044322                          ERRHRD 061.,ERR006,MSG003    ; YES, REPORT ERROR
                                044322 104456                TRAP   C$ERHRD
                                044324 000075                .WORD 61
                                044326 025124                .WORD ERR006
                                044330 024032                .WORD MSG003
6449 044332                          ESCAPE TST              ; AND ABORT TEST
                                044332 104410                TRAP   C$ESCAPE
                                044334 000266                .WORD L10042-.
6450 044336 180$:
6451 044336 005301                  DEC    R1                ; DONE 16 WRITES ?
6452 044340 001333                  BNE    160$             ; NO
6453                               ;
6454                               ;READ INT RAM MEMORY BY 1K BLOCKS AND COMPARE DATA
6455                               ;
6456 044342 005037 020610          CLR    EAFLAG            ; CLEAR EXT ADDR BITS FLAG
6457 044346 012703 017714          MOV    #MEM13A,R3        ; R3 POINTS TO LINK MEM ADDRESS TABLE
6458 044352 012701 000065          MOV    #53.,R1           ; DO LOOP
6459                               ;
6460                               ;SETUP TBUF FOR DATA COMPARE
200$: 044356 010305                  MOV    R3,R5             ; R5 POINTS TO ADDRESS
6462 044360 004737 033322          JSR    PC,LDBUFC        ; LOAD TBUF WITH COMPLIMENTED DATA
6463                               ;
6464                               ;CLEAR RBUF
6465 044364 012704 010442          MOV    #RBUF,R4          ; CLEAR RBUF
6466 044370 012700 002000          MOV    #1024.,R0
6467 044374 005024                  CLR    (R4)+
6468 044376 077002                  SOB    R0,210$

```

```

6469
6470          ;DUMP INTERNAL RAM MEMORY INTO RBUF
6471 044400 012705 014666      MOV      #DMPMEM,R5      ; DEFAULT DUMP INTERNAL MEMORY
6472 044404 004737 035132      JSR      PC,SRWRAM      ; LOAD PCBB AND UDBB
6473
6474 044410 012777 004100 135610 ;215$: MOV      #DNI!INTE,@PCSR0      ; PRECONDITION INTR EN.
6475 044416 112777 000102 135602 MOVB     #INTE!GETCMD,@PCSR0      ; ISSUE GET COMMAND PORT COMMAND
6476 044424 004737 030706      JSR      PC,CHKDNI      ; DNI ?
6477 044430 103010      BCC     220$            ; YES
6478 044432
          JSR      PC,CHKFTL      ; 'FATL' BIT SET?
          ERRHRD 062.,ERR010,MSG003 ; NO, REPORT ERROR
6479 044436
          044436 104456      TRAP     C$ERHRD
          044440 000076      .WORD   62
          044442 025425      .WORD   ERR010
          044444 024032      .WORD   MSG003
6480 044446      ESCAPE TST      ; AND ABORT TEST
          044446 104410      TRAP     C$ESCAPE
          044450 000152      .WORD   L10042-.
6481
6482 044452 004737 032320      ;220$: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
6483
6484 044456 103010      BCC     230$            ; ERROR ?
6485 044460      FTL
          JSR      PC,CHKFTL      ; 'FATL' BIT SET?
          ERRHRD 063.,ERR006,MSG003 ; YES, REPORT ERROR
6486 044464
          044464 104456      TRAP     C$ERHRD
          044466 000077      .WORD   63
          044470 025124      .WORD   ERR006
          044472 024032      .WORD   MSG003
6487 044474      ESCAPE TST      ; AND ABORT TEST
          044474 104410      TRAP     C$ESCAPE
          044476 000124      .WORD   L10042-.
6488
6489          ;COMPARE RBUF WITH TBUF
6490
6491 044500 022701 000001      ;230$: CMP      #1,R1          ; IS THIS THE LAST 1K PLOCK ?
6492 044504 001003      BNE     235$            ; NO
6493 044506 012705 000500      MOV      #500,R5        ; YES, ONLY COMPARE 500 WORDS
6494 044512 000402      BR      236$
6495
6496 044514 012705 002000      ;235$: MOV      #1024.,R5      ; COMPARE 1024. WORDS OF DATA
6497 044520 004737 032726      ;236$: JSR      PC,CMPMEM      ; DATA COMPARE ERROR ?
6498 044524 103010      BCC     240$            ; NO
6499 044526
          JSR      PC,CHKFTL      ; 'FATL' BIT SET?
          ERRHRD 064.,ERR041,MSG007 ; YES, REPORT ERROR
6500 044532
          044532 104456      TRAP     C$ERHRD
          044534 000100      .WORD   64
          044536 030037      .WORD   ERR041
          044540 024442      .WORD   MSG007

```

J15

```

6501 044542          ESCAPE TST          ; AND ABORT TEST
      044542 104410
      044544 000056          TRAP      C$ESCAPE
                          .WORD      L10042-.

6502
6503 044546          ;240$:
6504 044546 005723   TST      (R3)+          ; BUMP UP TABLE POINTER
6505 044550 005301   DEC      R1              ; DONE 103 READS ?
6506 044552 001301   BNE     200$

6507
6508
6509 044554          EXIT TST
      044554 104432          TRAP      C$EXIT
      044556 000044          .WORD      L10042-.

6510
6511          ;LOCAL TEST MESSAGE
6512
6513 044560      104      105      114  T12ID: .ASCIZ 'DELUA READ/WRITE INTERNAL MEMORY '
      044563      125      101      040
      044566      122      105      101
      044571      104      057      127
      044574      122      111      124
      044577      105      040      111
      044602      116      124      105
      044605      122      116      101
      044610      114      040      115
      044613      105      115      117
      044616      122      131      040
      044621      000

6514          .EVEN
6515
6516 044622          ENDTST
      044622
      044622 104401          L10042: TRAP      C$ETST

```


6518
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.SBTTL TEST 13: INTERNAL LOOPBACK TEST

```
*****
:
: THIS TEST VERIFIES THAT AN INTERNAL LOOPBACK OPERATION
: CAN BE PERFORMED SUCCESSFULLY.
:
: TEST SEQUENCE:
:   1. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM MODE
:   2. WRITE RING FORMAT
:   3. WRITE PHYSICAL ADDRESS
:   4. SET UP RINGS AND BUFFERS
:   5. ISSUE START
:   6. CHECK FOR ERRORS
:   7. ISSUE STOP
:
:*****
```

6536 044624
044624
6537
6538 044624

BGNTST

T13::

PNTMAC T13ID

044624 012704 046200
044630 004737 034610

```
MOV #T13ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME
```

: END OF MACRO EXPANSION OF 'PNTMAC'

6539 044634 004737 035310
6540 044640 103034
6541 044642 012777 004100 135356
6542 044650 112777 000140 135350
6543 044656 004737 032034
6544 044662 103010
6545 044664

```
JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30$ ; NO
MOV #DNI!INTE,@PCSRO ; PRECONDITION INTR EN.
MOVB #INTE!RSET,@PCSRO ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20$ ; YES
FTL
```

044664 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

6546 044670
044670 104456
044672 000101
044674 030105
044676 024032

ERRHRD 065.,ERR042,MSG003 ; NO, REPORT ERROR

```
TRAP ;B0
.WORD C$ERHRD
.WORD 65
.WORD ERR042
.WORD MSG003
```

6547 044700
044700 104410
044702 001330

ESCAPE TST ; AND ABORT TEST

```
TRAP C$ESCAPE
.WORD L10043-
```

6548
6549 044704 004737 032320
6550
6551 044710 103010
6552 044712

```
20$: JSR PC,CLRDN ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 30$ ; NO
FTL
```

044712 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

6553 044716
044716 104456
044720 000102

ERRHRD 066.,ERR006,MSG003 ; YES, REPORT ERROR

```
TRAP C$ERHRD
.WORD 66
```

L15

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TEST 13: INTERNAL LOOPBACK TEST

SEQ 193

```

044722 025124
044724 024032
6554 044726          ESCAPE TST          ; AND ABORT TEST          .WORD  ERR006
044726 104410          ;                               .WORD  MSG003
044730 001302          ;                               TRAP   C$ESCAPE
6555                                     ;                               .WORD  L10043-.
6556 044732          ;
6557 044732 004737 032246          JSR    PC,CLRBUF          ; CLEAR XMIT,RECV BUFFERS
6558 044736 004737 033606          JSR    PC,LDDFLT          ; LOAD DEFAULT PHY.ADDRESS TABLES
6559 044742 004737 033706          JSR    PC,LDPCSR          ; ADDRESS OF PCBB -> PCSR2!3
6560 044746 012777 004100 135252          MOV    #DNI!INTE,@PCSR0  ; PRECONDITION INTR EN.
6561 044754 112777 000101 135244          MOVB   #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
6562 044762 004737 030706          JSR    PC,CHKDNI          ; DNI?
6563 044766 103010          BCC    40$                ; YES
6564 044770          FTL
044770 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
6565 044774          ERRHRD 067.,ERR009,MSG003      ; NO, REPORT ERROR
044774 104456          ;                               TRAP   C$ERHRD
044776 000103          ;                               .WORD  67
045000 025341          ;                               .WORD  ERR009
045002 024032          ;                               .WORD  MSG003
6566 045004          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
045004 104410          ;                               .WORD  L10043-.
045006 001224          ;
6567                                     ;
6568 045010 004737 032320          ; 40$: JSR    PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
6569                                     ;                               ; ERROR ?
6570 045014 103010          BCC    50$                ; NO
6571 045016          FTL
045016 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
6572 045022          ERRHRD 070.,ERR006,MSG003      ; YES, REPORT ERROR
045022 104456          ;                               TRAP   C$ERHRD
045024 000106          ;                               .WORD  70
045026 025124          ;                               .WORD  ERR006
045030 024032          ;                               .WORD  MSG003
6573 045032          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
045032 104410          ;                               .WORD  L10043-.
045034 001176          ;
6574                                     ;
6575                                     ; WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
6576                                     ;
6577 045036 012705 014602          ; 50$: MOV    #WTMODE,R5          ; DEFAULT WRITE MODE FUNCTION
6578 045042 004737 033656          JSR    PC,LDPCBB          ; LOAD FUNCTION -> PCBB
6579 045046 012777 004100 135152          MOV    #DNI!INTE,@PCSR0  ; PRECONDITION INTR EN.
6580 045054 112777 000102 135144          MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
6581 045062 004737 030706          JSR    PC,CHKDNI          ; DNI ?
6582 045066 103010          BCC    60$                ; YES
6583 045070          FTL
045070 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
6584 045074          ERRHRD 071.,ERR010,MSG003      ; NO, REPORT ERROR
045074 104456          ;                               TRAP   C$ERHRD

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	045076	000107					.WORD	71
	045100	025425					.WORD	ERR010
	045102	024032					.WORD	MSG003
6585	045104			ESCAPE	TST			; AND ABORT TEST
	045104	104410					TRAP	C\$ESCAPE
	045106	001124					.WORD	L10043-.
6586								
6587	045110	004737	032320	i60\$:	JSR	PC,CLRDNI		; WRITE ONE TO CLEAR DNI
6588								; ERROR ?
6589	045114	103010			BCC	70\$; NO
6590	045116				FTL			
	045116	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
6591	045122				ERRHRD	072.,ERR006,MSG003		; YES, REPORT ERROR
	045122	104456					TRAP	C\$ERHRD
	045124	000110					.WORD	72
	045126	025124					.WORD	ERR006
	045130	024032					.WORD	MSG003
6592	045132				ESCAPE	TST		; AND ABORT TEST
	045132	104410					TRAP	C\$ESCAPE
	045134	001076					.WORD	L10043-.
6593								
6594								
6595								
6596	045136	012705	014542	70\$:	MOV	#WTRNGS,R5		; DEFAULT WRITE RING FORMAT FUNCTION
6597	045142	004737	033656		JSR	PC,LDPCBB		; LOAD FUNCTION -> PCBB
6598	045146	012705	014706		MOV	#RFRMT,R5		; DEFAULT RING FORMAT
6599	045152	012700	000006		MOV	#6,R0		; FORMAT = SIX WORDS
6600	045156	004737	034134		JSR	PC,LDUDBB		; LOAD RING FORMAT -> UDBB
6601	045162	012777	004100	135036	MOV	#DNI!INTE,@PCSRO		; PRECONDITION INTR EN.
6602	045170	112777	000102	135030	MOVB	#INTE!GETCMD,@PCSRO		; ISSUE GET_CMD PORT COMMAND
6603	045176	004737	030706		JSR	PC,CHKDNI		; DNI ?
6604	045202	103010			BCC	80\$; YES
6605	045204				FTL			
	045204	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
6606	045210				ERRHRD	073.,ERR010,MSG003		; NO, REPORT ERROR
	045210	104456					TRAP	C\$ERHRD
	045212	000111					.WORD	73
	045214	025425					.WORD	ERR010
	045216	024032					.WORD	MSG003
6607	045220				ESCAPE	TST		; AND ABORT TEST
	045220	104410					TRAP	C\$ESCAPE
	045222	001010					.WORD	L10043-.
6608								
6609	045224	004737	032320	i80\$:	JSR	PC,CLRDNI		; WRITE ONE TO CLEAR DNI
6610								; ERROR ?
6611	045230	103010			BCC	90\$; NO
6612	045232				FTL			
	045232	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
6613	045236				ERRHRD	074.,ERR006,MSG003		; YES, REPORT ERROR
	045236	104456					TRAP	C\$ERHRD
	045240	000112					.WORD	74

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        045242 025124
        045244 024032
6614 045246          ESCAPE TST          ; AND ABORT TEST          .WORD  ERR006
        045246 104410                                     .WORD  MSG003
        045250 000762                                     TRAP   C$ESCAPE
                                                .WORD  L10043-.

6615          ;
6616          ;WRITE PHYSICAL ADDRESS
6617
6618 045252          90$:
6619 045252 012705 002274          MOV    #DEFAULT,R5          ; GET DEFAULT PHYSICAL ADDRESS
6620 045256 004737 033724          JSR   PC,LDPHYA            ; PLACE IT IN DATA TABLE
6621 045262 012705 014502          MOV    #WTPHYA,R5         ; DEFAULT WRITE PHYSICAL ADDR FUNC
6622 045266 004737 033656          JSR   PC,LDPCCBB          ; LOAD FUNCTION -> PCBB
6623 045272 012777 004100 134726  MOV    #DNI!INTE,@PCSRO   ; PRECONDITION INTR EN.
6624 045300 112777 000102 134720  MOVB   #INTE!GETCMD,@PCSRO ; ISSUE GET_CMD PORT COMMAND
6625 045306 004737 030706          JSR   PC,CHKDNI           ; DNI ?
6626 045312 103010          BCC   100$                ; YES
6627 045314          FTL

        045314 004737 031010          JSR   PC,CHKFTL           ; 'FATL' BIT SET?

6628 045320          ERRHRD 075.,ERR010,MSG003          ; NO, REPORT ERROR
        045320 104456                                     TRAP   C$ERHRD
        045322 000113                                     .WORD  75
        045324 025425                                     .WORD  ERR010
        045326 024032                                     .WORD  MSG003

6629 045330          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
        045330 104410                                     .WORD  L10043-.
        045332 000700

6630          ;
6631 045334 004737 032320 100$: JSR   PC,CLRDN1            ; WRITE ONE TO CLEAR DNI
6632          ; ERROR ?
6633 045340 103010          BCC   110$                ; NO
6634 045342          FTL

        045342 004737 031010          JSR   PC,CHKFTL           ; 'FATL' BIT SET?

6635 045346          ERRHRD 076.,ERR006,MSG003          ; YES, REPORT ERROR
        045346 104456                                     TRAP   C$ERHRD
        045350 000114                                     .WORD  76
        045352 025124                                     .WORD  ERR006
        045354 024032                                     .WORD  MSG003

6636 045356          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
        045356 104410                                     .WORD  L10043-.
        045360 000652

6637          ;
6638          ;SET UP RINGS FOR ONE BUFFER LOOPBACK
6639
6640 045362 012705 016412 110$: MOV    #TDRB1A,R5          ; DEFAULT ONE BUFFER TRANSMIT RING
6641 045366 004737 034040          JSR   PC,LDTDRB          ; LOAD TDRB
6642 045372 012705 014752          MOV    #RDRB1A,R5         ; DEFAULT ONE BUFFER RECEIVE RING
6643 045376 004737 033744          JSR   PC,LDRDRB          ; LOAD RDRB
6644          ;
6645          ;SET UP BUFFERS AND START
6646
6647 045402 005037 020564          CLR   D0CRC               ; NO APPEND CRC
6648 045406 012737 000006 020562  MOV    #6,BYTCNT          ; DATA BYTE COUNT
    
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6649 045414 004737 034662          JSR   PC,SETBUF          ; SET UP BUFFERS
6650 045420 012777 004100 134600   MOV   #DNI!INTE,@PCSR0  ; PRECONDITION INTR EN.
6651 045426 112777 000104 134572   MOVB  #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
6652 045434 004737 030706          JSR   PC,CHKDNI         ; DNI?
6653 045440 103010          BCC   120$             ; YES
6654 045442          FTL

      045442 004737 031010          JSR   PC,CHKFTL         ; 'FATL' BIT SET?
6655 045446          ERRHRD 077.,ERR012,MSG003 ; NO, REPORT ERROR
      045446 104456          TRAP  C$ERHRD
      045450 000115          .WORD 77
      045452 025543          .WORD ERR012
      045454 024032          .WORD MSG003
6656 045456          ESCAPE TST           ; AND ABORT TEST
      045456 104410          TRAP  C$ESCAPE
      045460 000552          .WORD L10043-.
6657          i120$:
6658 045462 004737 032320          JSR   PC,CLRDNI        ; WRITE ONE TO CLEAR DNI
6659          BCC   130$             ; ERROR ?
6660 045466 103010          FTL                   ; NO
6661 045470          JSR   PC,CHKFTL         ; 'FATL' BIT SET?
      045470 004737 031010          ERRHRD 080.,ERR006,MSG003 ; YES, REPORT ERROR
      045474 104456          TRAP  C$ERHRD
      045476 000120          .WORD 80
      045500 025124          .WORD ERR006
      045502 024032          .WORD MSG003
6662 045474          ESCAPE TST           ; AND ABORT TEST
      045474 104456          TRAP  C$ESCAPE
      045476 000120          .WORD L10043-.
      045500 025124
      045502 024032
6663 045504          ESCAPE TST           ; AND ABORT TEST
      045504 104410          TRAP  C$ESCAPE
      045506 000524          .WORD L10043-.
6664          i130$:
6665 045510 004737 031724          JSR   PC,CHKTXI        ; TXI ?
6666 045514 103010          BCC   140$             ; YES
6667 045516          FTL
      045516 004737 031010          JSR   PC,CHKFTL         ; 'FATL' BIT SET?
6668 045522          ERRHRD 081.,ERR013,MSG003 ; NO, REPORT ERROR
      045522 104456          TRAP  C$ERHRD
      045524 000121          .WORD 81
      045526 025624          .WORD ERR013
      045530 024032          .WORD MSG003
6669 045532          ESCAPE TST           ; AND ABORT TEST
      045532 104410          TRAP  C$ESCAPE
      045534 000476          .WORD L10043-.
6670          i140$:
6671 045536 004737 032502          JSR   PC,CLRTXI        ; WRITE ONE TO CLEAR TXI
6672          BCC   150$             ; ERROR ?
6673 045542 103010          FTL                   ; NO
6674 045544          JSR   PC,CHKFTL         ; 'FATL' BIT SET?
      045544 004737 031010          ERRHRD 082.,ERR014,MSG003 ; YES, REPORT ERROR
6675 045550

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6700 045706 004737 032434      180$: JSR    PC,CLRRXI          ; WRITE ONE TO CLEAR RXI
6701                                ; ERROR ?
6702 045712 103010            BCC    190$          ; NO
6703 045714                                FTL
                                JSR    PC,CHKFTL          ; 'FATL' BIT SET?
                                ERRHRD 086.,ERR016,MSG003 ; YES, REPORT ERROR
                                TRAP   C$ERHRD
6704 045720                                .WORD 86
                                045720 104456                                .WORD  ERR016
                                045722 000126                                .WORD  MSG003
                                045724 025754
                                045726 024032
6705 045730                                ESCAPE TST          ; AND ABORT TEST
                                045730 104410                                TRAP   C$ESCAPE
                                045732 000300                                .WORD  L10043-.
6706                                ;
6707 045734 012705 002662      i190$: MOV    #RDRB,R5          ; CHECK RDRB OWNERSHIP
6708 045740 004737 031162      JSR    PC,CHKOWN    ; OWN = PORT DRIVER ?
6709 045744 103010            BCC    200$          ; YES
6710 045746                                FTL
                                JSR    PC,CHKFTL          ; 'FATL' BIT SET?
                                ERRHRD 087.,ERR017          ; NO, REPORT ERROR
                                TRAP   C$ERHRD
6711 045752                                .WORD 87
                                045752 104456                                .WORD  ERR017
                                045754 000127                                .WORD  0
                                045756 026022
                                045760 000000
6712 045762                                ESCAPE TST          ; AND ABORT TEST
                                045762 104410                                TRAP   C$ESCAPE
                                045764 000246                                .WORD  L10043-.
6713                                ;
6714 045766 012705 020456      i200$: MOV    #RDR20C,R5      ; POINT TO EXPECTED RDRB
6715 045772 004737 034214      JSR    PC,LDXRDR    ; LOAD INTO XRDRBO TABLE
6716 045776 012705 002662      MOV    #RDRB,R5    ; CHECK RDRB
6717 046002 004737 031344      JSR    PC,CHKRDR    ; ERRORS ?
6718 046006 103010            BCC    210$          ; NO
6719 046010                                FTL
                                JSR    PC,CHKFTL          ; 'FATL' BIT SET?
                                ERRHRD 090.,ERR021,MSG006 ; YES, REPORT ERROR
                                TRAP   C$ERHRD
6720 046014                                .WORD 90
                                046014 104456                                .WORD  ERR021
                                046016 000132                                .WORD  MSG006
                                046020 026363
                                046022 024300
6721 046024                                ESCAPE TST          ; AND ABORT TEST
                                046024 104410                                TRAP   C$ESCAPE
                                046026 000204                                .WORD  L10043-.
6722                                ;
6723                                ;COMPARE RBUF WITH TBUF
6724                                ;
6725 046030 013705 020562      210$: MOV    BYTCNT,R5      ; NUMBER OF DATA COMPARES
6726 046034 004737 032646      JSR    PC,CMPDAT    ; DATA COMPARE ERROR ?
6727 046040 103006            BCC    220$          ; NO
6728 046042                                ERRHRD 091.,ERR022,MSG007 ; YES, REPORT ERROR
                                046042 104456                                TRAP   C$ERHRD

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	046044	000133							.WORD	91
	046046	026444							.WORD	ERR022
	046050	024442							.WORD	MSG007
6729	046052				ESCAPE	TST				; AND ABORT TEST
	046052	104410							TRAP	C\$ESCAPE
	046054	000156							.WORD	L10043-.
6730										
6731	046056									
6732	046056	012705	010474		MOV	#RBUF+32,R5				; BASE ADDRESS
6733										; OFFSET TO CRC
6734	046062	004737	032576		JSR	PC,CMPCRC				; ERRORS ?
6735	046066	103006			BCC	230\$; NO
6736	046070				ERRHRD	092.,ERR023,MSG008				; YES, REPORT ERROR
	046070	104456							TRAP	C\$ERHRD
	046072	000134							.WORD	92
	046074	026513							.WORD	ERR023
	046076	024474							.WORD	MSG008
6737	046100				ESCAPE	TST				; AND ABORT TEST
	046100	104410							TRAP	C\$ESCAPE
	046102	000130							.WORD	L10043-.
6738										
6739	046104	012777	004100	134114	MOV	#DNI!INTE,@PCSR0				; PRECONDITION INTR EN.
6740	046112	112777	000117	134106	MOVB	#INTE!STOP,@PCSR0				; ISSUE STOP PORT COMMAND
6741	046120	004737	030706		JSR	PC,CHKDNI				; DNI ?
6742	046124	103010			BCC	240\$; YES
6743	046126				FTL					
	046126	004737	031010		JSR	PC,CHKFTL				; 'FATL' BIT SET?
6744	046132				ERRHRD	093.,ERR019,MSG003				; NO, REPORT ERROR
	046132	104456							TRAP	C\$ERHRD
	046134	000135							.WORD	93
	046136	026222							.WORD	ERR019
	046140	024032							.WORD	MSG003
6745	046142				ESCAPE	TST				; AND ABORT TEST
	046142	104410							TRAP	C\$ESCAPE
	046144	000066							.WORD	L10043-.
6746										
6747	046146	004737	032320		JSR	PC,CLRDNI				; WRITE ONE TO CLEAR DNI
6748										; ERROR ?
6749	046152	103010			BCC	250\$; NO
6750	046154				FTL					
	046154	004737	031010		JSR	PC,CHKFTL				; 'FATL' BIT SET?
6751	046160				ERRHRD	094.,ERR006,MSG003				; YES, REPORT ERROR
	046160	104456							TRAP	C\$ERHRD
	046162	000136							.WORD	94
	046164	025124							.WORD	ERR006
	046166	024032							.WORD	MSG003
6752	046170				ESCAPE	TST				; AND ABORT TEST
	046170	104410							TRAP	C\$ESCAPE
	046172	000040							.WORD	L10043-.
6753	046174									
6754										
6755	046174				EXIT	TST				
	046174	104432							TRAP	C\$EXIT

F16

.WORD L10043-

046176 000034
6756
6757 ;LOCAL TEST MESSAGE
6758
6759 046200 104 105 114 T13ID:.ASCIZ 'DELUA INTERNAL LOOPBACK '
046203 125 101 040
046206 111 116 124
046211 105 122 116
046214 101 114 040
046217 114 117 117
046222 120 102 101
046225 103 113 040
046230 000
6760 .EVEN
6761
6762 046232 ENDTST
046232
046232 104401

L10043: TRAP C\$ETST

6764
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.SBTTL TEST 14: CRC CHECKING TEST

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*****
:
: THIS TEST VERIFIES THAT CRC CHECKING MODE IS OPERATIONAL.
: AN INTERNAL LOOPBACK IS PERFORMED WHILE IN
: THE DISABLE TRANSMIT CRC MODE.
: WITH A GOOD CRC VALUE APPENDED TO THE TRANSMIT BUFFER
: AN ERROR FREE LOOPBACK IS EXPECTED.
:
: TEST SEQUENCE:
: 1. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM,
: and DISABLE TRANSMIT CRC MODE
: 2. WRITE RING FORMAT
: 3. WRITE PHYSICAL ADDRESS
: 4. SET UP RINGS AND BUFFERS
: 5. APPEND GOOD CRC VALUE TO TRANSMIT BUFFER
: 6. ISSUE START
: 7. CHECK FOR ERRORS
: 8. ISSUE STOP
:
*****

```

6787 046234
046234
6788
6789 046234

BGNTST

T14::

PNTMAC T14ID

046234 012704 047564
046240 004737 034610

MOV #T14ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

END OF MACRO EXPANSION OF 'PNTMAC'

6790 046244 004737 035310
6791 046250 103034
6792 046252 012777 004100 133746
6793 046260 112777 000140 133740
6794 046266 004737 032034
6795 046272 103010
6796 046274

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

046274 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

6797 046300
046300 104456
046302 000137
046304 030105
046306 024032

ERRHRD 095.,ERR042,MSG003 ; NO, REPORT ERROR

TRAP ;B0
.WORD C\$ERRHRD
.WORD 95
.WORD ERR042
.WORD MSG003

6798 046310
046310 104410
046312 001276

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10044-

6799
6800 046314 004737 032320
6801
6802 046320 103010
6803 046322

20\$:

JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
BCC 30\$; ERROR ?
FTL ; NO

H16

```

046322 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
6804 046326      ERRHRD  096.,ERR006,MSG003 ; YES, REPORT ERROR
046326 104456      TRAP   C$ERHRD
046330 000140      .WORD  96
046332 025124      .WORD  ERR006
046334 024032      .WORD  MSG003
6805 046336      ESCAPE  TST           ; AND ABORT TEST
046336 104410      TRAP   C$ESCAPE
046340 001250      .WORD  L10044-.
6806
6807 046342      30$:
6808 046342 004737 032246      JSR      PC,CLRBUF     ; CLEAR XMIT,RECV BUFFERS
6809 046346 004737 033606      JSR      PC,LDDFLT     ; LOAD DEF PHY.ADDRESS TABLES
6810 046352 004737 033706      JSR      PC,LDPCSR     ; ADDRESS OF PCBB -> PCSR2!3
6811 046356 012777 004100 133642      MOV      #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6812 046364 112777 000101 133634      MOVB    #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
6813 046372 004737 030706      JSR      PC,CHKDNI    ; DNI?
6814 046376 103010      BCC     40$          ; YES
6815 046400
046400 004737 031010      JSR      PC,CHKFTL     ; 'FATL' BIT SET?
6816 046404      ERRHRD  097.,ERR009,MSG003 ; NO, REPORT ERROR
046404 104456      TRAP   C$ERHRD
046406 000141      .WORD  97
046410 025341      .WORD  ERR009
046412 024032      .WORD  MSG003
6817 046414      ESCAPE  TST           ; AND ABORT TEST
046414 104410      TRAP   C$ESCAPE
046416 001172      .WORD  L10044-.
6818
6819 046420 004737 032320      40$: JSR      PC,CLRDNIE   ; WRITE ONE TO CLEAR DNI
6820      BCC     50$          ; ERROR ?
6821 046424 103010      BCC     50$          ; NO
6822 046426
046426 004737 031010      JSR      PC,CHKFTL     ; 'FATL' BIT SET?
6823 046432      ERRHRD  100.,ERR006,MSG003 ; YES, REPORT ERROR
046432 104456      TRAP   C$ERHRD
046434 000144      .WORD  100
046436 025124      .WORD  ERR006
046440 024032      .WORD  MSG003
6824 046442      ESCAPE  TST           ; AND ABORT TEST
046442 104410      TRAP   C$ESCAPE
046444 001144      .WORD  L10044-.
6825
6826      ;WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM AND DISABLE XMIT CRC MODE
6827
6828 046446 012705 014622      50$: MOV      #WTMOD2,R5   ; WRITE MODE FUNCTION, DISABLE
6829      ; TRANSMIT CRC
6830 046452 004737 033656      JSR      PC,LDPCCBB    ; LOAD FUNCTION -> PCBB
6831 046456 012777 004100 133542      MOV      #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6832 046464 112777 000102 133534      MOVB    #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
6833 046472 004737 030706      JSR      PC,CHKDNI    ; DNI ?
6834 046476 103010      BCC     60$          ; YES

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6835 046500          FTL
      046500 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
6836 046504          ERRHRD 101.,ERR010,MSG003      ; NO, REPORT ERROR
      046504 104456          TRAP  C$ERHRD
      046506 000145          .WORD 101
      046510 025425          .WORD  ERR010
      046512 024032          .WORD  MSG003
6837 046514          ESCAPE TST          ; AND ABORT TEST
      046514 104410          TRAP  C$ESCAPE
      046516 001072          .WORD  L10044-.
6838          ;
6839 046520 004737 032320      ;60$: JSR    PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
6840          ;
6841 046524 103010          BCC    70$              ; ERROR ?
6842 046526          FTL          ; NO
      046526 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
6843 046532          ERRHRD 102.,ERR006,MSG003      ; YES, REPORT ERROR
      046532 104456          TRAP  C$ERHRD
      046534 000146          .WORD 102
      046536 025124          .WORD  ERR006
      046540 024032          .WORD  MSG003
6844 046542          ESCAPE TST          ; AND ABORT TEST
      046542 104410          TRAP  C$ESCAPE
      046544 001044          .WORD  L10044-.
6845          ;
6846          ;WRITE RING FORMAT
6847          ;
6848 046546 012705 014542      ;70$: MOV    #WTRNGS,R5      ; DEFAULT WRITE RING FORMAT FUNCTION
6849 046552 004737 033656      JSR    PC,LDPCBB        ; LOAD FUNCTION -> PCBB
6850 046556 012705 014706      MOV    #RFRMT,R5      ; DEFAULT RING FORMAT
6851 046562 012700 000006      MOV    #6,R0          ; FORMAT = SIX WORDS
6852 046566 004737 034134      JSR    PC,LDUDBB        ; LOAD RING FORMAT -> UDBB
6853 046572 012777 004100 133426 MOV    #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6854 046600 112777 000102 133420 MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
6855 046606 004737 030706      JSR    PC,CHKDNI        ; DNI ?
6856 046612 103010          BCC    80$              ; YES
6857 046614          FTL
      046614 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
6858 046620          ERRHRD 103.,ERR010,MSG003      ; NO, REPORT ERROR
      046620 104456          TRAP  C$ERHRD
      046622 000147          .WORD 103
      046624 025425          .WORD  ERR010
      046626 024032          .WORD  MSG003
6859 046630          ESCAPE TST          ; AND ABORT TEST
      046630 104410          TRAP  C$ESCAPE
      046632 000756          .WORD  L10044-.
6860          ;
6861 046634 004737 032320      ;80$: JSR    PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
6862          ;
6863 046640 103010          BCC    90$              ; ERROR ?
6864 046642          FTL          ; NO

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```

046642 004737 031010      JSR      PC,CHKFTL          ; 'FATL' BIT SET?
6865 046646                ERRHRD   104.,ERR006,MSG003 ; YES, REPORT ERROR
046646 104456                TRAP    C$ERHRD
046650 000150                .WORD   104
046652 025124                .WORD   ERR006
046654 024032                .WORD   MSG003
6866 046656                ESCAPE  TST                ; AND ABORT TEST
046656 104410                TRAP    C$ESCAPE
046660 000730                .WORD   L10044-.

6867
6868                ;WRITE PHYSICAL ADDRESS
6869
6870 046662                90$:
6871 046662 012705 002274      MOV      #DEFAULT,R5      ; GET DEFAULT PHYSICAL ADDRESS
6872 046666 004737 033724      JSR      PC,LDPHYA        ; STORE IT IN DEFAULT TABLE
6873 046672 012705 014502      MOV      #WTPHYA,R5      ; DEFAULT WRITE PHYSICAL ADDR FUNC
6874 046676 004737 033656      JSR      PC,LDPCCBB       ; LOAD FUNCTION -> PCBB
6875 046702 012777 004100 133316  MOV      #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6876 046710 112777 000102 133310  MOVB    #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
6877 046716 004737 030706      JSR      PC,CHKDNI       ; DNI ?
6878 046722 103010      BCC     100$              ; YES
6879 046724                FTL

046724 004737 031010      JSR      PC,CHKFTL          ; 'FATL' BIT SET?
6880 046730                ERRHRD   105.,ERR010,MSG003 ; NO, REPORT ERROR
046730 104456                TRAP    C$ERHRD
046732 000151                .WORD   105
046734 025425                .WORD   ERR010
046736 024032                .WORD   MSG003
6881 046740                ESCAPE  TST                ; AND ABORT TEST
046740 104410                TRAP    C$ESCAPE
046742 000646                .WORD   L10044-.

6882
6883 046744 004737 032320      i100$: JSR      PC,CLRDN1        ; WRITE ONE TO CLEAR DNI
6884                                ; ERROR ?
6885 046750 103010      BCC     110$              ; NO
6886 046752                FTL

046752 004737 031010      JSR      PC,CHKFTL          ; 'FATL' BIT SET?
6887 046756                ERRHRD   106.,ERR006,MSG003 ; YES, REPORT ERROR
046756 104456                TRAP    C$ERHRD
046760 000152                .WORD   106
046762 025124                .WORD   ERR006
046764 024032                .WORD   MSG003
6888 046766                ESCAPE  TST                ; AND ABORT TEST
046766 104410                TRAP    C$ESCAPE
046770 000620                .WORD   L10044-.

6889
6890                ;SET UP RINGS FOR ONE BUFFER LOOPBACK
6891
6892 046772 012705 016452      110$:  MOV      #TDRB1B,R5      ; DEFAULT ONE BUFFER TRANSMIT RING
6893 046776 004737 034040      JSR      PC,LDTDRB       ; LOAD TDRB
6894 047002 012705 014752      MOV      #RDRB1A,R5      ; DEFAULT ONE BUFFER RECEIVE RING
    
```

K16

HARDWARE TESTS MACRO V05.03 Friday 28-Mar-86 15:36 Page 100-4
TEST 14: CRC CHECKING TEST

SEQ 205

```

6895 047006 004737 033744 JSR PC,LDRDRB ; LOAD RDRB
6896
6897 ;SET UP BUFFERS AND START
6898
6899 047012 012737 000001 020564 MOV #1,DOCRC ; APPEND CRC AND SAVE
6900 047020 012737 000006 020562 MOV #6,BYTCNT ; DATA BYTES/PACKET
6901 047026 004737 034662 JSR PC,SETBUF ; SET UP BUFFERS
6902
6903 047032 012777 004100 133166 MOV #DNI!INTE,@PCSRO ; PRECONDITION INTR EN.
6904 047040 112777 000104 133160 MOVB #INTE!START,@PCSRO ; ISSUE START PORT COMMAND
6905 047046 004737 030706 JSR PC,CHKDNI ; DNI?
6906 047052 103010 BCC 120$ ; YES
6907 047054 FTL

047054 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

6908 047060 ERRHRD 107.,ERR012,MSG003 ; NO, REPORT ERROR
047060 104456 TRAP C$ERHRD
047062 000153 .WORD 107
047064 025543 .WORD ERR012
047066 024032 .WORD MSG003
6909 047070 ESCAPE TST ; AND ABORT TEST
047070 104410 TRAP C$ESCAPE
047072 000516 .WORD L10044-.

6910
6911 047074 004737 032320 120$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
6912 ; ERROR ?
6913 047100 103010 BCC 130$ ; NO
6914 047102 FTL

047102 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

6915 047106 ERRHRD 110.,ERR006,MSG003 ; YES, REPORT ERROR
047106 104456 TRAP C$ERHRD
047110 000156 .WORD 110
047112 025124 .WORD ERR006
047114 024032 .WORD MSG003
6916 047116 ESCAPE TST ; AND ABORT TEST
047116 104410 TRAP C$ESCAPE
047120 000470 .WORD L10044-.

6917
6918 047122 004737 031724 130$: JSR PC,CHKTXI ; TXI ?
6919 047126 103010 BCC 140$ ; YES
6920 047130 FTL

047130 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

6921 047134 ERRHRD 111.,ERR013,MSG003 ; NO, REPORT ERROR
047134 104456 TRAP C$ERHRD
047136 000157 .WORD 111
047140 025624 .WORD ERR013
047142 024032 .WORD MSG003
6922 047144 ESCAPE TST ; AND ABORT TEST
047144 104410 TRAP C$ESCAPE
047146 000442 .WORD L10044-.

6923
6924 047150 004737 032502 140$: JSR PC,CLRTXI ; WRITE ONE TO CLEAR TXI

```

L16

6925												
6926	047154	103010		BCC	150\$; ERROR ?			
6927	047156			FTL					; NO			
	047156	004737	031010	JSR	PC,CHKFTL				; 'FATL' BIT SET?			
6928	047162			ERRHRD	112.,ERR014,MSG003				; YES, REPORT ERROR			
	047162	104456								TRAP	C\$ERHRD	
	047164	000160								.WORD	112	
	047166	025655								.WORD	ERR014	
	047170	024032								.WORD	MSG003	
6929	047172			ESCAPE	TST				; AND ABORT TEST			
	047172	104410								TRAP	C\$ESCAPE	
	047174	000414								.WORD	L10044-	
6930												
6931	047176	012705	002622	150\$:	MOV	#TDRB,R5			; CHECK TDRB OWNERSHIP			
6932	047202	004737	031162		JSR	PC,CHKOWN			; OWN = PORT DRIVER ?			
6933	047206	103010			BCC	160\$; YES			
6934	047210				FTL							
	047210	004737	031010	JSR	PC,CHKFTL				; 'FATL' BIT SET?			
6935	047214			ERRHRD	113.,ERR018				; NO, REPORT ERROR			
	047214	104456								TRAP	C\$ERHRD	
	047216	000161								.WORD	113	
	047220	026122								.WORD	ERR018	
	047222	000000								.WORD	0	
6936	047224			ESCAPE	TST				; AND ABORT TEST			
	047224	104410								TRAP	C\$ESCAPE	
	047226	000362								.WORD	L10044-	
6937												
6938	047230	012705	020276	160\$:	MOV	#TDR15A,R5			; POINT TO EXPECTED TDRB			
6939	047234	004737	034244		JSR	PC,LDXTDR			; LOAD INTO XTDRB0 TABLE			
6940	047240	012705	002622		MOV	#TDRB,R5			; CHECK TDRB			
6941	047244	004737	031636		JSR	PC,CHKTDR			; ERRORS ?			
6942	047250	103010			BCC	170\$; NO			
6943	047252				FTL							
	047252	004737	031010	JSR	PC,CHKFTL				; 'FATL' BIT SET?			
6944	047256			ERRHRD	114.,ERR020,MSG005				; YES, REPORT ERROR			
	047256	104456								TRAP	C\$ERHRD	
	047260	000162								.WORD	114	
	047262	026302								.WORD	ERR020	
	047264	024136								.WORD	MSG005	
6945	047266			ESCAPE	TST				; AND ABORT TEST			
	047266	104410								TRAP	C\$ESCAPE	
	047270	000320								.WORD	L10044-	
6946												
6947	047272	004737	031454	170\$:	JSR	PC,CHKRXI			; RXI ?			
6948	047276	103010			BCC	180\$; YES			
6949	047300				FTL							
	047300	004737	031010	JSR	PC,CHKFTL				; 'FATL' BIT SET?			
6950	047304			ERRHRD	115.,ERR015,MSG003				; NO, REPORT ERROR			
	047304	104456								TRAP	C\$ERHRD	


```

6976                                     ;COMPARE RBUF WITH TBUF
6977
6978 047442 013705 020562                210$: MOV      BYTCNT,R5                ; COMPARE DATA
6979 047446 004737 032646                JSR      PC,CPDAT                ; DATA COMPARE ERROR ?
6980 047452 103006                        BCC     230$                      ; NO
6981 047454                                ERRHRD 121.,ERR022,MSG007         ; YES, REPORT ERROR
        047454 104456                                TRAP   C$ERHRD
        047455 000171                                .WORD 121
        047460 026444                                .WORD ERR022
        047462 024442                                .WORD MSG007
6982 047464                                ESCAPE TST                        ; AND ABORT TEST
        047464 104410                                TRAP   C$ESCAPE
        047466 000122                                .WORD L10044-.
6983
6984 047470 012777 004100 132530        230$: MOV      #DNI!INTE,@PCSRO    ; PRECONDITION INTR EN.
6985 047476 112777 000117 132522        MOVB   #INTE!STOP,@PCSRO        ; ISSUE STOP PORT COMMAND
6986 047504 004737 030706                JSR      PC,CHKDNI                ; DNI ?
6987 047510 103010                        BCC     240$                      ; YES
6988 047512
        047512 004737 031010                JSR      PC,CHKFTL                ; 'FATL' BIT SET?
6989 047516                                ERRHRD 122.,ERR019,MSG003         ; NO, REPORT ERROR
        047516 104456                                TRAP   C$ERHRD
        047520 000172                                .WORD 122
        047522 026222                                .WORD ERR019
        047524 024032                                .WORD MSG003
6990 047526                                ESCAPE TST                        ; AND ABORT TEST
        047526 104410                                TRAP   C$ESCAPE
        047530 000060                                .WORD L10044-.
6991
6992 047532 004737 032320                240$: JSR      PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
6993                                BCC     250$                      ; ERROR ?
6994 047536 103010                        FTL
6995 047540                                JSR      PC,CHKFTL                ; 'FATL' BIT SET?
        047540 004737 031010                ERRHRD 123.,ERR006,MSG003         ; YES, REPORT ERROR
6996 047544                                TRAP   C$ERHRD
        047544 104456                                .WORD 123
        047546 000173                                .WORD ERR006
        047550 025124                                .WORD MSG003
        047552 024032
6997 047554                                ESCAPE TST                        ; AND ABORT TEST
        047554 104410                                TRAP   C$ESCAPE
        047556 000032                                .WORD L10044-.
6998 047560                                250$:
6999
7000 047560                                EXIT  TST
        047560 104432                                TRAP   C$EXIT
        047562 000026                                .WORD L10044-.

```

C1

```
7002 ;LOCAL TEST MESSAGE
7003
7004 047564 104 105 114 T14ID:.ASCIZ 'DELUA CRC CHECKING '
      047567 125 101 040
      047572 103 122 103
      047575 040 103 110
      047600 105 103 113
      047603 111 116 107
      047606 040 000
7005 .EVEN
7006
7007 047610 ENDTST
      047610
      047610 104401
```

L10044: TRAP C#ETST

7009
7010
7011
7012
7013
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7020
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7026
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7029
7030
7031
7032 047612
047612
7033
7034 047612

047612 012704 051174
047616 004737 034610

7035 047622 004737 035310
7036 047626 103034
7037 047630 012777 004100 132370
7038 047636 112777 000140 132362
7039 047644 004737 032034
7040 047650 103010
7041 047652

047652 004737 031010

7042 047656
047656 104456
047660 000174
047662 030105
047664 024032
7043 047666
047666 104410
047670 001374

7044
7045 047672 004737 032320
7046
7047 047676 103010
7048 047700

.SBTTL TEST 15: FORCE CRC ERROR TEST

```
*****
:
: THIS TEST VERIFIES THAT A CRC ERROR CAN BE DETECTED.
: AN INTERNAL LOOPBACK IS PERFORMED WHILE IN
: THE DISABLE TRANSMIT CRC MODE.
: WITH A BAD CRC VALUE APPENDED TO THE TRANSMIT BUFFER
: A CRC ERROR IS EXPECTED IN THE RECEIVE DESCRIPTOR RING.
:
: TEST SEQUENCE:
:   1. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM,
:     and DISABLE TRANSMIT CRC MODE
:   2. WRITE RING FORMAT
:   3. WRITE PHYSICAL ADDRESS
:   4. SET UP RINGS AND BUFFERS
:   5. APPEND BAD CRC VALUE TO TRANSMIT BUFFER
:   6. ISSUE START
:   7. CHECK FOR CRC ERROR IN RDRB+4
:   8. ISSUE STOP
:
:*****
```

BGNTST

T15::

PNTMAC T15ID

MOV #T15ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

; END OF MACRO EXPANSION OF 'PNTMAC'

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

JSR PC,CHKFTL ; 'FATL' BIT SET?

ERRHRD 124.,ERR042,MSG003 ; NO, REPORT ERROR

TRAP ;B0
.WORD C\$ERRHRD
.WORD 124
.WORD ERR042
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10045-

; 20\$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 30\$; NO
FTL

E1

```

047700 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
7049 047704      ERRHRD  125.,ERR006,MSG003 ; YES, REPORT ERROR
047704 104456      TRAP      C$ERHRD
047706 000175      .WORD    125
047710 025124      .WORD    ERR006
047712 024032      .WORD    MSG003
7050 047714      ESCAPE  TST            ; AND ABORT TEST
047714 104410      TRAP      C$ESCAPE
047716 001306      .WORD    L10045-.
7051
7052 047720      ; 30$:
7053 047720 004737 032246      JSR      PC,CLRBUF      ; CLEAR TRANSMIT AND RECV BUFFERS
7054 047724 004737 033606      JSR      PC,LDDFLT      ; LOAD DEFAULT PHY.ADDRESS TABLES
7055 047730 004737 033706      JSR      PC,LDPCSR      ; ADDRESS OF PCBB -> PCSR2!3
7056 047734 012777 004100 132264      MOV      #DNI!INTE,@PCSR0
7057 047742 112777 000101 132256      MOV      #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
7058 047750 004737 030706      JSR      PC,CHKDNI      ; DNI?
7059 047754 103010      BCC      40$           ; YES
7060 047756      FTL
047756 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
7061 047762      ERRHRD  126.,ERR009,MSG003 ; NO, REPORT ERROR
047762 104456      TRAP      C$ERHRD
047764 000176      .WORD    126
047766 025341      .WORD    ERR009
047770 024032      .WORD    MSG003
7062 047772      ESCAPE  TST            ; AND ABORT TEST
047772 104410      TRAP      C$ESCAPE
047774 001230      .WORD    L10045-.
7063
7064 047776 004737 032320      ; 40$:
7065      JSR      PC,CLRDNIE   ; WRITE ONE TO CLEAR DNI
7066 050002 103010      BCC      50$           ; ERROR ?
7067 050004      FTL                    ; NO
050004 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
7068 050010      ERRHRD  127.,ERR006,MSG003 ; YES, REPORT ERROR
050010 104456      TRAP      C$ERHRD
050012 000177      .WORD    127
050014 025124      .WORD    ERR006
050016 024032      .WORD    MSG003
7069 050020      ESCAPE  TST            ; AND ABORT TEST
050020 104410      TRAP      C$ESCAPE
050022 001202      .WORD    L10045-.
7070
7071      ;WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM AND DISABLE XMIT CRC MODE
7072
7073 050024 012705 014622      ; 50$:
7074      MOV      #WTMOD2,R5   ; WRITE MODE FUNCTION, DISABLE
7075 050030 004737 033656      JSR      PC,LDPCBB      ; TRANSMIT CRC
7076 050034 013737 020466 002304      MOV      MODE15,PCBB+2 ; LOAD FUNCTION -> PCBB
7077 050042 012777 004100 132156      MOV      #DNI!INTE,@PCSR0 ; LOAD MODE REGISTER
7078 050050 112777 000102 132150      MOV      #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7079 050056 004737 030706      JSR      PC,CHKDNI      ; DNI ?

```

F1

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7080 050062 103010          BCC      60$          ; YES
7081 050064          FTL
      050064 004737 031010    JSR      PC,CHKFTL    ; 'FATL' BIT SET?
7082 050070          ERRHRD 130.,ERR010,MSG003 ; NO, REPORT ERROR
      050070 104456          TRAP    C$ERHRD
      050072 000202          .WORD  130
      050074 025425          .WORD  ERR010
      050076 024032          .WORD  MSG003
7083 050100          ESCAPE  TST          ; AND ABORT TEST
      050100 104410          TRAP    C$ESCAPE
      050102 001122          .WORD  L10045-.
7084 050104 004737 032320    ;60$: JSR      PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
7085 050104 004737 032320    ; ERROR ?
7086 050110 103010          BCC      70$          ; NO
7087 050110 103010          FTL
7088 050112          JSR      PC,CHKFTL    ; 'FATL' BIT SET?
      050112 004737 031010    ERRHRD 131.,ERR006,MSG003 ; YES, REPORT ERROR
7089 050116          TRAP    C$ERHRD
      050116 104456          .WORD  131
      050120 000203          .WORD  ERR006
      050122 025124          .WORD  MSG003
      050124 024032          ESCAPE  TST          ; AND ABORT TEST
7090 050126          TRAP    C$ESCAPE
      050126 104410          .WORD  L10045-.
      050130 001074
7091 050132 012705 014542    ;WRITE RING FORMAT
7092 050136 004737 033656    70$:  MOV      #WTRNGS,R5 ; DEFAULT WRITE RING FORMAT FUNCTION
7093 050142 012705 014706    JSR      PC,LDPCCBB ; LOAD FUNCTION -> PCBB
7094 050146 012700 000006    MOV      #RFRMT,R5 ; DEFAULT RING FORMAT
7095 050152 004737 034134    MOV      #6,R0 ; FORMAT = SIX WORDS
7096 050156 012777 004100 132042 JSR      PC,LDUDBB ; LOAD RING FORMAT -> UDBB
7097 050164 112777 000102 132034 MOV      #DNI!INTE,@PCSRO
7100 050172 004737 030706    MOV      #INTE!GETCMD,@PCSRO ; ISSUE GET_CMD PORT COMMAND
7101 050176 103010          JSR      PC,CHKDNI ; DNI ?
7102 050200          BCC      80$          ; YES
7103 050200          FTL
      050200 004737 031010    JSR      PC,CHKFTL    ; 'FATL' BIT SET?
7104 050204          ERRHRD 132.,ERR010,MSG003 ; NO, REPORT ERROR
      050204 104456          TRAP    C$ERHRD
      050206 000204          .WORD  132
      050210 025425          .WORD  ERR010
      050212 024032          .WORD  MSG003
7105 050214          ESCAPE  TST          ; AND ABORT TEST
      050214 104410          TRAP    C$ESCAPE
      050216 001006          .WORD  L10045-.
7106 050220 004737 032320    ;80$: JSR      PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
7107 050224 103010          BCC      90$          ; ERROR ?
7108 050224 103010          FTL
7109 050224 103010          ; NO
  
```

G1

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7110 050226          FTL
      050226 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
7111 050232          ERRHRD 133.,ERR006,MSG003      ; YES, REPORT ERROR
      050232 104456          TRAP  C$ERHRD
      050234 000205          .WORD 133
      050236 025124          .WORD ERR006
      050240 024032          .WORD MSG003
7112 050242          ESCAPE TST          ; AND ABORT TEST
      050242 104410          TRAP  C$ESCAPE
      050244 000760          .WORD L10045-.
7113
7114          ;WRITE PHYSICAL ADDRESS
7115
7116 050246          90$:
7117 050246 012705 002274      MOV    #DEFAULT,R5          ; GET DEFAULT PHYSICAL ADDRESS
7118 050252 004737 033724      JSR    PC,LDPHYA          ; SAVE IT IN DEFAULT TABLE
7119 050256 012705 014502      MOV    #WTPHYA,R5          ; DEFAULT WRITE PHYSICAL ADDR FUNC
7120 050262 004737 033656      JSR    PC,LDPCBB          ; LOAD FUNCTION -> PCBB
7121 050266 012777 004100 131732  MOV    #DNI!INTE,@PCSR0
7122 050274 112777 000102 131724  MOVB  #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7123 050302 004737 030706      JSR    PC,CHKDNI          ; DNI ?
7124 050306 103010          BCC   100$                ; YES
7125 050310          FTL
      050310 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
7126 050314          ERRHRD 134.,ERR010,MSG003      ; NO, REPORT ERROR
      050314 104456          TRAP  C$ERHRD
      050316 000206          .WORD 134
      050320 025425          .WORD ERR010
      050322 024032          .WORD MSG003
7127 050324          ESCAPE TST          ; AND ABORT TEST
      050324 104410          TRAP  C$ESCAPE
      050326 000676          .WORD L10045-.
7128
7129 050330 004737 032320      100$: JSR    PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
7130
7131 050334 103010          BCC   110$                ; ERROR ?
7132 050336          FTL          ; NO
      050336 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
7133 050342          ERRHRD 135.,ERR006,MSG003      ; YES, REPORT ERROR
      050342 104456          TRAP  C$ERHRD
      050344 000207          .WORD 135
      050346 025124          .WORD ERR006
      050350 024032          .WORD MSG003
7134 050352          ESCAPE TST          ; AND ABORT TEST
      050352 104410          TRAP  C$ESCAPE
      050354 000650          .WORD L10045-.
7135
7136          ;SET UP RINGS FOR ONE BUFFER LOOPBACK
7137
7138 050356 012705 016452      110$: MOV    #TDRB1B,R5          ; DEFAULT ONE BUFFER TRANSMIT RING
7139 050362 004737 034040      JSR    PC,LDTDRB          ; LOAD TDRB

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7140 050366 012705 014752          MOV  #RDRB1A,R5          ; DEFAULT ONE BUFFER RECEIVE RING
7141 050372 004737 033744          JSR  PC,LDRDRB          ; LOAD RDRB
7142
7143          ;SET UP BUFFERS AND START
7144
7145 050376 012705 002304          MOV  #PCBB+2,R5          ; POINT TO DESTINATION ADDRESS
7146 050402 004737 033560          JSR  PC,LDDDEST          ; LOAD DEST
7147 050406 012737 000001 020564    MOV  #1,DOCRC           ; APPEND CRC
7148 050414 012737 000006 020562    MOV  #6,BYTCNT          ; DATA BYTES/PACKET
7149 050422 004737 034662          JSR  PC,SETBUF           ; SET UP BUFFERS
7150 050426 012700 004440          MOV  #TBUF,R0           ; BASE ADDRESS
7151 050432 062700 000034          ADD  #34,R0             ; OFFSET TO CRC
7152 050436 005020                   CLR  (R0)+              ; ALTER DATA TO CAUSE
7153 050440 005020                   CLR  (R0)+              ;   CRC ERROR W/CALCULATED
7154 050442 012777 004100 131556    MOV  #DNI!INTE,@PCSRO   ;
7155 050450 112777 000104 131550    MOVB #INTE!START,@PCSRO ; ISSUE START PORT COMMAND
7156 050456 004737 030706          JSR  PC,CHKDNI          ; DNI?
7157 050462 103010                   BCC  120$              ; YES
7158 050464
          050464 004737 031010          JSR  PC,CHKFTL          ; 'FATL' BIT SET?
7159 050470          ERRHRD 136.,ERR012,MSG003        ; NO, REPORT ERROR
          050470 104456          TRAP  C$ERHRD
          050472 000210          .WORD 136
          050474 025543          .WORD ERR012
          050476 024032          .WORD MSG003
7160 050500          ESCAPE TST              ; AND ABORT TEST
          050500 104410          TRAP  C$ESCAPE
          050502 000522          .WORD L10045-.
7161
7162 050504 004737 032320          i20$: JSR  PC,CLRDNIS          ; WRITE ONE TO CLEAR DNI
7163
7164 050510 103010                   BCC  130$              ; ERROR ?
7165 050512          FTL                    ; NO
          050512 004737 031010          JSR  PC,CHKFTL          ; 'FATL' BIT SET?
7166 050516          ERRHRD 137.,ERR006,MSG003        ; YES, REPORT ERROR
          050516 104456          TRAP  C$ERHRD
          050520 000211          .WORD 137
          050522 025124          .WORD ERR006
          050524 024032          .WORD MSG003
7167 050526          ESCAPE TST              ; AND ABORT TEST
          050526 104410          TRAP  C$ESCAPE
          050530 000474          .WORD L10045-.
7168
7169 050532 004737 031724          i30$: JSR  PC,CHKTXI          ; TXI ?
7170 050536 103010                   BCC  140$              ; YES
7171 050540          FTL
          050540 004737 031010          JSR  PC,CHKFTL          ; 'FATL' BIT SET?
7172 050544          ERRHRD 140.,ERR013,MSG003        ; NO, REPORT ERROR
          050544 104456          TRAP  C$ERHRD
          050546 000214          .WORD 140
          050550 025624          .WORD ERR013

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7173	050552	024032							.WORD	MSG003
	050554			ESCAPE	TST			; AND ABORT TEST	TRAP	C\$ESCAPE
	050554	104410							.WORD	L10045-.
	050556	000446								
7174										
7175	050560	004737	032502	i40\$:	JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI		
7176								; ERROR ?		
7177	050564	103010			BCC	150\$; NO		
7178	050566				FTL					
	050566	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
7179	050572				ERRHRD	141.,ERR014,MSG003		; YES, REPORT ERROR	TRAP	C\$ERHRD
	050572	104456							.WORD	141
	050574	000215							.WORD	ERR014
	050576	025655							.WORD	MSG003
	050600	024032								
7180	050602				ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	050602	104410							.WORD	L10045-.
	050604	000420								
7181										
7182	050606	012705	002622	i50\$:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP		
7183	050612	004737	031162		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?		
7184	050616	103010			BCC	160\$; YES		
7185	050620				FTL					
	050620	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
7186	050624				ERRHRD	142.,ERR018		; NO, REPORT ERROR	TRAP	C\$ERHRD
	050624	104456							.WORD	142
	050626	000216							.WORD	ERR018
	050630	026122							.WORD	0
	050632	000000								
7187	050634				ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	050634	104410							.WORD	L10045-.
	050636	000366								
7188										
7189	050640	012705	020276	i60\$:	MOV	#TDR15A,R5		; POINT TO EXPECTED TDRB		
7190	050644	004737	034244		JSR	PC,LDXTDR		; LOAD INTO XTDRBO TABLE		
7191	050650	012705	002622		MOV	#TDRB,R5		; CHECK TDRB		
7192	050654	004737	031636		JSR	PC,CHKTDR		; ERRORS ?		
7193	050660	103010			BCC	170\$; NO		
7194	050662				FTL					
	050662	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
7195	050666				ERRHRD	143.,ERR020,MSG005		; YES, REPORT ERROR	TRAP	C\$ERHRD
	050666	104456							.WORD	143
	050670	000217							.WORD	ERR020
	050672	026302							.WORD	MSG005
	050674	024136								
7196	050676				ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	050676	104410							.WORD	L10045-.
	050700	000324								
7197										
7198	050702	004737	031454	i70\$:	JSR	PC,CHKRXI		; RXI ?		
7199	050706	103010			BCC	180\$; YES		

J1

7200	050710			FTL				
	050710	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?	
7201	050714			ERRHRD	144.,ERR015,MSG003		; NO, REPORT ERROR	
	050714	104456				TRAP	C\$ERHRD	
	050716	000220				.WORD	144	
	050720	025723				.WORD	ERR015	
	050722	024032				.WORD	MSG003	
7202	050724			ESCAPE	TST		; AND ABORT TEST	
	050724	104410				TRAP	C\$ESCAPE	
	050726	000276				.WORD	L10045-	
7203								
7204	050730	004737	032434	i180\$: JSR	PC,CLRRXI		; WRITE ONE TO CLEAR RXI	
7205							; ERROR ?	
7206	050734	103010		BCC	190\$; NO	
7207	050736			FTL				
	050736	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?	
7208	050742			ERRHRD	145.,ERR016,MSG003		; YES, REPORT ERROR	
	050742	104456				TRAP	C\$ERHRD	
	050744	000221				.WORD	145	
	050746	025754				.WORD	ERR016	
	050750	024032				.WORD	MSG003	
7209	050752			ESCAPE	TST		; AND ABORT TEST	
	050752	104410				TRAP	C\$ESCAPE	
	050754	000250				.WORD	L10045-	
7210								
7211	050756	012705	002662	i190\$: MOV	#RDRB,R5		; CHECK RDRB OWNERSHIP	
7212	050762	004737	031162	JSR	PC,CHKOWN		; OVN = PORT DRIVER ?	
7213	050766	103010		BCC	200\$; YES	
7214	050770			FTL				
	050770	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?	
7215	050774			ERRHRD	146.,ERR017		; NO, REPORT ERROR	
	050774	104456				TRAP	C\$ERHRD	
	050776	000222				.WORD	146	
	051000	026022				.WORD	ERR017	
	051002	000000				.WORD	0	
7216	051004			ESCAPE	TST		; AND ABORT TEST	
	051004	104410				TRAP	C\$ESCAPE	
	051006	000216				.WORD	L10045-	
7217								
7218	051010	012705	020406	i200\$: MOV	#RDR15A,R5		; POINT TO EXPECTED RDRB	
7219	051014	004737	034214	JSR	PC,LDXRDR		; LOAD INTO XRDRBO TABLE	
7220	051020	012705	002662	MOV	#RDRB,R5		; CHECK RDRB	
7221	051024	004737	031344	JSR	PC,CHKRDR		; ERRORS ?	
7222	051030	103010		BCC	210\$; NO	
7223	051032			FTL				
	051032	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?	
7224	051036			ERRHRD	147.,ERR021,MSG006		; YES, REPORT ERROR	
	051036	104456				TRAP	C\$ERHRD	
	051040	000223				.WORD	147	

K1

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051042 026363          .WORD  ERR021
051044 024300          .WORD  MSG006
7225 051046          ESCAPE TST          ; AND ABORT TEST          TRAP  C$ESCAPE
051046 104410          .WORD  L10045-.
051050 000154
7226
7227          ;COMPARE RBUF WITH TBUF
7228
7229 051052 013705 020562 210$:  MOV    BYTCNT,R5          ; COMPARE DATA
7230 051056 004737 032646      JSR    PC,CMPDAT          ; DATA COMPARE ERROR ?
7231 051062 103006          BCC   230$                ; NO
7232 051064          ERRHRD 150.,ERR022,MSG007 ; YES, REPORT ERROR          TRAP  C$ERHRD
051064 104456          .WORD  150
051066 000226          .WORD  ERR022
051070 026444          .WORD  MSG007
051072 024442
7233 051074          ESCAPE TST          ; AND ABORT TEST          TRAP  C$ESCAPE
051074 104410          .WORD  L10045-.
051076 000126
7234
7235 051100 012777 004100 131120 ;230$: MOV    #DNI!INTE,@PCSR0          ; ISSUE STOP PORT COMMAND
7236 051106 112777 000117 131112      MOVB  #INTE!STOP,@PCSR0 ; DNI ?
7237 051114 004737 030706      JSR   PC,CHKDNI          ; YES
7238 051120 103010          BCC   240$
7239 051122          FTL
051122 004737 031010          JSR   PC,CHKFTL          ; 'FATL' BIT SET?
ERRHRD 151.,ERR019,MSG003 ; NO, REPORT ERROR          TRAP  C$ERHRD
7240 051126          .WORD  151
051126 104456          .WORD  ERR019
051130 000227          .WORD  MSG003
051132 026222
051134 024032
7241 051136          ESCAPE TST          ; AND ABORT TEST          TRAP  C$ESCAPE
051136 104410          .WORD  L10045-.
051140 000064
7242
7243 051142 004737 032320 ;240$: JSR   PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
7244          BCC   250$                ; ERROR ?
7245 051146 103010          FTL                          ; NO
7246 051150          JSR   PC,CHKFTL          ; 'FATL' BIT SET?
051150 004737 031010          ERRHRD 161.,ERR006,MSG003 ; YES, REPORT ERROR          TRAP  C$ERHRD
7247 051154          .WORD  161
051154 104456          .WORD  ERR006
051156 000241          .WORD  MSG003
051160 025124
051162 024032
7248 051164          ESCAPE TST          ; AND ABORT TEST          TRAP  C$ESCAPE
051164 104410          .WORD  L10045-.
051166 000036
7249 051170          ;250$:
7250
7251 051170          EXIT   TST          TRAP  C$EXIT
051170 104432          .WORD  L10045-.
051172 000032

```

L1

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7252  
7253 ;LOCAL TEST MESSAGE  
7254  
7255 051174 104 105 114 T15ID:..ASCIZ 'DELUA FORCE CRC ERROR '  
051177 125 101 040  
051202 106 117 122  
051205 103 105 040  
051210 103 122 103  
051213 040 105 122  
051216 122 117 122  
051221 040 000
```

7256 .EVEN

7257
7258 051224
051224
051224 104401

ENDTST

L10045: TRAP C\$ETST

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.SBTTL TEST 16: NO RECEIVE BUFFER TEST

```

*****
:
: THIS TEST VERIFIES THAT A RCBI ERROR CAN BE DETECTED.
: THIS ERROR WILL ONLY OCCUR AFTER 47. RECEIVE ENTRIES
: (SIZE OF INTERNAL RECEIVE BUFFER), FOR CASE WHERE NO
: RECEIVE BUFFERS ARE OWNED BY THE DELUA.
:
: TEST SEQUENCE:
: 1. WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
: 2. WRITE RING FORMAT
: 3. WRITE PHYSICAL ADDRESS
: 4. SET UP RINGS AND BUFFERS WITH 49.
: TRANSMIT PACKETS, AND NO RECEIVE
: BUFFERS OWNED BY THE DELUA.
: 5. INSURE 'RECEIVE PACKET LOST' COUNTER IS CLEAR
: 6. ISSUE START
: 7. AFTER EACH OF THE FIRST 47. TRANSMISSION'S,
: 'RECEIVE PACKET LOST' COUNTER SHOULD BE CLEAR,
: AND THERE SHOULD BE NO 'RCBI' ERROR
: 8. FOLLOWING NEXT (48TH) TRANSMISSION, 'RCBI' ERROR
: BIT IN PCSRO SHOULD SET AND, 'RECEIVE PACKET LOST'
: COUNTER SHOULD BE INCREMENTED TO A ONE.
: 9. ISSUE STOP
:
*****

```

BGNTST

T16::

PNTMAC T16ID

```

MOV #T16ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

```

END OF MACRO EXPANSION OF 'PNTMAC'

```

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30$ ; NO
MOV #DNI!INTE,@PCSRO ; ENABLE INTERRUPTS
MOVB #INTE!RSET,@PCSRO ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20$ ; YES
FTL

```

JSR PC,CHKFTL ; 'FATL' BIT SET?

ERRHRD 162.,ERR042,MSG003 ; NO, REPORT ERROR

```

TRAP ;B0
.C$ERHRD
.WORD 162
.WORD ERR042
.WORD MSG003

```

ESCAPE TST ; AND ABORT TEST

```

TRAP C$ESCAPE
.WORD L10046-.

```

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051226 012704 052274
051232 004737 034610

```

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051236 004737 035310
051242 103034
051244 012777 004100 130754
051252 112777 000140 130746
051260 004737 032034
051264 103010
051266

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051266 004737 031010

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051272
051272 104456
051274 000242
051276 030105
051300 024032
051302
051302 104410
051304 001022

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N1

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7301 051306 004737 032320      20$: JSR    PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
7302                                ; ERROR ?
7303 051312 103010            BCC    30$              ; NO
7304 051314                                FTL
                                JSR    PC,CHKFTL      ; 'FATL' BIT SET?
                                ERRHRD 163.,ERR006,MSG003 ; YES, REPORT ERROR
7305 051320                                TRAP  C$ERHRD
                                .WORD  163
                                .WORD  ERR006
                                .WORD  MSG003
                                051320 104456
                                051322 000243
                                051324 025124
                                051326 024032
7306 051330 ESCAPE TST      ; AND ABORT TEST
                                TRAP  C$ESCAPE
                                .WORD  L10046-.
                                051330 104410
                                051332 000774
7307                                ;
7308 051334                                ;
7309 051334 004737 032246      30$: JSR    PC,CLRBUF      ; CLEAR XMIT, RECV BUFFERS
7310 051340 004737 033606      JSR    PC,LDDFLT      ; LOAD DEFAULT PHY ADDRESS TABLES
7311 051344 004737 033706      JSR    PC,LDPCSR     ; ADDRESS OF PCBB -> PCSR2!3
7312 051350 012777 004100 130650 MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
7313 051356 112777 000101 130642 MOVB  #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
7314 051364 004737 030706      JSR    PC,CHKDN1     ; DNI?
7315 051370 103010            BCC    40$              ; YES
7316 051372                                FTL
                                JSR    PC,CHKFTL      ; 'FATL' BIT SET?
                                ERRHRD 164.,ERR009,MSG003 ; NO, REPORT ERROR
7317 051376                                TRAP  C$ERHRD
                                .WORD  164
                                .WORD  ERR009
                                .WORD  MSG003
                                051376 104456
                                051400 000244
                                051402 025341
                                051404 024032
7318 051406 ESCAPE TST      ; AND ABORT TEST
                                TRAP  C$ESCAPE
                                .WORD  L10046-.
                                051406 104410
                                051410 000715
7319                                ;
7320 051412 004737 032320      40$: JSR    PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
7321                                ; ERROR ?
7322 051416 103010            BCC    50$              ; NO
7323 051420                                FTL
                                JSR    PC,CHKFTL      ; 'FATL' BIT SET?
                                ERRHRD 165.,ERR006,MSG003 ; YES, REPORT ERROR
7324 051424                                TRAP  C$ERHRD
                                .WORD  165
                                .WORD  ERR006
                                .WORD  MSG003
                                051424 104456
                                051426 000245
                                051430 025124
                                051432 024032
7325 051434 ESCAPE TST      ; AND ABORT TEST
                                TRAP  C$ESCAPE
                                .WORD  L10046-.
                                051434 104410
                                051436 000670
7326                                ;
7327                                ;WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
7328                                ;
7329 051440 012705 014602      50$: MOV    #WTMODE,R5      ; DEFAULT WRITE MODE FUNCTION
7330 051444 004737 033656      JSR    PC,LDPCBB     ; LOAD FUNCTION -> PCBB

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7331 051450 012777 004100 130550      MOV    #DNI!INTE,@PCSRO      ; ENABLE INTERRUPTS
7332 051456 112777 000102 130542      MOVB  #INTE!GETCMD,@PCSRO   ; ISSUE GET_CMD PORT COMMAND
7333 051464 004737 030706              JSR    PC,CHKDNI             ; DNI ?
7334 051470 103010                      BCC   60$                   ; YES
7335 051472                                FTL

      051472 004737 031010              JSR    PC,CHKFTL            ; 'FATL' BIT SET?
7336 051476                                ERRHRD 166.,ERR010,MSG003    ; NO, REPORT ERROR
      051476 104456                                TRAP  C$ERHRD
      051500 000246                                .WORD 166
      051502 025425                                .WORD ERR010
      051504 024032                                .WORD MSG003
7337 051506                                ESCAPE TST                  ; AND ABORT TEST
      051506 104410                                TRAP  C$ESCAPE
      051510 000616                                .WORD L10046-.
7338                                ;
7339 051512 004737 032320      60$: JSR    PC,CLRDNI           ; WRITE ONE TO CLEAR DNI
7340                                ; ERROR ?
7341 051516 103010                      BCC   70$                   ; NO
7342 051520                                FTL

      051520 004737 031010              JSR    PC,CHKFTL            ; 'FATL' BIT SET?
7343 051524                                ERRHRD 167.,ERR006,MSG003    ; YES, REPORT ERROR
      051524 104456                                TRAP  C$ERHRD
      051526 000247                                .WORD 167
      051530 025124                                .WORD ERR006
      051532 024032                                .WORD MSG003
7344 051534                                ESCAPE TST                  ; AND ABORT TEST
      051534 104410                                TRAP  C$ESCAPE
      051536 000570                                .WORD L10046-.
7345                                ;
7346                                ;WRITE RING FORMAT (41 TRANSMIT ENTRIES)
7347                                ;
7348 051540 012705 014542      70$: MOV    #WTRNGS,R5        ; DEFAULT WRITE RING FORMAT FUNCTION
7349 051544 004737 033656      JSR    PC,LDPCCB            ; LOAD FUNCTION -> PCBB
7350 051550 012705 014722      MOV    #RFRMTX,R5          ; DEFAULT RING FORMAT
7351 051554 012700 000006      MOV    #6,R0                ; FORMAT = SIX WORDS
7352 051560 004737 034134      JSR    PC,LDUDBB            ; LOAD RING FORMAT -> UDBB
7353 051564 012777 004100 130434      MOV    #DNI!INTE,@PCSRO    ; ENABLE INTERRUPTS
7354 051572 112777 000102 130426      MOVB  #INTE!GETCMD,@PCSRO  ; ISSUE GET_CMD PORT COMMAND
7355 051600 004737 030706      JSR    PC,CHKDNI           ; DNI ?
7356 051604 103010                      BCC   80$                   ; YES
7357 051606                                FTL

      051606 004737 031010              JSR    PC,CHKFTL            ; 'FATL' BIT SET?
7358 051612                                ERRHRD 170.,ERR010,MSG003    ; NO, REPORT ERROR
      051612 104456                                TRAP  C$ERHRD
      051614 000252                                .WORD 170
      051616 025425                                .WORD ERR010
      051620 024032                                .WORD MSG003
7359 051622                                ESCAPE TST                  ; AND ABORT TEST
      051622 104410                                TRAP  C$ESCAPE
      051624 000502                                .WORD L10046-.
7360                                ;
    
```

C2

HARDWARE TESTS MACRO V05.03 Friday 28-Mar-86 15:36 Page 103-3
TEST 16: NO RECEIVE BUFFER TEST

SEQ 222

```

7361 051626 004737 032320      80$:  JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
7362                                ; ERROR ?
7363 051632 103010            BCC    90$              ; NO
7364 051634                                FTL

                                JSR    PC,CHKFTL      ; 'FATL' BIT SET?
                                ERRHRD  171.,ERR006,MSG003 ; YES, REPORT ERROR
7365 051640                                TRAP   C$ERHRD
                                051640 104456                .WORD  171
                                051642 000253                .WORD  ERR006
                                051644 025124                .WORD  MSG003
                                051646 024032
7366 051650            ESCAPE  TST      ; AND ABORT TEST
                                051650 104410                TRAP   C$ESCAPE
                                051652 000454                .WORD  L10046-.

7367                                ;WRITE PHYSICAL ADDRESS
7368                                ;
7369                                ;
7370 051654            90$:  MOV    #DEFAULT,R5      ; GET DEFAULT PHYSICAL ADDRESS
7371 051654 012705 002274      JSR    PC,LDPHYA      ; SAVE IN DEFAULT TABLE
7372 051660 004737 033724      MOV    #WTPHYA,R5    ; DEFAULT WRITE PHYSICAL ADDR FUNC
7373 051664 012705 014502      JSR    PC,LDPCBB     ; LOAD FUNCTION -> PCBB
7374 051670 004737 033656      JSR    PC,LDPCBB     ; ENABLE INTERRUPTS
7375 051674 012777 004100 130324 MOV    #DNI!INTE,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7376 051702 112777 000102 130316 MOV    #INTE!GETCMD,@PCSR0 ; DNI ?
7377 051710 004737 030706      JSR    PC,CHKDNI    ; YES
7378 051714 103010            BCC    100$
7379 051716                                FTL

                                JSR    PC,CHKFTL      ; 'FATL' BIT SET?
                                ERRHRD  172.,ERR010,MSG003 ; NO, REPORT ERROR
7380 051722                                TRAP   C$ERHRD
                                051722 104456                .WORD  172
                                051724 000254                .WORD  ERR010
                                051726 025425                .WORD  MSG003
                                051730 024032
7381 051732            ESCAPE  TST      ; AND ABORT TEST
                                051732 104410                TRAP   C$ESCAPE
                                051734 000372                .WORD  L10046-.

7382                                ;
7383 051736 004737 032320      100$: JSR    PC,CLRDNI    ; WRITE ONE TO CLEAR DNI
7384                                ; ERROR ?
7385 051742 103010            BCC    110$              ; NO
7386 051744                                FTL

                                JSR    PC,CHKFTL      ; 'FATL' BIT SET?
                                ERRHRD  173.,ERR006,MSG003 ; YES, REPORT ERROR
7387 051750                                TRAP   C$ERHRD
                                051750 104456                .WORD  173
                                051752 000255                .WORD  ERR006
                                051754 025124                .WORD  MSG003
                                051756 024032
7388 051760            ESCAPE  TST      ; AND ABORT TEST
                                051760 104410                TRAP   C$ESCAPE
                                051762 000344                .WORD  L10046-.

7389                                ;
7390                                ;SET UP RINGS FOR 50. TRANSMIT PACKETS

```


F2

7458	052274	104	105	114	T16ID:.ASCIZ 'DELUA NO RECEIVE BUFFER '
	052277	125	101	040	
	052302	116	117	040	
	052305	122	105	103	
	052310	105	111	126	
	052313	105	040	102	
	052316	125	106	106	
	052321	105	122	040	
	052324	000			

7459

7460

7461

7462

052326
052326 104401
052326

.EVEN

ENDTST

L10046: TRAP C\$ETST

7464
 7465
 7466
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.SBTTL TEST 17: DISABLE RECEIVE CHAINING TEST

```

*****
:
: THIS TEST VERIFIES DISABLE DATA CHAINING MODE.
: AN INTERNAL LOOPBACK IS PERFORMED WITH RECEIVE BUFFERS CHAINED
: WHILE IN DISABLE DATA CHAINING MODE.
: A NCHN ERROR IS EXPECTED IN THE RECEIVE DESCRIPTOR RING.
:
: TEST SEQUENCE:
: 1. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM,
: and DISABLE DATA CHAINING MODE
: 2. WRITE RING FORMAT
: 3. WRITE PHYSICAL ADDRESS
: 4. SET UP RINGS AND BUFFERS FOR RECEIVE DATA CHAINING
: 5. ISSUE START
: 6. CHECK FOR NCHN ERROR IN RDRB+6
: 7. ISSUE STOP
:
*****
    
```

7485 052330
 052330
 7486
 7487 052330

BGNTST

T17::

PNTMAC T17ID

052330 012704 053700
 052334 004737 034610

MOV #T17ID,R4
 JSR PC,PNTID

;GET POINTER TO TEST NAME MESSAGE
 ;PRINT TEST NUMBER AND NAME

: END OF MACRO EXPANSION OF 'PNTMAC'

7488 052340 004737 035310
 7489 052344 103034
 7490 052346 012777 004100 127652
 7491 052354 112777 000140 127644
 7492 052362 004737 032034
 7493 052366 103010
 7494 052370

JSR PC,TINIT
 BCC 30\$
 MOV #DNI!INTE,@PCSR0
 MOVB #INTE!RSET,@PCSR0
 JSR PC,CKDNI
 BCC 20\$
 FTL

; IS A DEVICE RESET NEEDED?
 ; NO
 ; PRECONDITION INTR EN.
 ; YES, RESET DELUA
 ; DNI ?
 ; YES

052370 004737 031010

JSR PC,CHKFTL

; 'FATL' BIT SET?

7495 052374
 052374 104456
 052376 000312
 052400 030105
 052402 024032

ERRHRD 202.,ERR042,MSG003

; NO, REPORT ERROR

TRAP ;B0
 C\$ERHRD
 .WORD 202
 .WORD ERR042
 .WORD MSG003

7496 052404
 052404 104410
 052406 001332

ESCAPE TST

; AND ABORT TEST

TRAP C\$ESCAPE
 .WORD L10047-.

7497
 7498 052410 004737 032320
 7499
 7500 052414 103010
 7501 052416

; 20\$:

JSR PC,CLRDN1

; WRITE ONE TO CLEAR DNI
 ; ERROR ?
 ; NO

052416 004737 031010

JSR PC,CHKFTL

; 'FATL' BIT SET?

H2

```

7502 052422          ERRHRD 203.,ERR006,MSG003      ; YES, REPORT ERROR          TRAP      C$ERHRD
      052422 104456          .WORD 203
      052424 000313          .WORD ERR006
      052426 025124          .WORD MSG003
7503 052432          ESCAPE TST                    ; AND ABORT TEST          TRAP      C$ESCAPE
      052432 104410          .WORD L10047-.
      052434 001304
7504
7505 052436          ; 30$:
7506 052436 004737 032246      JSR      PC,CLRBUF          ; CLEAR XMIT,RECV BUFFERS
7507 052442 004737 033606      JSR      PC,LDDFLT         ; LOAD DEFAULT PHY. ADDRESS TABLES
7508 052446 004737 033706      JSR      PC,LDPCSR        ; ADDRESS OF PCBB -> PCSR2!3
7509 052452 012777 004100 127546  MOV      #DNI!INTE,@PCSR0
7510 052460 112777 000101 127540  MOVB    #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
7511 052466 004737 030706      JSR      PC,CHKDNI        ; DNI?
7512 052472 103010          BCC     40$                ; YES
7513 052474          FTL
      052474 004737 031010      JSR      PC,CHKFTL        ; 'FATL' BIT SET?
7514 052500          ERRHRD 204.,ERR009,MSG003      ; NO, REPORT ERROR          TRAP      C$ERHRD
      052500 104456          .WORD 204
      052502 000314          .WORD ERR009
      052504 025341          .WORD MSG003
      052506 024032
7515 052510          ESCAPE TST                    ; AND ABORT TEST          TRAP      C$ESCAPE
      052510 104410          .WORD L10047-.
      052512 001226
7516
7517 052514 004737 032320      ; 40$: JSR      PC,CLRDNIDN          ; WRITE ONE TO CLEAR DNI
7518          BCC     50$                ; ERROR ?
7519 052520 103010          BCC     50$                ; NO
7520 052522          FTL
      052522 004737 031010      JSR      PC,CHKFTL        ; 'FATL' BIT SET?
7521 052526          ERRHRD 205.,ERR006,MSG003      ; YES, REPORT ERROR          TRAP      C$ERHRD
      052526 104456          .WORD 205
      052530 000315          .WORD ERR006
      052532 025124          .WORD MSG003
      052534 024032
7522 052536          ESCAPE TST                    ; AND ABORT TEST          TRAP      C$ESCAPE
      052536 104410          .WORD L10047-.
      052540 001200
7523
7524          ; WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM AND
7525          ; DISABLE RECEIVE DATA CHAINING MODE
7526
7527 052542 012705 014602      ; 50$: MOV      #WTMODE,R5          ; DEFAULT WRITE MODE FUNCTION
7528 052546 004737 033656      JSR      PC,LDPCBB        ; LOAD FUNCTION -> PCBB
7529 052552 013737 020470 002304  MOV      MODE17,PCBB+2    ; LOAD MODE REGISTER
7530 052560 012777 004100 127440  MOV      #DNI!INTE,@PCSR0
7531 052566 112777 000102 127432  MOVB    #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7532 052574 004737 030706      JSR      PC,CHKDNI        ; DNI ?
7533 052600 103010          BCC     60$                ; YES
7534 052602          FTL

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052602 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
7535 052606          ERRHRD 206.,ERR010,MSG003 ; NO, REPORT ERROR
      052606 104456          TRAP   C$ERHRD
      052610 000316          .WORD 206
      052612 025425          .WORD ERR010
      052614 024032          .WORD MSG003
7536 052616          ESCAPE TST                ; AND ABORT TEST
      052616 104410          TRAP   C$ESCAPE
      052620 001120          .WORD L10047-.
7537
7538 052622 004737 032320      ;60$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
7539
7540 052626 103010          BCC    70$                ; ERROR ?
7541 052630          FTL
      052630 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
7542 052634          ERRHRD 207.,ERR006,MSG003 ; YES, REPORT ERROR
      052634 104456          TRAP   C$ERHRD
      052636 000317          .WORD 207
      052640 025124          .WORD ERR006
      052642 024032          .WORD MSG003
7543 052644          ESCAPE TST                ; AND ABORT TEST
      052644 104410          TRAP   C$ESCAPE
      052646 001072          .WORD L10047-.
7544
7545          ;WRITE RING FORMAT
7546
7547 052650 012705 014542      ;70$: MOV    #WTRNGS,R5      ; DEFAULT WRITE RING FORMAT FUNCTION
7548 052654 004737 033656      JSR    PC,LDPCBB          ; LOAD FUNCTION -> PCBB
7549 052660 012705 014706      MOV    #RFRMT,R5        ; DEFAULT RING FORMAT
7550 052664 012700 000006      MOV    #6,R0             ; FORMAT = SIX WORDS
7551 052670 004737 034134      JSR    PC,LDUDBB         ; LOAD RING FORMAT -> UDBB
7552 052674 012777 004100      MOV    #DNI!INTE,@PCSR0 ;
7553 052702 112777 000102      MOV    #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7554 052710 004737 030706      JSR    PC,CHKDNI        ; DNI ?
7555 052714 103010          BCC    80$                ; YES
7556 052716          FTL
      052716 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
7557 052722          ERRHRD 210.,ERR010,MSG003 ; NO, REPORT ERROR
      052722 104456          TRAP   C$ERHRD
      052724 000322          .WORD 210
      052726 025425          .WORD ERR010
      052730 024032          .WORD MSG003
7558 052732          ESCAPE TST                ; AND ABORT TEST
      052732 104410          TRAP   C$ESCAPE
      052734 001004          .WORD L10047-.
7559
7560 052736 004737 032320      ;80$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
7561
7562 052742 103010          BCC    90$                ; ERROR ?
7563 052744          FTL
      052744          ; NO

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J2

TEST 17: DISABLE RECEIVE CHAINING TEST

```

052744 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
                                ERRHRD  211.,ERR006,MSG003      ; YES, REPORT ERROR
7564 052750                    TRAP    C$ERHRD
052750 104456                    .WORD  211
052752 000323                    .WORD  ERR006
052754 025124                    .WORD  MSG003
052756 024032
7565 052760                    ESCAPE  TST              ; AND ABORT TEST
052760 104410                    TRAP    C$ESCAPE
052762 000756                    .WORD  L10047-.

7566
7567          ;WRITE PHYSICAL ADDRESS
7568
7569 052764          90$:
7570 052764 012705 002274      MOV    #DEFAULT,R5      ; GET DEFAULT PHYSICAL ADDRESS
7571 052770 004737 033724      JSR    PC,LDPHYA        ; SAVE IT IN DEFAULT TABLE
7572 052774 012705 014502      MOV    #WTPHYA,R5      ; DEFAULT WRITE PHYSICAL ADDR FUNC
7573 053000 004737 033656      JSR    PC,LDPCCBB      ; LOAD FUNCTION -> PCBB
7574 053004 012777 004100 127214  MOV    #DNI!INTE,@PCSR0
7575 053012 112777 000102 127206  MOVB  #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7576 053020 004737 030706      JSR    PC,CHKDNI
7577 053024 103010      BCC   100$             ; DNI ?
7578 053026      FTL              ; YES

053026 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
                                ERRHRD  212.,ERR010,MSG003      ; NO, REPORT ERROR
7579 053032                    TRAP    C$ERHRD
053032 104456                    .WORD  212
053034 000324                    .WORD  ERR010
053036 025425                    .WORD  MSG003
053040 024032
7580 053042                    ESCAPE  TST              ; AND ABORT TEST
053042 104410                    TRAP    C$ESCAPE
053044 000674                    .WORD  L10047-.

7581
7582 053046 004737 032320      ;100$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
7583                                ; ERROR ?
7584 053052 103010      BCC   110$             ; NO
7585 053054      FTL

053054 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
                                ERRHRD  213.,ERR006,MSG003      ; YES, REPORT ERROR
7586 053060                    TRAP    C$ERHRD
053060 104456                    .WORD  213
053062 000325                    .WORD  ERR006
053064 025124                    .WORD  MSG003
053066 024032
7587 053070                    ESCAPE  TST              ; AND ABORT TEST
053070 104410                    TRAP    C$ESCAPE
053072 000646                    .WORD  L10047-.

7588
7589          ;SET UP RINGS FOR LOOPBACK
7590
7591 053074 012705 016412      ;110$: MOV    #TDRB1A,R5      ; DEFAULT ONE BUFFER TRANSMIT RING
7592 053100 004737 034040      JSR    PC,LDTDRB      ; LOAD TDRB
7593 053104 012705 015052      MOV    #RDRB2A,R5      ; DEFAULT CHAINED RECEIVE RING
7594 053110 004737 033744      JSR    PC,LDRDRB      ; LOAD RDRB

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7595
7596          ;SET UP BUFFERS AND START
7597
7598 053114 005037 020564          CLR      DOCRC          ; NO CRC
7599 053120 012737 000006 020562  MOV      #6,BYTCNT      ; BYTES/PACKET
7600 053126 004737 034662          JSR      PC,SETBUF      ; SET UP BUFFERS
7601 053132 012777 004100 127066  MOV      #DNI!INTE,@PCSRO
7602 053140 112777 000104 127060  MOVB    #INTE!START,@PCSRO ; ISSUE START PORT COMMAND
7603 053146 004737 030706          JSR      PC,CHKDNI      ; DNI?
7604 053152 103010          BCC     120$            ; YES
7605 053154          FTL
                                JSR      PC,CHKFTL          ; 'FATL' BIT SET?
                                ERRHRD  214.,ERR012,MSG003      ; NO, REPORT ERROR
7606 053160          TRAP      C$ERHRD
                                .WORD  214
                                .WORD  ERR012
                                .WORD  MSG003
                                053160 104456
                                053162 000326
                                053164 025543
                                053166 024032
7607 053170          ESCAPE  TST          ; AND ABORT TEST
                                .WORD  C$ESCAPE
                                .WORD  L10047-.
                                053170 104410
                                053172 000546
7608          ;
7609 053174 004737 032320 120$: JSR      PC,CLR DNI      ; WRITE ONE TO CLEAR DNI
7610          ; ERROR ?
7611 053200 103010          BCC     130$            ; NO
7612 053202          FTL
                                JSR      PC,CHKFTL          ; 'FATL' BIT SET?
                                ERRHRD  215.,ERR006,MSG003      ; YES, REPORT ERROR
7613 053206          TRAP      C$ERHRD
                                .WORD  215
                                .WORD  ERR006
                                .WORD  MSG003
                                053206 104456
                                053210 000327
                                053212 025124
                                053214 024032
7614 053216          ESCAPE  TST          ; AND ABORT TEST
                                .WORD  C$ESCAPE
                                .WORD  L10047-.
                                053216 104410
                                053220 000520
7615          ;
7616 053222 004737 031724 130$: JSR      PC,CHKTXI      ; TXI ?
7617 053226 103010          BCC     140$            ; YES
7618 053230          FTL
                                JSR      PC,CHKFTL          ; 'FATL' BIT SET?
                                ERRHRD  216.,ERR013,MSG003      ; NO, REPORT ERROR
7619 053234          TRAP      C$ERHRD
                                .WORD  216
                                .WORD  ERR013
                                .WORD  MSG003
                                053234 104456
                                053236 000330
                                053240 025624
                                053242 024032
7620 053244          ESCAPE  TST          ; AND ABORT TEST
                                .WORD  C$ESCAPE
                                .WORD  L10047-.
                                053244 104410
                                053246 000472
7621          ;
7622 053250 004737 032502 140$: JSR      PC,CLRTXI      ; WRITE ONE TO CLEAR TXI
7623          ; ERROR ?
7624 053254 103010          BCC     150$            ; NO
  
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L2

7625	053256			FTL					
	053256	004737	031010	JSR	PC,CHKFTL			; 'FATL' BIT SET?	
7626	053262			ERRHRD	217.,ERR014,MSG003			; YES, REPORT ERROR	
	053262	104456					TRAP	C\$ERHRD	
	053264	000331					.WORD	217	
	053266	025655					.WORD	ERR014	
	053270	024032					.WORD	MSG003	
7627	053272			ESCAPE	TST			; AND ABORT TEST	
	053272	104410					TRAP	C\$ESCAPE	
	053274	000444					.WORD	L10047-	
7628									
7629	053276	012705	002622	i150\$:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP	
7630	053302	004737	031162		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?	
7631	053306	103010			BCC	160\$; YES	
7632	053310				FTL				
	053310	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?	
7633	053314			ERRHRD	220.,ERR018			; NO, REPORT ERROR	
	053314	104456					TRAP	C\$ERHRD	
	053316	000334					.WORD	220	
	053320	026122					.WORD	ERR018	
	053322	000000					.WORD	0	
7634	053324			ESCAPE	TST			; AND ABORT TEST	
	053324	104410					TRAP	C\$ESCAPE	
	053326	000412					.WORD	L10047-	
7635									
7636	053330	012705	020266	i160\$:	MOV	#TDR14A,R5		; POINT TO EXPECTED TDRB	
7637	053334	004737	034244		JSR	PC,LDXTDR		; LOAD INTO XTDRBO TABLE	
7638	053340	012705	002622		MOV	#TDRB,R5		; CHECK TDRB	
7639	053344	004737	031636		JSR	PC,CHKTDR		; ERRORS ?	
7640	053350	103010			BCC	170\$; NO	
7641	053352				FTL				
	053352	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?	
7642	053356			ERRHRD	221.,ERR020,MSG005			; YES, REPORT ERROR	
	053356	104456					TRAP	C\$ERHRD	
	053360	000335					.WORD	221	
	053362	026302					.WORD	ERR020	
	053364	024136					.WORD	MSG005	
7643	053366			ESCAPE	TST			; AND ABORT TEST	
	053366	104410					TRAP	C\$ESCAPE	
	053370	000350					.WORD	L10047-	
7644									
7645	053372	004737	031454	i170\$:	JSR	PC,CHKRXI		; RXI ?	
7646	053376	103010			BCC	180\$; YES	
7647	053400				FTL				
	053400	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?	
7648	053404			ERRHRD	222.,ERR015,MSG003			; NO, REPORT ERROR	
	053404	104456					TRAP	C\$ERHRD	
	053406	000336					.WORD	222	
	053410	025723					.WORD	ERR015	


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7649 053412 024032          ESCAPE TST          ; AND ABORT TEST          .WORD  MSG003
      053414          ;                               TRAP   C$ESCAPE
      053414 104410          ;                               .WORD  L10047-.
      053416 000322

7650          ;
7651 053420 004737 032434  ;180$: JSR    PC,CLRRXI      ; WRITE ONE TO CLEAR RXI
7652          ;                               ; ERROR ?
7653 053424 103010          BCC    190$              ; NO
7654 053426          FTL

      053426 004737 031010          JSR    PC,CHKFTL        ; 'FATL' BIT SET?

7655 053432          ERRHRD 223.,ERR016,MSG003 ; YES, REPORT ERROR
      053432 104456          ;                               TRAP   C$ERHRD
      053434 000337          ;                               .WORD  223
      053436 025754          ;                               .WORD  ERR016
      053440 024032          ;                               .WORD  MSG003

7656          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
      053442          ;                               .WORD  L10047-.
      053442 104410
      053444 000274

7657          ;
7658          ;CHECK FIRST RING ENTRY
7659          ;
7660 053446 012705 002662  ;190$: MOV    #RDRB,R5      ; CHECK RDRB OWNERSHIP
7661 053452 004737 031162  ;       JSR    PC,CHKOWN    ; OWN = PORT DRIVER ?
7662 053456 103010          BCC    200$              ; YES
7663 053460          FTL

      053460 004737 031010          JSR    PC,CHKFTL        ; 'FATL' BIT SET?

7664 053464          ERRHRD 224.,ERR030      ; NO, REPORT ERROR
      053464 104456          ;                               TRAP   C$ERHRD
      053466 000340          ;                               .WORD  224
      053470 027047          ;                               .WORD  ERR030
      053472 000000          ;                               .WORD  0

7665          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
      053474          ;                               .WORD  L10047-.
      053474 104410
      053476 000242

7666          ;
7667 053500 012705 020416  ;200$: MOV    #RDR17A,R5   ; POINT TO EXPECTED RDRB
7668 053504 004737 034214  ;       JSR    PC,LDXRDR    ; LOAD INTO XRDRBO TABLE
7669 053510 012705 002662  ;       MOV    #RDRB,R5    ; CHECK RDRB
7670 053514 004737 031344  ;       JSR    PC,CHKRDR    ; ERRORS ?
7671 053520 103010          BCC    210$              ; NO
7672 053522          FTL

      053522 004737 031010          JSR    PC,CHKFTL        ; 'FATL' BIT SET?

7673 053526          ERRHRD 225.,ERR036,MSG006 ; YES, REPORT ERROR
      053526 104456          ;                               TRAP   C$ERHRD
      053530 000341          ;                               .WORD  225
      053532 027441          ;                               .WORD  ERR036
      053534 024300          ;                               .WORD  MSG006

7674          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
      053536          ;                               .WORD  L10047-.
      053536 104410
      053540 000200

7675

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7676                                     ;CHECK SECOND RING ENTRY
7677
7678 053542 012705 020426                210$: MOV    #RDR17B,R5          ; POINT TO EXPECTED RDRB
7679 053546 004737 034214                JSR    PC,LDXRDR          ; LOAD INTO XRDRBO TABLE
7680 053552 012705 002672                MOV    #RDRB+8.,R5       ; CHECK RDRB
7681 053556 004737 031344                JSR    PC,CHKRDR          ; ERRORS ?
7682 053562 103010                        BCC    230$              ; NO
7683 053564
                                053564 004737 031010                JSR    PC,CHKFTL          ; 'FATL' BIT SET?
                                ERRHRD 226.,ERR037,MSG006        ; YES, REPORT ERROR
7684 053570
                                053570 104456                        TRAP   C$ERHRD
                                053572 000342                        .WORD 226
                                053574 027527                        .WORD ERR037
                                053576 024300                        .WORD MSG006
7685 053600                ESCAPE TST                ; AND ABORT TEST
                                053600 104410                        TRAP   C$ESCAPE
                                053602 000136                        .WORD L10047-.
7686
7687 053604 012777 004100 126414 230$: MOV    #DNI!INTE,@PCSR0      ; ISSUE STOP PORT COMMAND
7688 053612 112777 000117 126406        MOVB   #INTE!STOP,@PCSR0 ; DNI ?
7689 053620 004737 030706                JSR    PC,CHKDNI          ; YES
7690 053624 103010                        BCC    240$
7691 053626
                                053626 004737 031010                JSR    PC,CHKFTL          ; 'FATL' BIT SET?
                                ERRHRD 227.,ERR019,MSG003        ; NO, REPORT ERROR
7692 053632
                                053632 104456                        TRAP   C$ERHRD
                                053634 000343                        .WORD 227
                                053636 026222                        .WORD ERR019
                                053640 024032                        .WORD MSG003
7693 053642                ESCAPE TST                ; AND ABORT TEST
                                053642 104410                        TRAP   C$ESCAPE
                                053644 000074                        .WORD L10047-.
7694
7695 053646 004737 032320                240$: JSR    PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
7696
                                BCC    250$              ; ERROR ?
7697 053652 103010                        FTL
7698 053654
                                053654 004737 031010                JSR    PC,CHKFTL          ; 'FATL' BIT SET?
                                ERRHRD 230.,ERR006,MSG003        ; YES, REPORT ERROR
7699 053660
                                053660 104456                        TRAP   C$ERHRD
                                053662 000346                        .WORD 230
                                053664 025124                        .WORD ERR006
                                053666 024032                        .WORD MSG003
7700 053670                ESCAPE TST                ; AND ABORT TEST
                                053670 104410                        TRAP   C$ESCAPE
                                053672 000046                        .WORD L10047-.
7701
7702
7703 053674                250$: EXIT TST
                                053674 104432                        TRAP   C$EXIT
                                053676 000042                        .WORD L10047-.

```

B3

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7704  
7705 ;LOCAL TEST MESSAGE  
7706  
7707 053700 104 105 114 T17ID:.ASCIZ 'DELUA DISABLE RECEIVE CHAINING '  
053703 125 101 040  
053706 104 111 123  
053711 101 102 114  
053714 105 040 122  
053717 105 103 105  
053722 111 126 105  
053725 040 103 110  
053730 101 111 116  
053733 111 116 107  
053736 040 000  
  
7708 .EVEN  
7709  
7710 053740 ENDTST  
053740  
053740 104401
```

L10047: TRAP C#ETST

C3

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.SBTTL TEST 18: TRANSMIT CHAINING ERROR TEST

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*****
:
: THIS TEST VERIFIES THAT A TRANSMIT BUFL ERROR CAN BE GENERATED,
: AN INTERNAL LOOPBACK IS ATTEMPTED WITH TRANSMIT BUFFERS CHAINED
: AND SUCCESSIVE OWNED RINGS HAVING STP SET,
: A BUFL ERROR IS EXPECTED IN THE TRANSMIT DESCRIPTOR RING.
:
: TEST SEQUENCE:
: 1. WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
: 2. WRITE RING FORMAT
: 3. WRITE PHYSICAL ADDRESS
: 4. SET UP RINGS AND BUFFERS
:    TRANSMIT RING = CHAINED WITH SUCCESSIVE STPs
: 5. ISSUE START
: 6. CHECK FOR BUFL ERROR IN TDRB+6
: 7. ISSUE STOP
:
*****

```

7733 053742
053742
7734
7735 053742

BGNTST

T18::

PNTMAC T18ID

053742 012704 055166
053746 004737 034610

MOV #T18ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

; END OF MACRO EXPANSION OF 'PNTMAC'

7736 053752 004737 035310
7737 053756 103034
7738 053760 012777 004100 126240
7739 053766 112777 000140 126232
7740 053774 004737 032034
7741 054000 103010
7742 054002

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSRO ; PRECONDITION INTR EN.
MOVB #INTE!RSET,@PCSRO ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

054002 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

7743 054006
054006 104456
054010 000347
054012 030105
054014 024032

ERRHRD 231.,ERR042,MSG003 ; NO, REPORT ERROR

TRAP ;B0
.WORD C\$ERRRD
.WORD 231
.WORD ERR042
.WORD MSG003

7744 054016
054016 104410
054020 001206

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10050-

7745
7746 054022 004737 032320
7747
7748 054026 103010
7749 054030

; 20\$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 30\$; NO
FTL

054030 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

D3

HARDWARE TESTS MACRO V05.03 Friday 28-Mar-86 15:36 Page 105-1
 TEST 18: TRANSMIT CHAINING ERROR TEST

SEQ 236

```

7750 054034          ERRHRD 232.,ERR006,MSG003      ; YES, REPORT ERROR
      054034 104456
      054036 000350
      054040 025124
      054042 024032
      054044          ESCAPE TST                    ; AND ABORT TEST
      054044 104410
      054046 001160
      054106          JSR PC,CLRBUF                  ; CLEAR XMIT,RECV BUFFERS
      004737 032246
      054106          JSR PC,LDDFLT                  ; LOAD DEFAULT PHY.ADDRESS TABLES
      004737 033606
      054106          JSR PC,LDPCSR                  ; ADDRESS OF PCBB -> PCSR2!3
      004737 033706
      054106          MOV #DNI!INTE,@PCSR0           ; ENABLE INTERRUPTS
      012777 004100 126134
      054106          MOV #INTE!GETPCB,@PCSR0        ; ISSUE GET_PCBB PORT COMMAND
      112777 000101 126126
      054106          JSR PC,CHKDNI                  ; DNI?
      004737 030706
      054106          BCC 40$                          ; YES
      054106          FTL
      054106          JSR PC,CHKFTL                   ; 'FATL' BIT SET?
      004737 031010
      054112          ERRHRD 233.,ERR009,MSG003      ; NO, REPORT ERROR
      054112 104456
      054114 000351
      054116 025341
      054120 024032
      054122          ESCAPE TST                    ; AND ABORT TEST
      054122 104410
      054124 001102
      054126          JSR PC,CLR DNI                  ; WRITE ONE TO CLEAR DNI
      004737 032320
      054126          BCC 50$                          ; ERROR ?
      054132 103010
      054134          FTL
      054134          JSR PC,CHKFTL                   ; 'FATL' BIT SET?
      004737 031010
      054140          ERRHRD 234.,ERR006,MSG003      ; YES, REPORT ERROR
      054140 104456
      054142 000352
      054144 025124
      054146 024032
      054150          ESCAPE TST                    ; AND ABORT TEST
      054150 104410
      054152 001054
      054154          ;WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
      012705 014602
      054160          50$: MOV #WTMODE,R5              ; DEFAULT WRITE MODE FUNCTION
      004737 033656
      054160          JSR PC,LDP CBB                  ; LOAD FUNCTION -> PCBB
      054164 012777 004100 126034
      054164          MOV #DNI!INTE,@PCSR0           ; ENABLE INTERRUPTS
      054172 112777 000102 126026
      054172          MOV #INTE!GETCMD,@PCSR0        ; ISSUE GET_CMD PORT COMMAND
      054200 004737 030706
      054200          JSR PC,CHKDNI                  ; DNI ?
      054204 103010
      054204          BCC 60$                          ; YES
      054206          FTL
      054206          JSR PC,CHKFTL                   ; 'FATL' BIT SET?
      004737 031010

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HARDWARE TESTS MACRO V05.03 Friday 28-Mar-86 15:36 Page 105-2
 TEST 18: TRANSMIT CHAINING ERROR TEST

SEQ 237

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7781 054212          ERRHRD 235.,ERR010,MSG003      ; NO, REPORT ERROR
      054212 104456
      054214 000353
      054216 025425
      054220 024032
7782 054222          ESCAPE TST                    ; AND ABORT TEST
      054222 104410
      054224 001002
7783
7784 054226 004737 032320      60$: JSR      PC,CLRDNI                    ; WRITE ONE TO CLEAR DNI
7785
7786 054232 103010          BCC      70$                      ; ERROR ?
7787 054234          FTL
      054234 004737 031010          JSR      PC,CHKFTL                    ; 'FATL' BIT SET?
7788 054240          ERRHRD 236.,ERR006,MSG003      ; YES, REPORT ERROR
      054240 104456
      054242 000354
      054244 025124
      054246 024032
7789 054250          ESCAPE TST                    ; AND ABORT TEST
      054250 104410
      054252 000754
7790
7791          ;WRITE RING FORMAT
7792 054254 012705 014542      70$: MOV      #WTRNGS,R5                    ; DEFAULT WRITE RING FORMAT FUNCTION
7793 054260 004737 033656          JSR      PC,LDPDBB                    ; LOAD FUNCTION -> PCBB
7794 054264 012705 014706          MOV      #RFRMT,R5                    ; DEFAULT RING FORMAT
7795 054270 012700 000006          MOV      #6,R0                       ; FORMAT = SIX WORDS
7796 054274 004737 034134          JSR      PC,LDUDBB                    ; LOAD RING FORMAT -> UDBB
7797 054300 012777 004100 125720  MOV      #DNI!INTE,@PCSR0            ; ENABLE INTERRUPTS
7798 054306 112777 000102 125712  MOVB    #INTE!GETCMD,@PCSR0        ; ISSUE GET_CMD PORT COMMAND
7799 054314 004737 030706          JSR      PC,CHKDNI                    ; DNI ?
7800 054320 103010          BCC      80$                      ; YES
7801 054322          FTL
      054322 004737 031010          JSR      PC,CHKFTL                    ; 'FATL' BIT SET?
7802 054326          ERRHRD 237.,ERR010,MSG003      ; NO, REPORT ERROR
      054326 104456
      054330 000355
      054332 025425
      054334 024032
7803 054336          ESCAPE TST                    ; AND ABORT TEST
      054336 104410
      054340 000666
7804
7805 054342 004737 032320      80$: JSR      PC,CLRDNI                    ; WRITE ONE TO CLEAR DNI
7806
7807 054346 103010          BCC      90$                      ; ERROR ?
7808 054350          FTL
      054350 004737 031010          JSR      PC,CHKFTL                    ; 'FATL' BIT SET?
7809 054354          ERRHRD 240.,ERR006,MSG003      ; YES, REPORT ERROR

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054354 104456
054356 000360
054360 025124
054362 024032
7810 054364          ESCAPE TST          ; AND ABORT TEST
054364 104410
054366 000640
7811
7812          ;WRITE PHYSICAL ADDRESS
7813
7814 054370          90$:
7815 054370 012705 002274          MOV      #DEFAULT,R5          ; GET DEFAULT PHYSICAL ADDRESS
7816 054374 004737 033724          JSR      PC,LDPHYA          ; SAVE IT IN DEFAULT TABLE
7817 054400 012705 014502          MOV      #WTPHYA,R5          ; DEFAULT WRITE PHYSICAL ADDR FUNC
7818 054404 004737 033656          JSR      PC,LPCBB           ; LOAD FUNCTION -> PCBB
7819 054410 012777 004100 125610    MOV      #DNI!INTE,@PCSRO    ; ENABLE INTERRUPTS
7820 054416 112777 000102 125602    MOVB     #INTE!GETCMD,@PCSRO ; ISSUE GET_CMD PORT COMMAND
7821 054424 004737 030706          JSR      PC,CHKDNI          ; DNI ?
7822 054430 103010          BCC      100$              ; YES
7823 054432
054432 004737 031010          JSR      PC,CHKFTL          ; 'FATL' BIT SET?
7824 054436          ERRHRD 241.,ERR010,MSG003    ; NO, REPORT ERROR
054436 104456
054440 000361
054442 025425
054444 024032
7825 054446          ESCAPE TST          ; AND ABORT TEST
054446 104410
054450 000556
7826
7827 054452 004737 032320          100$: JSR      PC,CLRDNl          ; WRITE ONE TO CLEAR DNI
7828
7829 054456 103010          BCC      110$              ; ERROR ?
7830 054460          FTL
054460 004737 031010          JSR      PC,CHKFTL          ; 'FATL' BIT SET?
7831 054464          ERRHRD 242.,ERR006,MSG003    ; YES, REPORT ERROR
054464 104456
054466 000362
054470 025124
054472 024032
7832 054474          ESCAPE TST          ; AND ABORT TEST
054474 104410
054476 000530
7833
7834          ;SET UP RINGS
7835 054500 012705 016552          110$: MOV      #TDRB1E,R5          ; DEFAULT ERROR TRANSMIT RING
7836 054504 004737 034040          JSR      PC,LDTDRB          ; LOAD TDRB
7837 054510 012705 014752          MOV      #RDRB1A,R5          ; DEFAULT ONE BUFFER RECEIVE RING
7838 054514 004737 033744          JSR      PC,LDRDRB          ; LOAD RDRB
7839
7840          ;SET UP BUFFERS AND START
7841
7842 054520 005037 020564          CLR      DOCRC              ; NO CRC

```

```

TRAP C$ERHRD
.WORD 240
.WORD ERR006
.WORD MSG003
TRAP C$ESCAPE
.WORD L10050-.

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```

TRAP C$ERHRD
.WORD 241
.WORD ERR010
.WORD MSG003
TRAP C$ESCAPE
.WORD L10050-.

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TRAP C$ERHRD
.WORD 242
.WORD ERR006
.WORD MSG003
TRAP C$ESCAPE
.WORD L10050-.

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TEST 18: TRANSMIT CHAINING ERROR TEST

SEQ 239

7843	054524	012737	000006	020562	MOV	#6,BYTCNT	; BYTES/PACKET		
7844	054532	004737	034662		JSR	PC,SETBUF	; SET UP BUFFERS		
7845	054536	012777	004100	125462	MOV	#DNI!INTE,@PCSRO	; ENABLE INTERRUPTS		
7846	054544	112777	000104	125454	MOVB	#INTE!START,@PCSRO	; ISSUE START PORT COMMAND		
7847	054552	004737	030706		JSR	PC,CHKDNI	; DNI?		
7848	054556	103010			BCC	120\$; YES		
7849	054560				FTL				
	054560	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
7850	054564				ERRHRD	243.,ERR012,MSG003	; NO, REPORT ERROR		
	054564	104456						TRAP	C\$ERHRD
	054566	000363						.WORD	243
	054570	025543						.WORD	ERR012
	054572	024032						.WORD	MSG003
7851	054574				ESCAPE	TST	; AND ABORT TEST		
	054574	104410						TRAP	C\$ESCAPE
	054576	000430						.WORD	L10050-.
7852									
7853	054600	004737	032320	i120\$:	JSR	PC,CLRDNI	; WRITE ONE TO CLEAR DNI		
7854							; ERROR ?		
7855	054604	103010			BCC	130\$; NO		
7856	054606				FTL				
	054606	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
7857	054612				ERRHRD	245.,ERR006,MSG003	; YES, REPORT ERROR		
	054612	104456						TRAP	C\$ERHRD
	054614	000365						.WORD	245
	054616	025124						.WORD	ERR006
	054620	024032						.WORD	MSG003
7858	054622				ESCAPE	TST	; AND ABORT TEST		
	054622	104410						TRAP	C\$ESCAPE
	054624	000402						.WORD	L10050-.
7859									
7860	054626	004737	031724	i130\$:	JSR	PC,CHKTXI	; TXI ?		
7861	054632	103010			BCC	140\$; YES		
7862	054634				FTL				
	054634	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
7863	054640				ERRHRD	246.,ERR013,MSG003	; NO, REPORT ERROR		
	054640	104456						TRAP	C\$ERHRD
	054642	000366						.WORD	246
	054644	025624						.WORD	ERR013
	054646	024032						.WORD	MSG003
7864	054650				ESCAPE	TST	; AND ABORT TEST		
	054650	104410						TRAP	C\$ESCAPE
	054652	000354						.WORD	L10050-.
7865									
7866	054654	004737	032502	i140\$:	JSR	PC,CLRTXI	; WRITE ONE TO CLEAR TXI		
7867							; ERROR ?		
7868	054660	103010			BCC	150\$; NO		
7869	054662				FTL				
	054662	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		

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HARDWARE TESTS MACRO V05.03 Friday 28-Mar-86 15:36 Page 105-5
TEST 18: TRANSMIT CHAINING ERROR TEST

SEQ 240

7870	054666			ERRHRD 247.,ERR014,MSG003	; YES, REPORT ERROR	TRAP	C\$ERHRD
	054666	104456				.WORD	247
	054670	000367				.WORD	ERR014
	054672	025655				.WORD	MSG003
	054674	024032					
7871	054676			ESCAPE TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	054676	104410				.WORD	L10050-.
	054700	000326					
7872							
7873				;CHECK FIRST RING ENTRY			
7874							
7875	054702	012705	002622	150\$: MOV #TDRB,R5	; CHECK TDRB OWNERSHIP		
7876	054706	004737	031162	JSR PC,CHKOWN	; OWN = PORT DRIVER ?		
7877	054712	103010		BCC 160\$; YES		
7878	054714			FTL			
	054714	004737	031010	JSR PC,CHKFTL	; 'FATL' BIT SET?		
7879	054720			ERRHRD 250.,ERR027	; NO, REPORT ERROR	TRAP	C\$ERHRD
	054720	104456				.WORD	250
	054722	000372				.WORD	ERR027
	054724	026634				.WORD	0
	054726	000000					
7880	054730			ESCAPE TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	054730	104410				.WORD	L10050-.
	054732	000274					
7881							
7882	054734	012705	020306	160\$: MOV #TDR18A,R5	; POINT TO EXPECTED TDRB		
7883	054740	004737	034244	JSR PC,LDXTDR	; LOAD INTO XTDRBO TABLE		
7884	054744	012705	002622	MOV #TDRB,R5	; CHECK TDRB		
7885	054750	004737	031636	JSR PC,CHKTDR	; ERRORS ?		
7886	054754	103010		BCC 162\$; NO		
7887	054756			FTL			
	054756	004737	031010	JSR PC,CHKFTL	; 'FATL' BIT SET?		
7888	054762			ERRHRD 251.,ERR033,MSG005	; YES, REPORT ERROR	TRAP	C\$ERHRD
	054762	104456				.WORD	251
	054764	000373				.WORD	ERR033
	054766	027262				.WORD	MSG005
	054770	024136					
7889	054772			ESCAPE TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	054772	104410				.WORD	L10050-.
	054774	000232					
7890							
7891				;CHECK SECOND RING ENTRY			
7892							
7893	054776	012705	002636	162\$: MOV #TDRB+12.,R5	; CHECK TDRB OWNERSHIP		
7894	055002	004737	031162	JSR PC,CHKOWN	; OWN = PORT DRIVER ?		
7895	055006	103010		BCC 164\$; YES		
7896	055010			FTL			
	055010	004737	031010	JSR PC,CHKFTL	; 'FATL' BIT SET?		
7897	055014			ERRHRD 252.,ERR028	; NO, REPORT ERROR	TRAP	C\$ERHRD
	055014	104456				.WORD	252
	055016	000374					

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055020 026741                                     .WORD  ERR028
055022 000000                                     .WORD  0
7898 055024                                     ESCAPE TST                                     ; AND ABORT TEST
055024 104410                                     TRAP   C$ESCAPE
055026 000200                                     .WORD  L10050-.

7899
7900 055030 012705 020316           i164$:  MOV   #TDR18B,R5           ; POINT TO EXPECTED TDRB
7901 055034 004737 034244           JSR   PC,LDXTDR           ; LOAD INTO XTDRBO TABLE
7902 055040 012705 002632           MOV   #TDRB+8.,R5        ; CHECK TDRB
7903 055044 004737 031636           JSR   PC,CHKTDR           ; ERRORS ?
7904 055050 103010                   BCC   230$                ; NO
7905 055052

055052 004737 031010                   JSR   PC,CHKFTL           ; 'FATL' BIT SET?

7906 055056                                     ERRHRD  253.,ERR034,MSG005 ; YES, REPORT ERROR
055056 104456                                     TRAP   C$ERHRD
055060 000375                                     .WORD  253
055062 027351                                     .WORD  ERR034
055064 024136                                     .WORD  MSG005
7907 055066                                     ESCAPE TST                                     ; AND ABORT TEST
055066 104410                                     TRAP   C$ESCAPE
055070 000136                                     .WORD  L10050-.

7908
7909 055072 012777 004100 125126 230$:  MOV   #DNI!INTE,@PCSRO    ; ENABLE INTERRUPTS
7910 055100 112777 000117 125120  MOVB  #INTE!STOP,@PCSRO  ; ISSUE STOP PORT COMMAND
7911 055106 004737 030706           JSR   PC,CHKDNI           ; DNI ?
7912 055112 103010                   BCC   240$                ; YES
7913 055114

055114 004737 031010                   JSR   PC,CHKFTL           ; 'FATL' BIT SET?

7914 055120                                     ERRHRD  254.,ERR019,MSG003 ; NO, REPORT ERROR
055120 104456                                     TRAP   C$ERHRD
055122 000376                                     .WORD  254
055124 026222                                     .WORD  ERR019
055126 024032                                     .WORD  MSG003
7915 055130                                     ESCAPE TST                                     ; AND ABORT TEST
055130 104410                                     TRAP   C$ESCAPE
055132 000074                                     .WORD  L10050-.

7916
7917 055134 004737 032320           i240$:  JSR   PC,CLRDNIP           ; WRITE ONE TO CLEAR DNI
7918                                     ; ERROR ?
7919 055140 103010                   BCC   250$                ; NO
7920 055142

055142 004737 031010                   JSR   PC,CHKFTL           ; 'FATL' BIT SET?

7921 055146                                     ERRHRD  255.,ERR006,MSG003 ; YES, REPORT ERROR
055146 104456                                     TRAP   C$ERHRD
055150 000377                                     .WORD  255
055152 025124                                     .WORD  ERR006
055154 024032                                     .WORD  MSG003
7922 055156                                     ESCAPE TST                                     ; AND ABORT TEST
055156 104410                                     TRAP   C$ESCAPE
055160 000046                                     .WORD  L10050-.
7923 055162           250$:

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.SBTTL TEST 19: DATA CHAINING TEST

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:
: THIS TEST VERIFIES TRANSMIT AND RECEIVE DATA CHAINING.
: AN INTERNAL WITH TWO TRANSMIT AND TWO RECEIVE BUFFERS CHAINED.
:
: TEST SEQUENCE:
:   1. WRITE MODE REGISTER = PROM MODE INTERNAL LOOPBACK MODE
:   2. WRITE RING FORMAT
:   3. WRITE PHYSICAL ADDRESS
:   4. SET UP RINGS AND BUFFERS
:      TWO TRANSMIT AND RECEIVE BUFFERS
:   5. ISSUE START
:   6. CHECK FOR ERRORS
:   7. ISSUE STOP
:
*****

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7954 055230
055230
7955
7956 055230

BGNTST

T19::

PNTMAC T19ID

055230 012704 057004
055234 004737 034610

MOV #T19ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

: END OF MACRO EXPANSION OF 'PNTMAC'

7957
7958 055240 004737 035310
7959 055244 103034
7960 055246 012777 004100 124752
7961 055254 112777 000140 124744
7962 055262 004737 032034
7963 055266 103010
7964 055270

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1$: JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
: BCC 30$ ; NO
: MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
: MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
: JSR PC,CKDNI ; DNI ?
: BCC 20$ ; YES
: FTL

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055270 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

7965 055274
055274 104456
055276 000400
055300 030105
055302 024032

ERRHRD 256.,ERR042,MSG003 ; NO, REPORT ERROR

```

:BO
:TRAP C$ERRHRD
:WORD 256
:WORD ERR042
:WORD MSG003

```

7966 055304
055304 104410
055306 001524

ESCAPE TST ; AND ABORT TEST

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:TRAP C$ESCAPE
:WORD L10051-.

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7967
7968 055310 004737 032320
7969
7970 055314 103010
7971 055316

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:20$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
: BCC 30$ ; ERROR ?
: FTL ; NO

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055316 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

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7972 055322          ERRHRD 257.,ERR006,MSG003      ; YES, REPORT ERROR          TRAP   C$ERHRD
      055322 104456          .WORD 257
      055324 000401          .WORD ERR006
      055326 025124          .WORD MSG003
7973 055332          ESCAPE TST                    ; AND ABORT TEST            TRAP   C$ESCAPE
      055332 104410          .WORD L10051-.
      055334 001476
7974
7975 055336          ; 30$:
7976 055336 004737 032246      JSR   PC,CLRBUF          ; CLEAR XMIT,RECV BUFFERS
7977 055342 004737 033606      JSR   PC,LDDFLT         ; LOAD DEFAULT PHY.ADDRESS TABLES
7978 055346 004737 033706      JSR   PC,LDPCSR        ; ADDRESS OF PCBB -> PCSR2!3
7979 055352 012777 004100 124646  MOV   #DNI!INTE,@PCSR0  ; ENABLE INTERRUPTS
7980 055360 112777 000101 124640  MOVB  #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
7981 055366 004737 030706      JSR   PC,CHKDNI        ; DNI?
7982 055372 103010          BCC   40$              ; YES
7983 055374
      055374 004737 031010      JSR   PC,CHKFTL        ; 'FATL' BIT SET?
7984 055400          ERRHRD 260.,ERR009,MSG003      ; NO, REPORT ERROR          TRAP   C$ERHRD
      055400 104456          .WORD 260
      055402 000404          .WORD ERR009
      055404 025341          .WORD MSG003
7985 055410          ESCAPE TST                    ; AND ABORT TEST            TRAP   C$ESCAPE
      055410 104410          .WORD L10051-.
      055412 001420
7986
7987 055414 004737 032320      ; 40$:
7988 055420 103010          BCC   50$              ; WRITE ONE TO CLEAR DNI
7989 055422          FTL                    ; ERROR ?
7990 055422          FTL                    ; NO
      055422 004737 031010      JSR   PC,CHKFTL        ; 'FATL' BIT SET?
7991 055426          ERRHRD 261.,ERR006,MSG003      ; YES, REPORT ERROR          TRAP   C$ERHRD
      055426 104456          .WORD 261
      055430 000405          .WORD ERR006
      055432 025124          .WORD MSG003
7992 055436          ESCAPE TST                    ; AND ABORT TEST            TRAP   C$ESCAPE
      055436 104410          .WORD L10051-.
      055440 001372
7993
7994 055442          ; 50$:
7995 055442          ;WRITE MODE REGISTER = INTERNAL LOOPBACK, CRC, AND PROM MODE
7996 055442 012705 014602      MOV   #WTMODE,R5       ; DEFAULT WRITE MODE FUNCTION
7997 055446 004737 033656      JSR   PC,LDPCBB        ; LOAD FUNCTION -> PCBB
7998 055452 012777 004100 124546  MOV   #DNI!INTE,@PCSR0  ; ENABLE INTERRUPTS
7999 055460 112777 000102 124540  MOVB  #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
8000 055466 004737 030706      JSR   PC,CHKDNI        ; DNI ?
8001 055472 103010          BCC   60$              ; YES
8002 055474
      055474 004737 031010      JSR   PC,CHKFTL        ; 'FATL' BIT SET?

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8003 055500          ERRHRD 262.,ERR010,MSG003      ; NO, REPORT ERROR
      055500 104456
      055502 000406
      055504 025425
      055506 024032
      8004 055510          ESCAPE TST                ; AND ABORT TEST
      055510 104410
      055512 001320
      8005
      8006 055514 004737 032320      ;60$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
      8007
      8008 055520 103010          BCC 70$          ; ERROR ?
      8009 055522          FTL                          ; NO
      055522 004737 031010          JSR PC,CHKFTL        ; 'FATL' BIT SET?
      8010 055526          ERRHRD 263.,ERR006,MSG003  ; YES, REPORT ERROR
      055526 104456
      055530 000407
      055532 025124
      055534 024032
      8011 055536          ESCAPE TST                ; AND ABORT TEST
      055536 104410
      055540 001272
      8012
      8013
      8014 055542 012705 014542      ;WRITE RING FORMAT
      8015 055546 004737 033656      70$: MOV #WTRNGS,R5      ; DEFAULT WRITE RING FORMAT FUNCTION
      8016 055552 012705 014706      JSR PC,LDPCCB      ; LOAD FUNCTION -> PCBB
      8017 055556 012700 000006      MOV #RFRMT,R5     ; DEFAULT RING FORMAT
      8018 055562 004737 034134      MOV #6,R0         ; FORMAT = SIX WORDS
      8019 055566 012777 004100      JSR PC,LDUDBB     ; LOAD RING FORMAT -> UDBB
      8020 055574 112777 000102      MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
      8021 055602 004737 030706      MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
      8022 055606 103010          JSR PC,CHKDNI     ; DNI ?
      8023 055610          FTL                          ; YES
      055610 004737 031010          JSR PC,CHKFTL        ; 'FATL' BIT SET?
      8024 055614          ERRHRD 264.,ERR010,MSG003  ; NO, REPORT ERROR
      055614 104456
      055616 000410
      055620 025425
      055622 024032
      8025 055624          ESCAPE TST                ; AND ABORT TEST
      055624 104410
      055626 001204
      8026
      8027 055630 004737 032320      ;80$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
      8028
      8029 055634 103010          BCC 90$          ; ERROR ?
      8030 055636          FTL                          ; NO
      055636 004737 031010          JSR PC,CHKFTL        ; 'FATL' BIT SET?
      8031 055642          ERRHRD 265.,ERR006,MSG003  ; YES, REPORT ERROR

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055642 104456
055644 000411
055646 025124
055650 024032
8032 055652          ESCAPE TST          ; AND ABORT TEST
055652 104410
055654 001156
8033
8034          ;WRITE PHYSICAL ADDRESS
8035
8036 055656          90$:
8037 055656 012705 002274          MOV      #DEFAULT,R5          ; GET DEFAULT PHYSICAL ADDRESS
8038 055662 004737 033724          JSR      PC,LDPHYA          ; SAVE IN DEFAULT TABLE
8039 055666 012705 014502          MOV      #WTPHYA,R5          ; DEFAULT WRITE PHYSICAL ADDR FUNC
8040 055672 004737 033656          JSR      PC,LPCBB          ; LOAD FUNCTION -> PCBB
8041 055676 012777 004100 124322          MOV      #DNI!INTE,@PCSR0    ; ENABLE INTERRUPTS
8042 055704 112777 000102 124314          MOVB    #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
8043 055712 004737 030706          JSR      PC,CHKDNI          ; DNI ?
8044 055716 103010          BCC     100$                ; YES
8045 055720          FTL
055720 004737 031010          JSR      PC,CHKFTL          ; 'FATL' BIT SET?
8046 055724          ERRHRD 266.,ERR010,MSG003 ; NO, REPORT ERROR
055724 104456
055726 000412
055730 025425
055732 024032
8047 055734          ESCAPE TST          ; AND ABORT TEST
055734 104410
055736 001074
8048
8049 055740 004737 032320          100$: JSR      PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
8050
8051 055744 103010          BCC     110$                ; ERROR ?
8052 055746          FTL                          ; NO
055746 004737 031010          JSR      PC,CHKFTL          ; 'FATL' BIT SET?
8053 055752          ERRHRD 267.,ERR006,MSG003 ; YES, REPORT ERROR
055752 104456
055754 000413
055756 025124
055760 024032
8054 055762          ESCAPE TST          ; AND ABORT TEST
055762 104410
055764 001046
8055
8056          ;SET UP RINGS FOR TWO BUFFERS CHAINED LOOPBACK
8057
8058 055766 012705 017572          110$: MOV      #TDRB4A,R5          ; DEFAULT TWO BUFFER TRANSMIT RING
8059 055772 004737 034040          JSR      PC,LDTDRB          ; LOAD TDRB
8060 055776 012705 015542          MOV      #RDRB4A,R5          ; DEFAULT TWO BUFFER RECEIVE RING
8061 056002 004737 033744          JSR      PC,LDRDRB          ; LOAD RDRB
8062
8063          ;SET UP BUFFERS AND START
8064

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TRAP  C$ERHRD
.WORD 265
.WORD ERR006
.WORD MSG003

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TRAP  C$ESCAPE
.WORD L10051-.

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```

TRAP  C$ERHRD
.WORD 266
.WORD ERR010
.WORD MSG003

```

```

TRAP  C$ESCAPE
.WORD L10051-.

```

```

TRAP  C$ERHRD
.WORD 267
.WORD ERR006
.WORD MSG003

```

```

TRAP  C$ESCAPE
.WORD L10051-.

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B4

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TEST 19: DATA CHAINING TEST

SEQ 247

8065	056006	005037	020564		CLR	DOCRC		; NO CRC			
8066	056012	012737	000000	020562	MOV	#0,BYTCNT		; BYTES/PACKET			
8067	056020	004737	034662		JSR	PC,SETBUF		; SET UP BUFFERS			
8068	056024	012777	004100	124174	MOV	#DNI!INTE,@PCSR0		; ENABLE INTERRUPTS			
8069	056032	112777	000104	124166	MOVB	#INTE!START,@PCSR0		; ISSUE START PORT COMMAND			
8070	056040	004737	030706		JSR	PC,CHKDNI		; DNI?			
8071	056044	103010			BCC	120\$; YES			
8072	056046				FTL						
	056046	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?			
8073	056052				ERRHRD	270.,ERR012,MSG003		; NO, REPORT ERROR			
	056052	104456							TRAP	C\$ERHRD	
	056054	000416							.WORD	270	
	056056	025543							.WORD	ERR012	
	056060	024032							.WORD	MSG003	
8074	056062				ESCAPE	TST		; AND ABORT TEST			
	056062	104410							TRAP	C\$ESCAPE	
	056064	000746							.WORD	L10051-.	
8075											
8076	056066	004737	032320		JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI			
8077								; ERROR ?			
8078	056072	103010			BCC	130\$; NO			
8079	056074				FTL						
	056074	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?			
8080	056100				ERRHRD	271.,ERR006,MSG003		; YES, REPORT ERROR			
	056100	104456							TRAP	C\$ERHRD	
	056102	000417							.WORD	271	
	056104	025124							.WORD	ERR006	
	056106	024032							.WORD	MSG003	
8081	056110				ESCAPE	TST		; AND ABORT TEST			
	056110	104410							TRAP	C\$ESCAPE	
	056112	000720							.WORD	L10051-.	
8082											
8083	056114	004737	031724		JSR	PC,CHKTXI		; TXI ?			
8084	056120	103010			BCC	140\$; YES			
8085	056122				FTL						
	056122	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?			
8086	056126				ERRHRD	272.,ERR013,MSG003		; NO, REPORT ERROR			
	056126	104456							TRAP	C\$ERHRD	
	056130	000420							.WORD	272	
	056132	025624							.WORD	ERR013	
	056134	024032							.WORD	MSG003	
8087	056136				ESCAPE	TST		; AND ABORT TEST			
	056136	104410							TRAP	C\$ESCAPE	
	056140	000672							.WORD	L10051-.	
8088											
8089	056142	004737	032502		JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI			
8090								; ERROR ?			
8091	056146	103010			BCC	150\$; NO			
8092	056150				FTL						
	056150	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?			


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8093 056154          ERRHRD 273.,ERR014,MSG003      ; YES, REPORT ERROR      TRAP   C$ERHRD
      056154 104456          .WORD 273
      056156 000421          .WORD ERR014
      056160 025655          .WORD MSG003
8094 056164          ESCAPE TST                    ; AND ABORT TEST        TRAP   C$ESCAPE
      056164 104410          .WORD L10051-.
      056166 000644
8095
8096          ;CHECK FIRST RING ENTRY
8097
8098 056170 012705 002622 150$: MOV #TDRB,R5          ; CHECK TDRB OWNERSHIP
8099 056174 004737 031162      JSR PC,CHKOWN        ; OWN = PORT DRIVER ?
8100 056200 103010          BCC 160$            ; YES
8101 056202          FTL
      056202 004737 031010      JSR PC,CHKFTL        ; 'FATL' BIT SET?
8102 056206          ERRHRD 274.,ERR027            ; NO, REPORT ERROR      TRAP   C$ERHRD
      056206 104456          .WORD 274
      056210 000422          .WORD ERR027
      056212 026634          .WORD C
8103 056216          ESCAPE TST                    ; AND ABORT TEST        TRAP   C$ESCAPE
      056216 104410          .WORD L10051-.
      056220 000612
8104
8105 056222 012705 020326 160$: MOV #TDR20A,R5       ; POINT TO EXPECTED TDRB
8106 056226 004737 034244      JSR PC,LDXTDR        ; LOAD INTO XTDRBO TABLE
8107 056232 012705 002622      MOV #TDRB,R5        ; CHECK TDRB
8108 056236 004737 031636      JSR PC,CHKTDR        ; ERRORS ?
8109 056242 103010          BCC 162$            ; NO
8110 056244          FTL
      056244 004737 031010      JSR PC,CHKFTL        ; 'FATL' BIT SET?
8111 056250          ERRHRD 275.,ERR033,MSG005      ; YES, REPORT ERROR      TRAP   C$ERHRD
      056250 104456          .WORD 275
      056252 000423          .WORD ERR033
      056254 027262          .WORD MSG005
      056256 024136
8112 056260          ESCAPE TST                    ; AND ABORT TEST        TRAP   C$ESCAPE
      056260 104410          .WORD L10051-.
      056262 000550
8113
8114          ;CHECK SECOND RING ENTRY
8115
8116 056264 012705 002632 162$: MOV #TDRB+8.,R5       ; CHECK TDRB OWNERSHIP
8117 056270 004737 031162      JSR PC,CHKOWN        ; OWN = PORT DRIVER ?
8118 056274 103010          BCC 164$            ; YES
8119 056276          FTL
      056276 004737 031010      JSR PC,CHKFTL        ; 'FATL' BIT SET?
8120 056302          ERRHRD 276.,ERR028            ; NO, REPORT ERROR      TRAP   C$ERHRD
      056302 104456

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8146                                     ;CHECK FIRST RING ENTRY
8147
8148 056434 012705 002662          190$: MOV    #RDRB,R5          ; CHECK RDRB OWNERSHIP
8149 056440 004737 031162          JSR    PC,CHKOWN        ; OWN = PORT DRIVER ?
8150 056444 103010                  BCC    200$            ; YES
8151 056446                          FTL
                                     ;
      056446 004737 031010          JSR    PC,CHKFTL        ; 'FATL' BIT SET?
8152 056452                          ERRHRD 282.,ERR030      ; NO, REPORT ERROR
      056452 104456                                     TRAP   C$ERHRD
      056454 000432                                     .WORD 282
      056456 027047                                     .WORD ERR030
      056460 000000                                     .WORD 0
8153 056462                          ESCAPE TST          ; AND ABORT TEST
      056462 104410                                     TRAP   C$ESCAPE
      056464 000346                                     .WORD L10051-.
8154
8155 056466 012705 020436          200$: MOV    #RDR20A,R5      ; POINT TO EXPECTED RDRB
8156 056472 004737 034214          JSR    PC,LDXRDR        ; LOAD INTO XRDRBO TABLE
8157 056476 012705 002662          MOV    #RDRB,R5        ; CHECK RDRB
8158 056502 004737 031344          JSR    PC,CHKRDR        ; ERRORS ?
8159 056506 103010                  BCC    202$            ; NO
8160 056510                          FTL
                                     ;
      056510 004737 031010          JSR    PC,CHKFTL        ; 'FATL' BIT SET?
8161 056514                          ERRHRD 283.,ERR036,MSG006 ; YES, REPORT ERROR
      056514 104456                                     TRAP   C$ERHRD
      056516 000433                                     .WORD 283
      056520 027441                                     .WORD ERR036
      056522 024300                                     .WORD MSG006
8162 056524                          ESCAPE TST          ; AND ABORT TEST
      056524 104410                                     TRAP   C$ESCAPE
      056526 000304                                     .WORD L10051-.
8163
8164                                     ;CHECK SECOND RING ENTRY
8165
8166 056530 012705 002672          202$: MOV    #RDRB+8.,R5     ; CHECK RDRB OWNERSHIP
8167 056534 004737 031162          JSR    PC,CHKOWN        ; OWN = PORT DRIVER ?
8168 056540 103010                  BCC    204$            ; YES
8169 056542                          FTL
                                     ;
      056542 004737 031010          JSR    PC,CHKFTL        ; 'FATL' BIT SET?
8170 056546                          ERRHRD 284.,ERR031      ; NO, REPORT ERROR
      056546 104456                                     TRAP   C$ERHRD
      056550 000434                                     .WORD 284
      056552 027154                                     .WORD ERR031
      056554 000000                                     .WORD 0
8171 056556                          ESCAPE TST          ; AND ABORT TEST
      056556 104410                                     TRAP   C$ESCAPE
      056560 000252                                     .WORD L10051-.
8172
8173 056562 012705 020446          204$: MOV    #RDR20B,R5     ; POINT TO EXPECTED RDRB
8174 056566 004737 034214          JSR    PC,LDXRDR        ; LOAD INTO XRDRBO TABLE
8175 056572 012705 002672          MOV    #RDRB+8.,R5     ; CHECK RDRB

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8176 056576 004737 031344      JSR    PC,CHKRDR      ; ERRORS ?
8177 056602 103010              BCC    210$           ; NO
8178 056604                      FTL

      056604 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?
8179 056610 104456              ERRHRD 285.,ERR037,MSG006 ; YES, REPORT ERROR
      056610 000435              TRAP  C$ERHRD
      056612 027527              .WORD 285
      056614 024300              .WORD ERR037
      056616 000210              .WORD MSG006
8180 056620 104410              ESCAPE TST           ; AND ABORT TEST
      056620 000210              TRAP  C$ESCAPE
      056622 000210              .WORD L10051-.

8181
8182
8183 056624 012705 011056      ;210$: MOV    #RBUF2+14,R5      ; POINT TO CRC ADDRESS
8184 056624 022725 152120      CMP    #152120,(R5)+ ; 1ST CRC WORD BAD?
8185 056630 001003              BNE    222$           ; YES
8186 056634 022715 136614      CMP    #136614,(R5)  ; 2ND CRC WORD BAD?
8187 056636 001422              BEQ    230$           ; NO, SKIP ERROR REPORT
8188 056642 012703 020576      ;222$: MOV    #XCRC,R3      ; POINT TO ERROR TABLE
8189 056644 012704 011056      MOV    #RBUF2+14,R4  ; POINT TO ACTUAL CRC RECEIVED
8190 056650 012324              MOV    (R3)+,(R4)+   ; LOAD CRC ERROR TABLE
8191 056654 011314              MOV    (R3),(R4)     ;
8192 056660 012703 020576      MOV    #XCRC,R3      ; POINT TO EXPECTED CRC TABLE
8193 056664 012723 152120      MOV    #152120,(R3)+ ; LOAD TABLE
8194 056670 012713 136614      MOV    #136614,(R3) ;
8195 056674 104456              ERRHRD 286.,ERR023,MSG008 ; YES, REPORT ERROR
      056674 000436              TRAP  C$ERHRD
      056676 026513              .WORD 286
      056700 024474              .WORD ERR023
      056702 000124              .WORD MSG008
8198 056704 104410              ESCAPE TST           ; AND ABORT TEST
      056704 000124              TRAP  C$ESCAPE
      056706 000124              .WORD L10051-.

8199
8200 056710 012777 004100 123310 ;230$: MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
8201 056710 112777 000117 123302 MOVB   #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
8202 056716 004737 030706      JSR    PC,CHKDNI     ; DNI ?
8203 056724 103010              BCC    240$           ; YES
8204 056730
8205 056732                      FTL

      056732 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?
8206 056736 104456              ERRHRD 287.,ERR019,MSG003 ; NO, REPORT ERROR
      056736 000437              TRAP  C$ERHRD
      056740 026222              .WORD 287
      056742 024032              .WORD ERR019
      056744 000062              .WORD MSG003
8207 056746 104410              ESCAPE TST           ; AND ABORT TEST
      056746 000062              TRAP  C$ESCAPE
      056750 000062              .WORD L10051-.

8208
    
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G4

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8209 056752 004737 032320      240$: JSR   PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
8210                               ; ERROR ?
8211 056756 103010             BCC   250$      ; NO
8212 056760                               FTL
                                JSR   PC,CHKFTL      ; 'FATL' BIT SET?
                                ERRHRD 290.,ERR006,MSG003 ; YES, REPORT ERROR
8213 056764                               TRAP  C$ERHRD
      056764 104456                               .WORD 290
      056766 000442                               .WORD ERR006
      056770 025124                               .WORD MSG003
      056772 024032
8214 056774                               ESCAPE TST      ; AND ABORT TEST
      056774 104410                               TRAP  C$ESCAPE
      056776 000034                               .WORD L10051-.
8215 057000      250$:
8216
8217 057000                               EXIT   TST      TRAP  C$EXIT
      057000 104432                               .WORD L10051-.
      057002 000030
8218
8219                               ;LOCAL TEST MESSAGE
8220
8221 057004      104      105      114 T19ID: .ASCIZ 'DELUA DATA CHAINING '
      057007      125      101      040
      057012      104      101      124
      057015      101      040      103
      057020      110      101      111
      057023      116      111      116
      057026      107      040      000
8222                               .EVEN
8223
8224 057032                               ENDTST
      057032
      057032 104401
                                L10051: TRAP  C$ETST

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.SBTTL TEST 20: PHYSICAL ADDRESS TEST

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*****
:
: THIS TEST VERIFIES THAT PHYSICAL ADDRESS DETECTION
: IS OPERATIONAL.
: A WRITE PHYSICAL ADDRESS FUNCTION IS USED TO SET
: THE DELUA'S PHYSICAL ADDRESS.
: INTERNAL LOOPBACKS ARE THEN PERFORMED WITH A
: CURRENTLY ENABLED AND THEN A CURRENTLY DISABLED
: DESTINATION ADDRESS.
: THE PHYSICAL ADDRESS IS THEN COMPLEMENTED AND THE
: TEST IS REPEATED.
:
: TEST SEQUENCE:
: 1. WRITE MODE REGISTER = INTERNAL LOOPBACK
: 2. WRITE RING FORMAT
: 3. WRITE PHYSICAL ADDRESS
: 4. SET UP RINGS AND BUFFERS
: WITH DESTINATION ADDRESS = PHYSICAL ADDRESS
: 5. ISSUE START
: 6. CHECK FOR ERRORS
: 7. ISSUE STOP
: 8. SET UP RINGS AND BUFFERS
: WITH DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
: 9. ISSUE START
: 10. CHECK FOR NO RXI
: 11. ISSUE STOP
: 12. WRITE PHYSICAL ADDRESS WITH COMPLEMENTED VAULE
: 13. REPEAT STEPS 4 - 11
:
*****

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8259 057034
057034
8260
8261 057034

BGNTST

T20::

PNTMAC T20ID

057034 012704 062460
057040 004737 034610

MOV #T20ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

END OF MACRO EXPANSION OF 'PNTMAC'

8262 057044 004737 035310
8263 057050 103034
8264 057052 012777 004100 123146
8265 057060 112777 000140 123140
8266 057066 004737 032034
8267 057072 103010
8268 057074

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

057074 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

8269 057100
057100 104456
057102 000443
057104 030105

ERRHRD 291.,ERR042,MSG003 ; NO, REPORT ERROR

TRAP ;B0
.WORD C\$ERHRD
.WORD 291
.WORD ERR042

8270	057106	024032			ESCAPE TST		; AND ABORT TEST	.WORD	MSG003
	057110							TRAP	C\$ESCAPE
	057110	104410						.WORD	L10052--
	057112	003376							
8271									
8272	057114	004737	032320	i 20\$:	JSR	PC,CLRDN1	; WRITE ONE TO CLEAR DNI		
8273							; ERROR ?		
8274	057120	103010			BCC	30\$; NO		
8275	057122				FTL				
	057122	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
8276	057126				ERRHRD	292.,ERR006,MSG003	; YES, REPORT ERROR	TRAP	C\$ERHRD
	057126	104456						.WORD	292
	057130	000444						.WORD	ERR006
	057132	025124						.WORD	MSG003
	057134	024032							
8277	057136				ESCAPE TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	057136	104410						.WORD	L10052--
	057140	003350							
8278									
8279	057142			i 30\$:	JSR	PC,CLRBUF	; CLEAR XMIT,RECV BUFFERS		
8280	057142	004737	032246		JSR	PC,LDDFLT	; LOAD DEFAULT PHY.ADDRESS TABLES		
8281	057146	004737	033606		JSR	PC,LDPCSR	; ADDRESS OF PCBB -> PCSR2!3		
8282	057152	004737	033706		MOV	#DNI!INTE,@PCSR0	; ENABLE INTERRUPTS		
8283	057156	012777	004100	123042	MOVB	#INTE!GETPCB,@PCSR0	; ISSUE GET_PCBB PORT COMMAND		
8284	057164	112777	000101	123034	JSR	PC,CHKDNI	; DNI?		
8285	057172	004737	030706		BCC	40\$; YES		
8286	057176	103010			FTL				
8287	057200				JSR	PC,CHKFTL	; 'FATL' BIT SET?		
	057200	004737	031010		ERRHRD	293.,ERR009,MSG003	; NO, REPORT ERROR	TRAP	C\$ERHRD
8288	057204							.WORD	293
	057204	104456						.WORD	ERR009
	057206	000445						.WORD	MSG003
	057210	025341							
	057212	024032							
8289	057214				ESCAPE TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	057214	104410						.WORD	L10052--
	057216	003272							
8290									
8291	057220	004737	032320	i 40\$:	JSR	PC,CLRDN1	; WRITE ONE TO CLEAR DNI		
8292							; ERROR ?		
8293	057224	103010			BCC	50\$; NO		
8294	057226				FTL				
	057226	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
8295	057232				ERRHRD	294.,ERR006,MSG003	; YES, REPORT ERROR	TRAP	C\$ERHRD
	057232	104456						.WORD	294
	057234	000446						.WORD	ERR006
	057236	025124						.WORD	MSG003
	057240	024032							
8296	057242				ESCAPE TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	057242	104410						.WORD	L10052--
	057244	003244							

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8297
8298
8299
8300 057246 012705 014602
8301 057252 004737 033656
8302 057256 013737 020474 002304
8303 057264 012777 004100 122734
8304 057272 112777 000102 122726
8305 057300 004737 030706
8306 057304 103010
8307 057306

      057306 004737 031010

8308 057312
      057312 104456
      057314 000447
      057316 025425
      057320 024032
8309 057322
      057322 104410
      057324 003164

8310
8311 057326 004737 032320
8312
8313 057332 103010
8314 057334

      057334 004737 031010

8315 057340
      057340 104456
      057342 000450
      057344 025124
      057346 024032
8316 057350
      057350 104410
      057352 003136

8317
8318
8319
8320 057354 012705 014542
8321 057360 004737 033656
8322 057364 012705 014706
8323 057370 012700 000006
8324 057374 004737 034134
8325 057400 012777 004100 122620
8326 057406 112777 000102 122612
8327 057414 004737 030706
8328 057420 103010
8329 057422

      057422 004737 031010

8330 057426
      057426 104456
      057430 000451

;WRITE MODE REGISTER = INTERNAL LOOPBACK
50$:  MOV    #WTMODE,R5      ; DEFAULT WRITE MODE FUNCTION
      JSR    PC,LDPCCB      ; LOAD FUNCTION -> PCBB
      MOV    MODE21,PCBB+2  ; MODE = INTL LOOPBACK ONLY
      MOV    #DNI!INTE,@PCSRO ; ENABLE INTERRUPTS
      MOVB  #INTE!GETCMD,@PCSRO ; ISSUE GET_CMD PORT COMMAND
      JSR    PC,CHKDNI      ; DNI ?
      BCC   60$             ; YES
      FTL

      JSR    PC,CHKFTL      ; 'FATL' BIT SET?
      ERRHRD 295.,ERR010,MSG003 ; NO, REPORT ERROR
                                     TRAP   C$ERHRD
                                     .WORD  295
                                     .WORD  ERR010
                                     .WORD  MSG003

      ESCAPE TST           ; AND ABORT TEST
                                     TRAP   C$ESCAPE
                                     .WORD  L10052-.

60$:  JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
      BCC   70$             ; ERROR ?
      FTL                   ; NO

      JSR    PC,CHKFTL      ; 'FATL' BIT SET?
      ERRHRD 296.,ERR006,MSG003 ; YES, REPORT ERROR
                                     TRAP   C$ERHRD
                                     .WORD  296
                                     .WORD  ERR006
                                     .WORD  MSG003

      ESCAPE TST           ; AND ABORT TEST
                                     TRAP   C$ESCAPE
                                     .WORD  L10052-.

;WRITE RING FORMAT
70$:  MOV    #WTRNGS,R5    ; DEFAULT WRITE RING FORMAT FUNCTION
      JSR    PC,LDPCCB      ; LOAD FUNCTION -> PCBB
      MOV    #RFRMT,R5     ; DEFAULT RING FORMAT
      MOV    #6,R0         ; FORMAT = SIX WORDS
      JSR    PC,LDUDBB      ; LOAD RING FORMAT -> UDBB
      MOV    #DNI!INTE,@PCSRO ; ENABLE INTERRUPTS
      MOVB  #INTE!GETCMD,@PCSRO ; ISSUE GET_CMD PORT COMMAND
      JSR    PC,CHKDNI      ; DNI ?
      BCC   80$             ; YES
      FTL

      JSR    PC,CHKFTL      ; 'FATL' BIT SET?
      ERRHRD 297.,ERR010,MSG003 ; NO, REPORT ERROR
                                     TRAP   C$ERHRD
                                     .WORD  297
  
```



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      057432 025425
      057434 024032
8331 057436          ESCAPE TST          ; AND ABORT TEST          .WORD  ERR010
      057436 104410          ;                               .WORD  MSG003
      057440 003050          ;                               TRAP   C$ESCAPE
      ;                               .WORD  L10052-.
8332
8333 057442 004737 032320      ;80$: JSR    PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
8334
8335 057446 103010          BCC    90$          ; ERROR ?
8336 057450          FTL          ; NO
      ;
      057450 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
8337 057454          ERRHRD 300.,ERR006,MSG003 ; YES, REPORT ERROR          TRAP   C$ERHRD
      057454 104456          .WORD  300
      057456 000454          .WORD  ERR006
      057460 025124          .WORD  MSG003
      057462 024032          ;
8338 057464          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
      057464 104410          ;                               .WORD  L10052-.
      057466 003022          ;
8339
8340      ;WRITE PHYSICAL ADDRESS
8341
8342 057470      90$:
8343 057470 012705 020062      MOV    #ADR21,R5          ; GET NEW PHYSICAL ADDRESS
8344 057474 004737 033724      JSR    PC,LDPHYA          ; SAVE IT IN DEFAULT TABLE
8345 057500 012705 014502      MOV    #WTPHYA,R5        ; DEFAULT WRITE PHYSICAL ADDR FUNC
8346 057504 004737 033656      JSR    PC,LDPCCB          ; LOAD FUNCTION -> PCBB
8347 057510 012701 020062      MOV    #ADR21,R1          ; GET PHYSICAL ADDRESS
8348 057514 010102          MOV    R1,R2              ; SOURCE = DESTINATION
8349 057516 004737 035062      JSR    PC,SRCDST          ; LOAD PHY ADR IN ADR TABLES
8350 057522 012777 004100 122476 MOV    #DNI!INTE,@PCSRO  ; ENABLE INTERRUPTS
8351 057530 112777 000102 122470 MOV    #INTE!GETCMD,@PCSRO ; ISSUE GET_CMD PORT COMMAND
8352 057536 004737 030706      JSR    PC,CHKDNI          ; DNI ?
8353 057542 103010          BCC    100$          ; YES
8354 057544          FTL
      ;
      057544 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
8355 057550          ERRHRD 301.,ERR010,MSG003 ; NO, REPORT ERROR          TRAP   C$ERHRD
      057550 104456          .WORD  301
      057552 000455          .WORD  ERR010
      057554 025425          .WORD  MSG003
      057556 024032          ;
8356 057560          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
      057560 104410          ;                               .WORD  L10052-.
      057562 002726          ;
8357
8358 057564 004737 032320      ;100$: JSR   PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
8359
8360 057570 103010          BCC    110$          ; ERROR ?
8361 057572          FTL          ; NO
      ;
      057572 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
8362 057576          ERRHRD 302.,ERR006,MSG003 ; YES, REPORT ERROR

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057576	104456						TRAP	C\$ERHRD
057600	000456						.WORD	302
057602	025124						.WORD	ERR006
057604	024032						.WORD	MSG003
8363	057606				ESCAPE TST			; AND ABORT TEST
	057606	104410					TRAP	C\$ESCAPE
	057610	002700					.WORD	L10052-.
8364								
8365								
8366								
8367	057612	012705	016412		110\$: MOV #TDRB1A,R5			; DEFAULT ONE BUFFER TRANSMIT RING
8368	057616	004737	034040		JSR PC,LDTDRB			; LOAD TDRB
8369	057622	012705	014752		MOV #RDRB1A,R5			; DEFAULT ONE BUFFER RECEIVE RING
8370	057626	004737	033744		JSR PC,LDRDRB			; LOAD RDRB
8371								
8372								
8373								
8374	057632	005037	020564		CLR DOCRC			; NO CRC
8375	057636	012737	000006	020562	MOV #6,BYTCNT			; BYTES/PACKET
8376	057644	004737	034662		JSR PC,SETBUF			; SET UP BUFFERS
8377	057650	012777	004100	122350	MOV #DNI!INTE,@PCSRO			; ENABLE INTERRUPTS
8378	057656	112777	000104	122342	MOVB #INTE!START,@PCSRO			; ISSUE START PORT COMMAND
8379	057664	004737	030706		JSR PC,CHKDNI			; DNI?
8380	057670	103010			BCC 120\$; YES
8381	057672				FTL			
	057672	004737	031010		JSR PC,CHKFTL			; 'FATL' BIT SET?
8382	057676				ERRHRD 303.,ERR012,MSG003			; NO, REPORT ERROR
	057676	104456					TRAP	C\$ERHRD
	057700	000457					.WORD	303
	057702	025543					.WORD	ERR012
	057704	024032					.WORD	MSG003
8383	057706				ESCAPE TST			; AND ABORT TEST
	057706	104410					TRAP	C\$ESCAPE
	057710	002600					.WORD	L10052-.
8384								
8385	057712	004737	032320		i120\$: JSR PC,CLRDN1			; WRITE ONE TO CLEAR DNI
8386								; ERROR ?
8387	057716	103010			BCC 130\$; NO
8388	057720				FTL			
	057720	004737	031010		JSR PC,CHKFTL			; 'FATL' BIT SET?
8389	057724				ERRHRD 304.,ERR006,MSG003			; YES, REPORT ERROR
	057724	104456					TRAP	C\$ERHRD
	057726	000460					.WORD	304
	057730	025124					.WORD	ERR006
	057732	024032					.WORD	MSG003
8390	057734				ESCAPE TST			; AND ABORT TEST
	057734	104410					TRAP	C\$ESCAPE
	057736	002552					.WORD	L10052-.
8391								
8392	057740	004737	031724		i130\$: JSR PC,CHKTXI			; TXI ?
8393	057744	103010			BCC 140\$; YES
8394	057746				FTL			

8419	060104			ESCAPE	TST		; AND ABORT TEST		
	060104	104410						TRAP	C\$ESCAPE
	060106	002402						.WORD	L10052-.
8420									
8421	060110	004737	031454	i170\$:	JSR	PC,CHKRXI	; RXI ?		
8422	060114	103010			BCC	180\$; YES		
8423	060116				FTL				
	060116	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
8424	060122				ERRHRD	311.,ERR015,MSG003	; NO, REPORT ERROR		
	060122	104456						TRAP	C\$ERHRD
	060124	000467						.WORD	311
	060126	025723						.WORD	ERR015
	060130	024032						.WORD	MSG003
8425	060132				ESCAPE	TST	; AND ABORT TEST		
	060132	104410						TRAP	C\$ESCAPE
	060134	002354						.WORD	L10052-.
8426									
8427	060136	004737	032434	i180\$:	JSR	PC,CLRRXI	; WRITE ONE TO CLEAR RXI		
8428							; ERROR ?		
8429	060142	103010			BCC	190\$; NO		
8430	060144				FTL				
	060144	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
8431	060150				ERRHRD	312.,ERR016,MSG003	; YES, REPORT ERROR		
	060150	104456						TRAP	C\$ERHRD
	060152	000470						.WORD	312
	060154	025754						.WORD	ERR016
	060156	024032						.WORD	MSG003
8432	060160				ESCAPE	TST	; AND ABORT TEST		
	060160	104410						TRAP	C\$ESCAPE
	060162	002326						.WORD	L10052-.
8433									
8434	060164	012705	002662	i190\$:	MOV	#RDRB,R5	; CHECK RDRB OWNERSHIP		
8435	060170	004737	031162		JSR	PC,CHKOWN	; OWN = PORT DRIVER ?		
8436	060174	103010			BCC	200\$; YES		
8437	060176				FTL				
	060176	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
8438	060202				ERRHRD	313.,ERR017	; NO, REPORT ERROR		
	060202	104456						TRAP	C\$ERHRD
	060204	000471						.WORD	313
	060206	026022						.WORD	ERR017
	060210	000000						.WORD	0
8439	060212				ESCAPE	TST	; AND ABORT TEST		
	060212	104410						TRAP	C\$ESCAPE
	060214	002274						.WORD	L10052-.
8440									
8441	060216	012705	020456	i200\$:	MOV	#RDR20C,R5	; POINT TO EXPECTED RDRB		
8442	060222	004737	034214		JSR	PC,LDXRDR	; LOAD INTO XRDRBO TABLE		
8443	060226	012705	002662		MOV	#RDRB,R5	; CHECK RDRB		
8444	060232	004737	031344		JSR	PC,CHKRDR	; ERRORS ?		
8445	060236	103010			BCC	210\$; NO		
8446	060240				FTL				

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060240 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
8447 060244      ERRHRD 314.,ERR021,MSG006 ; YES, REPORT ERROR
      060244 104456      TRAP   C$ERHRD
      060246 000472      .WORD 314
      060250 026363      .WORD ERR021
      060252 024300      .WORD MSG006
8448 060254      ESCAPE TST           ; AND ABORT TEST
      060254 104410      TRAP   C$ESCAPE
      060256 002232      .WORD L10052-.
8449
8450      ;COMPARE RBUF WITH TBUF
8451
8452 060260 013705 020562 210$: MOV      BYTCNT,R5      ; COMPARE DATA
8453 060264 004737 032646      JSR      PC,CMPDAT      ; DATA COMPARE ERROR ?
8454 060270 103006      BCC     220$           ; NO
8455 060272      ERRHRD 315.,ERR022,MSG007 ; YES, REPORT ERROR
      060272 104456      TRAP   C$ERHRD
      060274 000473      .WORD 315
      060276 026444      .WORD ERR022
      060300 024442      .WORD MSG007
8456 060302      ESCAPE TST           ; AND ABORT TEST
      060302 104410      TRAP   C$ESCAPE
      060304 002204      .WORD L10052-.
8457
8458 060306 012705 010474 220$: MOV      #RBUF+32,R5      ; POINT TO EXPECTED CRC
8459 060312 004737 032576      JSR      PC,CMPCRC      ; ERRORS ?
8460 060316 103006      BCC     230$           ; NO
8461 060320      ERRHRD 316.,ERR023,MSG008 ; YES, REPORT ERROR
      060320 104456      TRAP   C$ERHRD
      060322 000474      .WORD 316
      060324 026513      .WORD ERR023
      060326 024474      .WORD MSG008
8462 060330      ESCAPE TST           ; AND ABORT TEST
      060330 104410      TRAP   C$ESCAPE
      060332 002156      .WORD L10052-.
8463
8464 060334      ;230$: MOV      #DNI!INTE,&PCSR0      ; ENABLE INTERRUPTS
8465 060334 012777 004100 121664      MOV      #INTE!STOP,&PCSR0 ; ISSUE STOP PORT COMMAND
8466 060342 112777 000117 121656      MOV      PC,CHKDNI      ; DNI ?
8467 060350 004737 030706      JSR      PC,CHKDNI      ; YES
8468 060354 103010      BCC     240$
8469 060356      FTL
      060356 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
8470 060362      ERRHRD 317.,ERR019,MSG003 ; NO, REPORT ERROR
      060362 104456      TRAP   C$ERHRD
      060364 000475      .WORD 317
      060366 026222      .WORD ERR019
      060370 024032      .WORD MSG003
8471 060372      ESCAPE TST           ; AND ABORT TEST
      060372 104410      TRAP   C$ESCAPE
      060374 002114      .WORD L10052-.
8472
8473 060376 004737 032320 240$: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI

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C5

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 TEST 20: PHYSICAL ADDRESS TEST

SEQ 261

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8474                                     ; ERROR ?
8475 060402 103010                     BCC 250$ ; NO
8476 060404                               FTL

      060404 004737 031010             JSR PC,CHKFTL ; 'FATL' BIT SET?

8477 060410                               ERRHRD 320.,ERR006,MSG003 ; YES, REPORT ERROR
      060410 104456                               TRAP C$ERHRD
      060412 000500                               .WORD 320
      060414 025124                               .WORD ERR006
      060416 024032                               .WORD MSG003

8478 060420                               ESCAPE TST ; AND ABORT TEST
      060420 104410                               TRAP C$ESCAPE
      060422 002066                               .WORD L10052-.

8479                                     ;
8480                                     ;DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
8481                                     ;
8482                                     ;SET UP RINGS FOR ONE BUFFER LOOPBACK
8483
8484 060424                               250$:
8485 060424 004737 032272             JSR PC,CLRCV ; CLEAR RECEIVE BUFFER
8486 060430 012705 016412             MOV #TDRB1A,R5 ; DEFAULT ONE BUFFER TRANSMIT RING
8487 060434 004737 034040             JSR PC,LDTDRB ; LOAD TDRB
8488 060440 012705 014752             MOV #RDRB1A,R5 ; DEFAULT ONE BUFFER RECEIVE RING
8489 060444 004737 033744             JSR PC,LDRDRB ; LOAD RDRB
8490
8491                                     ;SET UP BUFFERS AND START
8492
8493 060450 012701 020062             MOV #ADR21,R1 ; SET SOURCE = PHYSICAL ADDRESS
8494 060454 012702 020070             MOV #ADR21C,R2 ; DEST = COMPLEMENTED ADDRESS
8495 060460 004737 035062             JSR PC,SRCDST ; LOAD PACKET ADDRESSES
8496 060464 005037 020564             CLR DOCRC ; NO CRC
8497 060470 012737 000006 020562     MOV #6,BYTCNT ; BYTES/PACKET
8498 060476 004737 034662             JSR PC,SETBUF ; SET UP BUFFERS
8499 060502 012777 004100 121516     MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
8500 060510 112777 000104 121510     MOVB #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
8501 060516 004737 030706             JSR PC,CHKDNI ; DNI?
8502 060522 103010                     BCC 260$ ; YES
8503 060524                               FTL

      060524 004737 031010             JSR PC,CHKFTL ; 'FATL' BIT SET?

8504 060530                               ERRHRD 321.,ERR012,MSG003 ; NO, REPORT ERROR
      060530 104456                               TRAP C$ERHRD
      060532 000501                               .WORD 321
      060534 025543                               .WORD ERR012
      060536 024032                               .WORD MSG003

8505 060540                               ESCAPE TST ; AND ABORT TEST
      060540 104410                               TRAP C$ESCAPE
      060542 001746                               .WORD L10052-.

8506                                     ;
8507 060544 004737 032320             260$: JSR PC,CLRDN ; WRITE ONE TO CLEAR DNI
8508                                     ;
8509 060550 103010                     BCC 270$ ; ERROR ?
8510 060552                               FTL ; NO

      060552 004737 031010             JSR PC,CHKFTL ; 'FATL' BIT SET?

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8511 060556          ERRHRD  322.,ERR006,MSG003      ; YES, REPORT ERROR      TRAP  C$ERHRD
      060556 104456          .WORD  322
      060560 000502          .WORD  ERR006
      060562 025124          .WORD  MSG003
8512 060566          ESCAPE  TST                  ; AND ABORT TEST        TRAP  C$ESCAPE
      060566 104410          .WORD  L10052-.
      060570 001720
8513          ;
8514 060572 004737 031724 270$: JSR  PC,CHKTXI          ; TXI ?
8515 060576 103010          BCC  280$          ; YES
8516 060600          FTL
      060600 004737 031010          JSR  PC,CHKFTL          ; 'FATL' BIT SET?
8517 060604          ERRHRD  323.,ERR013,MSG003      ; NO, REPORT ERROR      TRAP  C$ERHRD
      060604 104456          .WORD  323
      060606 000503          .WORD  ERR013
      060610 025624          .WORD  MSG003
8518 060614          ESCAPE  TST                  ; AND ABORT TEST        TRAP  C$ESCAPE
      060614 104410          .WORD  L10052-.
      060616 001672
8519          ;
8520 060620 004737 032502 280$: JSR  PC,CLRTXI          ; WRITE ONE TO CLEAR TXI
8521          BCC  290$          ; ERROR ?
8522 060624 103010          FTL          ; NO
8523 060626          JSR  PC,CHKFTL          ; 'FATL' BIT SET?
      060626 004737 031010          ERRHRD  324.,ERR014,MSG003      ; YES, REPORT ERROR      TRAP  C$ERHRD
8524 060632          .WORD  324
      060632 104456          .WORD  ERR014
      060634 000504          .WORD  MSG003
      060636 025655
      060640 024032
8525 060642          ESCAPE  TST                  ; AND ABORT TEST        TRAP  C$ESCAPE
      060642 104410          .WORD  L10052-.
      060644 001644
8526          ;
8527 060646 012705 002622 290$: MOV  #TDRB,R5          ; CHECK TDRB OWNERSHIP
8528 060652 004737 031162          JSR  PC,CHKOWN          ; OMN = PORT DRIVER ?
8529 060656 103010          BCC  300$          ; YES
8530 060660          FTL
      060660 004737 031010          JSR  PC,CHKFTL          ; 'FATL' BIT SET?
8531 060664          ERRHRD  325.,ERR018          ; NO, REPORT ERROR      TRAP  C$ERHRD
      060664 104456          .WORD  325
      060666 000505          .WORD  ERR018
      060670 026122          .WORD  0
      060672 000000
8532 060674          ESCAPE  TST                  ; AND ABORT TEST        TRAP  C$ESCAPE
      060674 104410          .WORD  L10052-.
      060676 001612
8533          ;

```

E5

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TEST 20: PHYSICAL ADDRESS TEST

SEQ 263

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8534 060700 012705 020346      300$:  MOV    #TDR21X,R5      ; POINT TO EXPECTED TDRB
8535 060704 004737 034244      JSR    PC,LDXTDR      ; LOAD INTO XTDRBO TABLE
8536 060710 012705 002622      MOV    #TDRB,R5      ; CHECK TDRB
8537 060714 004737 031636      JSR    PC,CHKTDR     ; ERRORS ?
8538 060720 103010              BCC    310$          ; NO
8539 060722              FTL

      060722 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?
8540 060726              ERRHRD 326.,ERR020,MSG005 ; YES, REPORT ERROR
      060726 104456              TRAP  C$ERHRD
      060730 000506              .WORD 326
      060732 026302              .WORD ERR020
      060734 024136              .WORD MSG005
8541 060736              ESCAPE TST          ; AND ABORT TEST
      060736 104410              TRAP  C$ESCAPE
      060740 001550              .WORD L10052-.
8542              ;
8543 060742 004737 034276      i310$: JSR    PC,NORXI      ; RXI ?
8544 060746 103010              BCC    320$          ; NO
8545 060750              FTL

      060750 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?
8546 060754              ERRHRD 327.,ERR039  ; YES, REPORT ERROR
      060754 104456              TRAP  C$ERHRD
      060756 000507              .WORD 327
      060760 027671              .WORD ERR039
      060762 000000              .WORD 0
8547 060764              ESCAPE TST          ; AND ABORT TEST
      060764 104410              TRAP  C$ESCAPE
      060766 001522              .WORD L10052-.
8548              ;
8549 060770              i320$: MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
8550 060770 012777 004100 121230 MOVB  #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
8551 060776 112777 000117 121222 JSR    PC,CHKDNI     ; DNI ?
8552 061004 004737 030706      BCC    330$          ; YES
8553 061010 103010              FTL

      061012 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?
8555 061016              ERRHRD 330.,ERR019,MSG003 ; NO, REPORT ERROR
      061016 104456              TRAP  C$ERHRD
      061020 000512              .WORD 330
      061022 026222              .WORD ERR019
      061024 024032              .WORD MSG003
8556 061026              ESCAPE TST          ; AND ABORT TEST
      061026 104410              TRAP  C$ESCAPE
      061030 001460              .WORD L10052-.
8557              ;
8558 061032 004737 032320      i330$: JSR    PC,CLRDNI  ; WRITE ONE TO CLEAR DNI
8559              ; ERROR ?
8560 061036 103010              BCC    340$          ; NO
8561 061040              FTL

      061040 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?

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8594
8595 061206 012705 016412      360$:  MOV    #TDRB1A,R5      ; DEFAULT ONE BUFFER TRANSMIT RING
8596 061212 004737 034040      JSR    PC,LDTDRB         ; LOAD TDRB
8597 061216 012705 014752      MOV    #RDRB1A,R5      ; DEFAULT ONE BUFFER RECEIVE RING
8598 061222 004737 033744      JSR    PC,LDRDRB         ; LOAD RDRB
8599
8600      ;SET UP BUFFERS AND START
8601
8602 061226 005037 020564      CLR    DOCRC            ; NO CRC
8603 061232 012737 000006 020562  MOV    #6,BYTCNT        ; BYTES/PACKET
8604 061240 004737 034662      JSR    PC,SETBUF        ; SET UP BUFFERS
8605 061244 012777 004100 120754  MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
8606 061252 112777 000104 120746  MOVB  #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
8607 061260 004737 030706      JSR    PC,CHKDNI        ; DNI?
8608 061264 103010      BCC    370$            ; YES
8609 061266
      061266 004737 031010      JSR    PC,CHKFTL        ; 'FATL' BIT SET?
8610 061272      ERRHRD 334.,ERR012,MSG003 ; NO, REPORT ERROR
      061272 104456      TRAP   C$ERHRD
      061274 000516      .WORD 334
      061276 025543      .WORD ERR012
      061300 024032      .WORD MSG003
8611 061302      ESCAPE TST            ; AND ABORT TEST
      061302 104410      TRAP   C$ESCAPE
      061304 001204      .WORD L10052-.
8612
8613 061306 004737 032320      ;370$: JSR    PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
8614      BCC    380$            ; ERROR ?
8615 061312 103010      FTL
      061314 004737 031010      JSR    PC,CHKFTL        ; 'FATL' BIT SET?
8617 061320      ERRHRD 335.,ERR006,MSG003 ; YES, REPORT ERROR
      061320 104456      TRAP   C$ERHRD
      061322 000517      .WORD 335
      061324 025124      .WORD ERR006
      061326 024032      .WORD MSG003
8618 061330      ESCAPE TST            ; AND ABORT TEST
      061330 104410      TRAP   C$ESCAPE
      061332 001156      .WORD L10052-.
8619
8620 061334 004737 031724      ;380$: JSR    PC,CHKTXI      ; TXI ?
8621 061340 103010      BCC    390$            ; YES
8622 061342      FTL
      061342 004737 031010      JSR    PC,CHKFTL        ; 'FATL' BIT SET?
8623 061346      ERRHRD 336.,ERR013,MSG003 ; NO, REPORT ERROR
      061346 104456      TRAP   C$ERHRD
      061350 000520      .WORD 336
      061352 025624      .WORD ERR013
      061354 024032      .WORD MSG003
8624 061356      ESCAPE TST            ; AND ABORT TEST
      061356 104410      TRAP   C$ESCAPE

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 TEST 20: PHYSICAL ADDRESS TEST

SEQ 266

	061360	001130						.WORD	L10052-.
8625									
8626	061362	004737	032502	i390\$:	JSR	PC,CLRTXI			; WRITE ONE TO CLEAR TXI
8627									; ERROR ?
8628	061366	103010			BCC	400\$; NO
8629	061370				FTL				
	061370	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
8630	061374				ERRHRD	337.,ERR014,MSG003			; YES, REPORT ERROR
	061374	104456						TRAP	C\$ERHRD
	061376	000521						.WORD	337
	061400	025655						.WORD	ERR014
	061402	024032						.WORD	MSG003
8631	061404				ESCAPE	TST			; AND ABORT TEST
	061404	104410						TRAP	C\$ESCAPE
	061406	001102						.WORD	L10052-.
8632									
8633	061410	012705	002622	i400\$:	MOV	#TDRB,R5			; CHECK TDRB OWNERSHIP
8634	061414	004737	031162		JSR	PC,CHKOWN			; OWN = PORT DRIVER ?
8635	061420	103010			BCC	410\$; YES
8636	061422				FTL				
	061422	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
8637	061426				ERRHRD	340.,ERR018			; NO, REPORT ERROR
	061426	104456						TRAP	C\$ERHRD
	061430	000524						.WORD	340
	061432	026122						.WORD	ERR018
	061434	000000						.WORD	0
8638	061436				ESCAPE	TST			; AND ABORT TEST
	061436	104410						TRAP	C\$ESCAPE
	061440	001050						.WORD	L10052-.
8639									
8640	061442	012705	020266	i410\$:	MOV	#TDR14A,R5			; POINT TO EXPECTED TDRB
8641	061446	004737	034244		JSR	PC,LDXTDR			; LOAD INTO XTDRBO TABLE
8642	061452	012705	002622		MOV	#TDRB,R5			; CHECK TDRB
8643	061456	004737	031636		JSR	PC,CHKTDR			; ERRORS ?
8644	061462	103010			BCC	420\$; NO
8645	061464				FTL				
	061464	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
8646	061470				ERRHRD	341.,ERR020,MSG005			; YES, REPORT ERROR
	061470	104456						TRAP	C\$ERHRD
	061472	000525						.WORD	341
	061474	026302						.WORD	ERR020
	061476	024136						.WORD	MSG005
8647	061500				ESCAPE	TST			; AND ABORT TEST
	061500	104410						TRAP	C\$ESCAPE
	061502	001006						.WORD	L10052-.
8648									
8649	061504	004737	031454	i420\$:	JSR	PC,CHKRXI			; RXI ?
8650	061510	103010			BCC	430\$; YES
8651	061512				FTL				
	061512	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?

8652	061516			ERRHRD	342.,ERR015,MSG003	; NO, REPORT ERROR		
	061516	104456					TRAP	C\$ERHRD
	061520	000526					.WORD	342
	061522	025723					.WORD	ERR015
	061524	024032					.WORD	MSG003
8653	061526			ESCAPE	TST	; AND ABORT TEST		
	061526	104410					TRAP	C\$ESCAPE
	061530	000760					.WORD	L10052-.
8654								
8655	061532	004737	032434	i	430\$: JSR	PC,CLRRXI		; WRITE ONE TO CLEAR RXI
8656								; ERROR ?
8657	061536	103010			BCC	440\$; NO
8658	061540				FTL			
	061540	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
8659	061544			ERRHRD	343.,ERR016,MSG003	; YES, REPORT ERROR		
	061544	104456					TRAP	C\$ERHRD
	061546	000527					.WORD	343
	061550	025754					.WORD	ERR016
	061552	024032					.WORD	MSG003
8660	061554			ESCAPE	TST	; AND ABORT TEST		
	061554	104410					TRAP	C\$ESCAPE
	061556	000732					.WORD	L10052-.
8661								
8662	061560	012705	002662	i	440\$: MOV	#RDRB,R5		; CHECK RDRB OWNERSHIP
8663	061564	004737	031162		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
8664	061570	103010			BCC	450\$; YES
8665	061572				FTL			
	061572	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
8666	061576			ERRHRD	344.,ERR017	; NO, REPORT ERROR		
	061576	104456					TRAP	C\$ERHRD
	061600	000530					.WORD	344
	061602	026022					.WORD	ERR017
	061604	000000					.WORD	0
8667	061606			ESCAPE	TST	; AND ABORT TEST		
	061606	104410					TRAP	C\$ESCAPE
	061610	000700					.WORD	L10052-.
8668								
8669	061612	012705	020456	i	450\$: MOV	#RDR20C,R5		; POINT TO EXPECTED RDRB
8670	061616	004737	034214		JSR	PC,LDXRDR		; LOAD INTO XRDRBO TABLE
8671	061622	012705	002662		MOV	#RDRB,R5		; CHECK RDRB
8672	061626	004737	031344		JSR	PC,CHKRDR		; ERRORS ?
8673	061632	103010			BCC	460\$; NO
8674	061634				FTL			
	061634	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
8675	061640			ERRHRD	345.,ERR021,MSG006	; YES, REPORT ERROR		
	061640	104456					TRAP	C\$ERHRD
	061642	000531					.WORD	345
	061644	026363					.WORD	ERR021
	061646	024300					.WORD	MSG006
8676	061650			ESCAPE	TST	; AND ABORT TEST		

J5

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061650 104410
061652 000636
8677
8678
8679
8680 061654 013705 020562
8681 061660 004737 032646
8682 061664 103006
8683 061666
061666 104456
061670 000532
061672 026444
061674 024442
8684 061676
061676 104410
061700 000610
8685
8686 061702
8687 061702 012705 010474
8688 061706 004737 032576
8689 061712 103006
8690 061714
061714 104456
061716 000533
061720 026513
061722 024474
8691 061724
061724 104410
061726 000562
8692
8693 061730
8694 061730 012777 004100 120270
8695 061736 112777 000117 120262
8696 061744 004737 030706
8697 061750 103010
8698 061752
061752 004737 031010
8699 061756
061756 104456
061760 000536
061762 026222
061764 024032
8700 061766
061766 104410
061770 000520
8701
8702 061772 004737 032320
8703
8704 061776 103010
8705 062000
062000 004737 031010
8706 062004
062004 104456

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```

;COMPARE RBUF WITH TBUF
460$: MOV BYTCNT,R5 ; COMPARE DATA
JSR PC,CMPDAT ; DATA COMPARE ERROR ?
BCC 470$ ; NO
ERRHRD 346.,ERR022,MSG007 ; YES, REPORT ERROR
ESCAPE TST ; AND ABORT TEST
470$: MOV #RBUF+26.,R5 ; CHECK CRC
JSR PC,CMPCRC ; ERRORS ?
BCC 480$ ; NO
ERRHRD 347.,ERR023,MSG008 ; YES, REPORT ERROR
ESCAPE TST ; AND ABORT TEST
480$: MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
MOVB #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
JSR PC,CHKDNI ; DNI ?
BCC 490$ ; YES
FTL
JSR PC,CHKFTL ; 'FATL' BIT SET?
ERRHRD 350.,ERR019,MSG003 ; NO, REPORT ERROR
ESCAPE TST ; AND ABORT TEST
490$: JSR PC,CLR DNI ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 500$ ; NO
FTL
JSR PC,CHKFTL ; 'FATL' BIT SET?
ERRHRD 351.,ERR006,MSG003 ; YES, REPORT ERROR

```

```

TRAP C$ESCAPE
.WORD L10052-.
TRAP C$ERHRD
.WORD 346
.WORD ERR022
.WORD MSG007
TRAP C$ESCAPE
.WORD L10052-.
TRAP C$ERHRD
.WORD 347
.WORD ERR023
.WORD MSG008
TRAP C$ESCAPE
.WORD L10052-.
TRAP C$ERHRD
.WORD 350
.WORD ERR019
.WORD MSG003
TRAP C$ESCAPE
.WORD L10052-.
TRAP C$ERHRD

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```

062006 000537
062010 025124
062012 024032
8707 062014          ESCAPE TST          ; AND ABORT TEST
062014 104410
062016 000472
8708
8709          ;DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
8710
8711          ;SET UP RINGS FOR ONE BUFFER LOOPBACK
8712
8713 062020          500$:
8714 062020 004737 032272          JSR      PC,CLRCV          ; CLEAR RECEIVE BUFFER
8715 062024 012705 016412          MOV      #TDRB1A,R5      ; DEFAULT ONE BUFFER TRANSMIT RING
8716 062030 004737 034040          JSR      PC,LDTDRB      ; LOAD TDRB
8717 062034 012705 014752          MOV      #RDRB1A,R5      ; DEFAULT ONE BUFFER RECEIVE RING
8718 062040 004737 033744          JSR      PC,LDRDRB      ; LOAD RDRB
8719
8720          ;SET UP BUFFERS AND START
8721
8722 062044 012701 020070          MOV      #ADR21C,R1      ; GET PHYSICAL ADDRESS FOR SOURCE
8723 062050 012702 020062          MOV      #ADR21,R2      ; COMPLIMENT = DESTINATION ADDRESS
8724 062054 004737 035062          JSR      PC,SRCDST      ; SAVE FOR PACKET ASSEMBLY
8725 062060 005037 020564          CLR      D0CRC          ; NO CRC
8726 062064 012737 000006 020562          MOV      #6,BYTCNT      ; BYTES/PACKET
8727 062072 004737 034662          JSR      PC,SETBUF      ; SET UP BUFFERS
8728 062076 012777 004100 120122          MOV      #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
8729 062104 112777 000104 120114          MOVB    #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
8730 062112 004737 030706          JSR      PC,CHKDNI      ; DNI?
8731 062116 103010          BCC     510$            ; YES
8732 062120
062120 004737 031010          JSR      PC,CHKFTL      ; 'FATL' BIT SET?
8733 062124          ERRHRD 352.,ERR012,MSG003 ; NO, REPORT ERROR
062124 104456
062126 000540
062130 025543
062132 024032
8734 062134          ESCAPE TST          ; AND ABORT TEST
062134 104410
062136 000352
8735
8736 062140 004737 032320          510$: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
8737
8738 062144 103010          BCC     520$            ; ERROR ?
8739 062146          FTL
062146 004737 031010          JSR      PC,CHKFTL      ; 'FATL' BIT SET?
8740 062152          ERRHRD 353.,ERR006,MSG003 ; YES, REPORT ERROR
062152 104456
062154 000541
062156 025124
062160 024032
8741 062162          ESCAPE TST          ; AND ABORT TEST
062162 104410
    
```

```

.WORD 351
.WORD ERR006
.WORD MSG003
TRAP C$ESCAPE
.WORD L10052-.
TRAP C$ERHRD
.WORD 352
.WORD ERR012
.WORD MSG003
TRAP C$ESCAPE
.WORD L10052-.
TRAP C$ERHRD
.WORD 353
.WORD ERR006
.WORD MSG003
TRAP C$ESCAPE
    
```

L5

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 TEST 20: PHYSICAL ADDRESS TEST

SEQ 270

	062164	000324					.WORD	L10052-.
8742								
8743	062166	004737	031724	520\$:	JSR	PC,CHKTXI		; TXI ?
8744	062172	103010			BCC	530\$; YES
8745	062174				FTL			
	062174	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
8746	062200				ERRHRD	354.,ERR013,MSG003		; NO, REPORT ERROR
	062200	104456					TRAP	C\$ERHRD
	062202	000542					.WORD	354
	062204	025624					.WORD	ERR013
	062206	024032					.WORD	MSG003
8747	062210				ESCAPE	TST		; AND ABORT TEST
	062210	104410					TRAP	C\$ESCAPE
	062212	000276					.WORD	L10052-.
8748								
8749	062214	004737	032502	530\$:	JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI
8750								; ERROR ?
8751	062220	103010			BCC	540\$; NO
8752	062222				FTL			
	062222	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
8753	062226				ERRHRD	355.,ERR014,MSG003		; YES, REPORT ERROR
	062226	104456					TRAP	C\$ERHRD
	062230	000543					.WORD	355
	062232	025655					.WORD	ERR014
	062234	024032					.WORD	MSG003
8754	062236				ESCAPE	TST		; AND ABORT TEST
	062236	104410					TRAP	C\$ESCAPE
	062240	000250					.WORD	L10052-.
8755								
8756	062242	012705	002622	540\$:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP
8757	062246	004737	031162		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
8758	062252	103010			BCC	550\$; YES
8759	062254				FTL			
	062254	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
8760	062260				ERRHRD	356.,ERR018		; NO, REPORT ERROR
	062260	104456					TRAP	C\$ERHRD
	062262	000544					.WORD	356
	062264	026122					.WORD	ERR018
	062266	000000					.WORD	0
8761	062270				ESCAPE	TST		; AND ABORT TEST
	062270	104410					TRAP	C\$ESCAPE
	062272	000216					.WORD	L10052-.
8762								
8763	062274	012705	020346	550\$:	MOV	#TDR21X,R5		; POINT TO EXPECTED TDRB
8764	062300	004737	034244		JSR	PC,LDXTDR		; LOAD INTO XTDRBO TABLE
8765	062304	012705	002622		MOV	#TDRB,R5		; CHECK TDRB
8766	062310	004737	031636		JSR	PC,CHKTDR		; ERRORS ?
8767	062314	103010			BCC	560\$; NO
8768	062316				FTL			
	062316	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?

```

8769 062322          ERRHRD 357.,ERR020,MSG005      ; YES, REPORT ERROR
      062322 104456
      062324 000545
      062326 026302
      062330 024136
      8770 062332          ESCAPE TST                ; AND ABORT TEST
      062332 104410
      062334 000154
      8771
      8772 062336 004737 034276      560$: JSR    PC,NORXI          ; RXI ?
      8773 062342 103010          BCC    570$          ; NO
      8774 062344
      062344 004737 031010          JSR    PC,CHKFTL       ; 'FATL' BIT SET?
      8775 062350          ERRHRD 360.,ERR039      ; YES, REPORT ERROR
      062350 104456
      062352 000550
      062354 027671
      062356 000000
      8776 062360          ESCAPE TST                ; AND ABORT TEST
      062360 104410
      062362 000126
      8777
      8778 062364          570$: MOV    #DNI!INTE,@PCSR0     ; ENABLE INTERRUPTS
      8779 062364 012777 004100 117634  MOVB   #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
      8780 062372 112777 000117 117626  JSR    PC,CHKDNI       ; DNI ?
      8781 062400 004737 030706          BCC    580$          ; YES
      8782 062404 103010          FTL
      8783 062406
      062406 004737 031010          JSR    PC,CHKFTL       ; 'FATL' BIT SET?
      8784 062412          ERRHRD 361.,ERR019,MSG003 ; NO, REPORT ERROR
      062412 104456
      062414 000551
      062416 026222
      062420 024032
      8785 062422          ESCAPE TST                ; AND ABORT TEST
      062422 104410
      062424 000064
      8786
      8787 062426 004737 032320      580$: JSR    PC,CLRDNI       ; WRITE ONE TO CLEAR DNI
      8788
      8789 062432 103010          BCC    590$          ; ERROR ?
      8790 062434
      062434 004737 031010          FTL
      062434 004737 031010          JSR    PC,CHKFTL       ; 'FATL' BIT SET?
      8791 062440          ERRHRD 362.,ERR006,MSG003 ; YES, REPORT ERROR
      062440 104456
      062442 000552
      062444 025124
      062446 024032
      8792 062450          ESCAPE TST                ; AND ABORT TEST
      062450 104410
  
```

TRAP C\$ERHRD
 .WORD 357
 .WORD ERR020
 .WORD MSG005

TRAP C\$ESCAPE
 .WORD L10052-

TRAP C\$ERHRD
 .WORD 360
 .WORD ERR039
 .WORD 0

TRAP C\$ESCAPE
 .WORD L10052-

TRAP C\$ERHRD
 .WORD 361
 .WORD ERR019
 .WORD MSG003

TRAP C\$ESCAPE
 .WORD L10052-

TRAP C\$ERHRD
 .WORD 362
 .WORD ERR006
 .WORD MSG003

TRAP C\$ESCAPE

N5

```

8793 062452 000036
8794 062454          590$:
8795 062454          EXIT  TST
      062454 104432
      062456 000032
8796
8797          ;LOCAL TEST MESSAGE
8798
8799 062460      104      105      114  T20ID:.ASCIZ 'DELUA PHYSICAL ADDRESS '
      062463      125      101      040
      062466      120      110      131
      062471      123      111      103
      062474      101      114      040
      062477      101      104      104
      062502      122      105      123
      062505      123      040      000
8800
8801          .EVEN
8802          ENDTST
      062510
      062510
      062510 104401

```

.WORD L10052-.
TRAP C\$EXIT L10052-.
L10052: TRAP C\$ETST

8804
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.SBTTL TEST 21: MULTICAST ADDRESS TEST

THIS TEST VERIFIES THAT MULTICAST ADDRESSING
IS OPERATIONAL.
A WRITE MULTICAST ADDRESS LIST FUNCTION IS USED TO SET
THE DELUA'S MULTICAST ADDRESS LIST.
INTERNAL LOOPBACKS ARE THEN PERFORMED WITH
CURRENTLY ENABLED AND THEN CURRENTLY DISABLED
MULTICAST DESTINATION ADDRESSES.
THE MULTICAST ADDRESS LIST IS THEN COMPLEMENTED AND THE
TEST IS REPEATED.

TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK
2. WRITE RING FORMAT
3. WRITE PHYSICAL ADDRESS
4. WRITE MULTICAST ADDRESS LIST
5. SET UP RINGS AND BUFFERS
WITH DESTINATION ADDRESS = MULTICAST ADDRESS
6. ISSUE START
7. CHECK FOR ERRORS
8. ISSUE STOP
9. REPEAT STEPS 5 - 8 FOR ALL TEN LIST ENTRIES
10. SET UP RINGS AND BUFFERS
WITH DESTINATION ADDRESS = COMPLIMENTED MULTICAST ADDRESS
11. ISSUE START
12. CHECK FOR NO RXI
13. ISSUE STOP
14. REPEAT STEPS 10 - 13 FOR ALL TEN ENTRIES
15. WRITE MULTICAST ADDRESS LIST WITH COMPLEMENTED VAULES
16. REPEAT STEPS 5 - 14

8840 062512
062512
8841
8842 062512

BGNTST

T21::

PNTMAC T21ID

062512 012704 066412
062516 004737 034610

MOV #T21ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

END OF MACRO EXPANSION OF 'PNTMAC'

8843 062522 004737 035310
8844 062526 103034
8845 062530 012777 004100 117470
8846 062536 112777 000140 117462
8847 062544 004737 032034
8848 062550 103010
8849 062552

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

062552 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

8850 062556

ERRHRD 363.,ERR042,MSG003 ; NO, REPORT ERROR ;80

C6

	062556	104456					TRAP	C\$ERHRD
	062560	000553					.WORD	363
	062562	030105					.WORD	ERR042
	062564	024032					.WORD	MSG003
8851	062566			ESCAPE	TST			; AND ABORT TEST
	062566	104410					TRAP	C\$ESCAPE
	062570	003654					.WORD	L10053-
8852								
8853	062572	004737	032320	i	JSR	PC,CLRDNI		; WRITE ONE TO CLEAR DNI
8854				20\$:				; ERROR ?
8855	062576	103010			BCC	30\$; NO
8856	062600				FTL			
	062600	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
8857	062604				ERRHRD	364.,ERR006,MSG003		; YES, REPORT ERROR
	062604	104456					TRAP	C\$ERHRD
	062606	000554					.WORD	364
	062610	025124					.WORD	ERR006
	062612	024032					.WORD	MSG003
8858	062614				ESCAPE	TST		; AND ABORT TEST
	062614	104410					TRAP	C\$ESCAPE
	062616	003626					.WORD	L10053-
8859								
8860	062620			i				
8861	062620	004737	032246	30\$:	JSR	PC,CLRBUF		; CLEAR TBUF AND RBUF
8862	062624	004737	033606		JSR	PC,LDDFLT		; LOAD DEFAULT PHY.ADDRESS TABLES
8863	062630	004737	033706		JSR	PC,LDPCSR		; ADDRESS OF PCBB -> PCSR2!3
8864	062634	012777	004100	117364	MOV	#DNI!INTE,@PCSR0		; ENABLE INTERRUPTS
8865	062642	112777	000101	117356	MOV	#INTE!GETPCB,@PCSR0		; ISSUE GET_PCBB PORT COMMAND
8866	062650	004737	030706		JSR	PC,CHKDNI		; DNI?
8867	062654	103010			BCC	40\$; YES
8868	062656				FTL			
	062656	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
8869	062662				ERRHRD	365.,ERR009,MSG003		; NO, REPORT ERROR
	062662	104456					TRAP	C\$ERHRD
	062664	000555					.WORD	365
	062666	025341					.WORD	ERR009
	062670	024032					.WORD	MSG003
8870	062672				ESCAPE	TST		; AND ABORT TEST
	062672	104410					TRAP	C\$ESCAPE
	062674	003550					.WORD	L10053-
8871								
8872	062676	004737	032320	i	JSR	PC,CLRDNI		; WRITE ONE TO CLEAR DNI
8873				40\$:				; ERROR ?
8874	062702	103010			BCC	50\$; NO
8875	062704				FTL			
	062704	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
8876	062710				ERRHRD	366.,ERR006,MSG003		; YES, REPORT ERROR
	062710	104456					TRAP	C\$ERHRD
	062712	000556					.WORD	366
	062714	025124					.WORD	ERR006
	062716	024032					.WORD	MSG003

D6

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8877 062720          ESCAPE TST          ; AND ABORT TEST          TRAP      C$ESCAPE
      062720 104410          ;                               .WORD    L10053-.
      062722 003522
8878
8879          ;WRITE MODE REGISTER = INTERNAL LOOPBACK
8880
8881 062724 012705 014602 50$:  MOV    #WTMODE,R5          ; DEFAULT WRITE MODE FUNCTION
8882 062730 004737 033656      JSR    PC,LDPCBB          ; LOAD FUNCTION -> PCBB
8883 062734 013737 020474 002304  MOV    MODE21,PCBB+2      ; MODE = INTL LOOPBACK ONLY
8884 062742 012777 004100 117256  MOV    #DNI!INTE,@PCSR0  ; ENABLE INTERRUPTS
8885 062750 112777 000102 117250  MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
8886 062756 004737 030706      JSR    PC,CHKDNI         ; DNI ?
8887 062762 103010          BCC    60$              ; YES
8888 062764          FTL
      062764 004737 031010      JSR    PC,CHKFTL         ; 'FATL' BIT SET?
8889 062770          ERRHRD 367.,ERR010,MSG003 ; NO, REPORT ERROR          TRAP      C$ERHRD
      062770 104456          ;                               .WORD    367
      062772 000557          ;                               .WORD    ERR010
      062774 025425          ;                               .WORD    MSG003
      062776 024032
8890 063000          ESCAPE TST          ; AND ABORT TEST          TRAP      C$ESCAPE
      063000 104410          ;                               .WORD    L10053-.
      063002 003442
8891
8892 063004 004737 032320 60$:  JSR    PC,CLRDN1         ; WRITE ONE TO CLEAR DNI
8893          ; ERROR ?
8894 063010 103010          BCC    70$              ; NO
8895 063012          FTL
      063012 004737 031010      JSR    PC,CHKFTL         ; 'FATL' BIT SET?
8896 063016          ERRHRD 370.,ERR006,MSG003 ; YES, REPORT ERROR          TRAP      C$ERHRD
      063016 104456          ;                               .WORD    370
      063020 000562          ;                               .WORD    ERR006
      063022 025124          ;                               .WORD    MSG003
      063024 024032
8897 063026          ESCAPE TST          ; AND ABORT TEST          TRAP      C$ESCAPE
      063026 104410          ;                               .WORD    L10053-.
      063030 003414
8898
8899          ;WRITE RING FORMAT
8900
8901 063032 012705 014542 70$:  MOV    #WTRNGS,R5        ; DEFAULT WRITE RING FORMAT FUNCTION
8902 063036 004737 033656      JSR    PC,LDPCBB        ; LOAD FUNCTION -> PCBB
8903 063042 012705 014706      MOV    #RFRMT,R5        ; DEFAULT RING FORMAT
8904 063046 012700 000006      MOV    #6,R0            ; FORMAT = SIX WORDS
8905 063052 004737 034134      JSR    PC,LDUDBB        ; LOAD RING FORMAT -> UDBB
8906 063056 012777 004100 117142  MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
8907 063064 112777 000102 117134  MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
8908 063072 004737 030706      JSR    PC,CHKDNI        ; DNI ?
8909 063076 103010          BCC    80$              ; YES
8910 063100          FTL
      063100 004737 031010      JSR    PC,CHKFTL         ; 'FATL' BIT SET?

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TEST 21: MULTICAST ADDRESS TEST

SEQ 276

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8911 063104          ERRHRD 371.,ERR010,MSG003      ; NO, REPORT ERROR
      063104 104456
      063106 000563
      063110 025425
      063112 024032
      8912 063114          ESCAPE TST                ; AND ABORT TEST
      063114 104410
      063116 003326
      8913
      8914 063120 004737 032320      ;80$: JSR PC,CLRDN1          ; WRITE ONE TO CLEAR DNI ERROR?
      8915 063124 103010
      8916 063126          FTL                      ; NO
      063126 004737 031010
      8917 063132          ERRHRD 372.,ERR006,MSG003    ; YES, REPORT ERROR
      063132 104456
      063134 000564
      063136 025124
      063140 024032
      8918 063142          ESCAPE TST                ; AND ABORT TEST
      063142 104410
      063144 003300
      8919
      8920
      8921          ;WRITE PHYSICAL ADDRESS
      8922 063146 012705 002274      ;90$: MOV #DEFAULT,R5        ; GET DEFAULT PHYSICAL ADDRESS
      8923 063152 004737 033724      JSR PC,LDPHYA          ; SAVE IN DEFAULT TABLE
      8924 063156 012705 014502      MOV #WTPHYA,R5        ; DEFAULT WRITE PHYSICAL ADDR FUNC
      8925 063162 004737 033656      JSR PC,LPCBB          ; LOAD FUNCTION -> PCBB
      8926 063166 012777 004100 117032  MOV #DNI!INTE,@PCSR0  ; ENABLE INTERRUPTS
      8927 063174 112777 000102 117024  MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
      8928 063202 004737 030706      JSR PC,CHKDNI        ; DNI ?
      8929 063206 103010
      8930 063210          FTL                      ; YES
      063210 004737 031010
      8931 063214          ERRHRD 373.,ERR010,MSG003    ; NO, REPORT ERROR
      063214 104456
      063216 000565
      063220 025425
      063222 024032
      8932 063224          ESCAPE TST                ; AND ABORT TEST
      063224 104410
      063226 003216
      8933
      8934 063230 004737 032320      ;100$: JSR PC,CLRDN1       ; WRITE ONE TO CLEAR DNI
      8935
      8936 063234 103010
      8937 063236          FTL                      ; ERROR ?
      063236 004737 031010
      8938 063242          ERRHRD 374.,ERR006,MSG003    ; YES, REPORT ERROR
      063242 104456
      063244 000566

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      063246 025124
      063250 024032
8939 063252          ESCAPE TST          ; AND ABORT TEST          .WORD  ERR006
      063252 104410          ;                               .WORD  MSG003
      063254 003170          ;                               TRAP   C$ESCAPE
                                          .WORD  L10053-.

8940          ;
8941          ;WRITE MULTICAST ADDRESS LIST
8942          ;
8943 063256 012705 014522 102$: MOV   #WTMULA,R5          ; DEFAULT WRITE MULTICAST ADDR FUNC
8944 063262 004737 033656      JSR   PC,LDPCBB          ; LOAD FUNCTION -> PCBB
8945 063266 012705 020076      MOV   #MULTL,R5          ; LOAD LIST INTO UDBB
8946 063272 012700 000036      MOV   #30.,R0           ; LOAD 30 ENTRIES
8947 063276 004737 034134      JSR   PC,LDUDBB          ; MULTICAST LIST -> UDBB
8948 063302 012777 004100 116716  MOV   #DNI!INTE,@PCSR0   ; ENABLE INTERRUPTS
8949 063310 112777 000102 116710  MOVB  #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
8950 063316 004737 030706      JSR   PC,CHKDNI          ; DNI ?
8951 063322 103010          BCC   104$              ; YES
8952 063324          FTL

      063324 004737 031010      JSR   PC,CHKFTL          ; 'FATL' BIT SET?

8953 063330          ERRHRD 375.,ERR010,MSG003      ; NO, REPORT ERROR
      063330 104456          TRAP   C$ERHRD
      063332 000567          .WORD  375
      063334 025425          .WORD  ERR010
      063336 024032          .WORD  MSG003

8954 063340          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
      063340 104410          ;                               .WORD  L10053-.
      063342 003102          ;

8955          ;
8956 063344 004737 032320 104$: JSR   PC,CLRDN1          ; WRITE ONE TO CLEAR DNI ERROR?
8957 063350 103010          BCC   106$              ; NO
8958 063352          FTL

      063352 004737 031010      JSR   PC,CHKFTL          ; 'FATL' BIT SET?

8959 063356          ERRHRD 376.,ERR006,MSG003      ; YES, REPORT ERROR
      063356 104456          TRAP   C$ERHRD
      063360 000570          .WORD  376
      063362 025124          .WORD  ERR006
      063364 024032          .WORD  MSG003

8960 063366          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
      063366 104410          ;                               .WORD  L10053-.
      063370 003054          ;

8961          ;
8962          ;DO TEN LOOPS WITH DEST ADDR = MULTICAST ADDRESS
8963          ;
8964 063372          ;
8965 063372 012704 000012 106$: MOV   #10.,R4          ; DO LOOP = TEN
8966 063376 012702 020076      MOV   #MULTL,R2          ; R2 POINTS TO MULTICAST LIST
8967 063402 012701 002274      MOV   #DEFAULT,R1        ; SOURCE = PHYSICAL ADDRESS
8968 063406 004737 035062      JSR   PC,SRCDST          ; STORE THIS IN TABLES
8969          ;
8970          ;SET UP RINGS FOR ONE BUFFER LOOPBACK
8971          ;
8972 063412 012705 016412 110$: MOV   #TDRB1A,R5          ; DEFAULT ONE BUFFER TRANSMIT RING
8973 063416 004737 034040      JSR   PC,LDTDRB          ; LOAD TDRB

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8974 063422 012705 014752      MOV      #RDRB1A,R5      ; DEFAULT ONE BUFFER RECEIVE RING
8975 063426 004737 033744      JSR      PC,LDRDRB      ; LOAD RDRB
8976
8977      ;SET UP BUFFERS AND START
8978
8979 063432 012701 002274      MOV      #DEFAULT,R1    ; POINT TO SOURCE ADDRESS
8980 063436 004737 035062      JSR      PC,SRCDST      ; R2 IS MULTICAST ADR LIST POINTER
8981 063442 005037 020564      CLR      D0CRC          ; NO CRC APPENDED
8982 063446 012737 000006 020562  MOV      #6,BYTCNT      ; BYTES/PACKET
8983 063454 004737 034662      JSR      PC,SETBUF      ; SET UP BUFFERS
8984 063460 012777 004100 116540  MOV      #DNI!INTE,@PCSRO ; ENABLE INTERRUPTS
8985 063466 112777 000104 116532  MOVB     #INTE!START,@PCSRO ; ISSUE START PORT COMMAND
8986 063474 004737 030706      JSR      PC,CHKDNI      ; DNI?
8987 063500 103010      BCC      120$           ; YES
8988 063502
      063502 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
8989 063506      ERRHRD  377.,ERR012,MSG003 ; NO, REPORT ERROR
      063506 104456      TRAP    C$ERHRD
      063510 000571      .WORD  377
      063512 025543      .WORD  ERR012
      063514 024032      .WORD  MSG003
8990 063516      ESCAPE  TST            ; AND ABORT TEST
      063516 104410      TRAP    C$ESCAPE
      063520 002724      .WORD  L10053-.
8991
8992 063522 004737 032320      i120$: JSR      PC,CLRDN1    ; WRITE ONE TO CLEAR DNI
8993
8994 063526 103010      BCC      130$           ; ERROR ?
8995 063530      FTL
      063530 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
8996 063534      ERRHRD  380.,ERR006,MSG003 ; YES, REPORT ERROR
      063534 104456      TRAP    C$ERHRD
      063536 000574      .WORD  380
      063540 025124      .WORD  ERR006
      063542 024032      .WORD  MSG003
8997 063544      ESCAPE  TST            ; AND ABORT TEST
      063544 104410      TRAP    C$ESCAPE
      063546 002676      .WORD  L10053-.
8998
8999 063550 004737 031724      i130$: JSR      PC,CHKTXI    ; TXI ?
9000 063554 103010      BCC      140$           ; YES
9001 063556      FTL
      063556 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
9002 063562      ERRHRD  381.,ERR013,MSG003 ; NO, REPORT ERROR
      063562 104456      TRAP    C$ERHRD
      063564 000575      .WORD  381
      063566 025624      .WORD  ERR013
      063570 024032      .WORD  MSG003
9003 063572      ESCAPE  TST            ; AND ABORT TEST
      063572 104410      TRAP    C$ESCAPE
      063574 002650      .WORD  L10053-.

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TEST 21: MULTICAST ADDRESS TEST

SEQ 279

9004									
9005	063576	004737	032502	i40\$:	JSR	PC,CLRTXI			; WRITE ONE TO CLEAR TXI ERROR?
9006	063602	103010			BCC	150\$; NO
9007	063604				FTL				
	063604	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
9008	063610				ERRHRD	382.,ERR014,MSG003			; YES, REPORT ERROR
	063610	104456						TRAP	C\$ERHRD
	063612	000576						.WORD	382
	063614	025655						.WORD	ERR014
	063616	024032						.WORD	MSG003
9009	063620				ESCAPE	TST			; AND ABORT TEST
	063620	104410						TRAP	C\$ESCAPE
	063622	002622						.WORD	L10053-.
9010									
9011	063624	012705	002622	i50\$:	MOV	#TDRB,R5			; CHECK TDRB OWNERSHIP
9012	063630	004737	031162		JSR	PC,CHKOWN			; OWN = PORT DRIVER ?
9013	063634	103010			BCC	160\$; YES
9014	063636				FTL				
	063636	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
9015	063642				ERRHRD	383.,ERR018			; NO, REPORT ERROR
	063642	104456						TRAP	C\$ERHRD
	063644	000577						.WORD	383
	063646	026122						.WORD	ERR018
	063650	000000						.WORD	0
9016	063652				ESCAPE	TST			; AND ABORT TEST
	063652	104410						TRAP	C\$ESCAPE
	063654	002570						.WORD	L10053-.
9017									
9018	063656	012705	020266	i60\$:	MOV	#TDR14A,R5			; POINT TO EXPECTED TDRB
9019	063662	004737	034244		JSR	PC,LDXTDR			; LOAD INTO XTDRBO TABLE
9020	063666	012705	002622		MOV	#TDRB,R5			; CHECK TDRB
9021	063672	004737	031636		JSR	PC,CHKTDR			; ERRORS ?
9022	063676	103010			BCC	170\$; NO
9023	063700				FTL				
	063700	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
9024	063704				ERRHRD	384.,ERR020,MSG005			; YES, REPORT ERROR
	063704	104456						TRAP	C\$ERHRD
	063706	000600						.WORD	384
	063710	026302						.WORD	ERR020
	063712	024136						.WORD	MSG005
9025	063714				ESCAPE	TST			; AND ABORT TEST
	063714	104410						TRAP	C\$ESCAPE
	063716	002526						.WORD	L10053-.
9026									
9027	063720	004737	031454	i70\$:	JSR	PC,CHKRXI			; RXI ?
9028	063724	103010			BCC	180\$; YES
9029	063726				FTL				
	063726	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
9030	063732				ERRHRD	385.,ERR015,MSG003			; NO, REPORT ERROR

	063732	104456							TRAP	C\$ERHRD
	063734	000601							.WORD	385
	063736	025723							.WORD	ERR015
	063740	024032							.WORD	MSG003
9031	063742				ESCAPE	TST				; AND ABORT TEST
	063742	104410							TRAP	C\$ESCAPE
	063744	002500							.WORD	L10053-.
9032										
9033	063746	004737	032434	i180\$:	JSR	PC,CLRRXI				; WRITE ONE TO CLEAR RXI
9034										; ERROR ?
9035	063752	103010			BCC	190\$; NO
9036	063754				FTL					
	063754	004737	031010		JSR	PC,CHKFTL				; 'FATL' BIT SET?
9037	063760				ERRHRD	386.,ERR016,MSG003				; YES, REPORT ERROR
	063760	104456							TRAP	C\$ERHRD
	063762	000602							.WORD	386
	063764	025754							.WORD	ERR016
	063766	024032							.WORD	MSG003
9038	063770				ESCAPE	TST				; AND ABORT TEST
	063770	104410							TRAP	C\$ESCAPE
	063772	002452							.WORD	L10053-.
9039										
9040	063774	012705	002662	i190\$:	MOV	#RDRB,R5				; CHECK RDRB OWNERSHIP
9041	064000	004737	031162		JSR	PC,CHKOWN				; OWN = PORT DRIVER ?
9042	064004	103010			BCC	200\$; YES
9043	064006				FTL					
	064006	004737	031010		JSR	PC,CHKFTL				; 'FATL' BIT SET?
9044	064012				ERRHRD	387.,ERR017				; NO, REPORT ERROR
	064012	104456							TRAP	C\$ERHRD
	064014	000603							.WORD	387
	064016	026022							.WORD	ERR017
	064020	000000							.WORD	0
9045	064022				ESCAPE	TST				; AND ABORT TEST
	064022	104410							TRAP	C\$ESCAPE
	064024	002420							.WORD	L10053-.
9046										
9047	064026	012705	020456	i200\$:	MOV	#RDR20C,R5				; POINT TO EXPECTED RDRB
9048	064032	004737	034214		JSR	PC,LDXRDR				; LOAD INTO XRDRBO TABLE
9049	064036	012705	002662		MOV	#RDRB,R5				; CHECK RDRB
9050	064042	004737	031344		JSR	PC,CHKRDR				; ERRORS ?
9051	064046	103010			BCC	210\$; NO
9052	064050				FTL					
	064050	004737	031010		JSR	PC,CHKFTL				; 'FATL' BIT SET?
9053	064054				ERRHRD	390.,ERR021,MSG006				; YES, REPORT ERROR
	064054	104456							TRAP	C\$ERHRD
	064056	000606							.WORD	390
	064060	026363							.WORD	ERR021
	064062	024300							.WORD	MSG006
9054	064064				ESCAPE	TST				; AND ABORT TEST
	064064	104410							TRAP	C\$ESCAPE
	064066	002356							.WORD	L10053-.

J6

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9055
9056          ;COMPARE RBUF WITH TBUF
9057
9058 064070 013705 020562      210$: MOV    BYTCNT,R5          ; COMPARE DATA
9059 064074 004737 032646      JSR    PC,CMPDAT        ; DATA COMPARE ERROR ?
9060 064100 103006              BCC    220$             ; NO
9061 064102              ERRHRD 391.,ERR022,MSG007 ; YES, REPORT ERROR
          064102 104456              TRAP  C$ERHRD
          064104 000607              .WORD 391
          064106 026444              .WORD ERR022
          064110 024442              .WORD MSG007
9062 064112              ESCAPE TST                ; AND ABORT TEST
          064112 104410              TRAP  C$ESCAPE
          064114 002330              .WORD L10053-.
9063
9064 064116          ;220$:
9065 064116 012705 010474      MOV    #RBUF+26.,R5     ; CHECK CRC
9066 064122 004737 032576      JSR    PC,CMPDRC        ; ERRORS ?
9067 064126 103006              BCC    230$             ; NO
9068 064130              ERRHRD 392.,ERR023,MSG008 ; YES, REPORT ERROR
          064130 104456              TRAP  C$ERHRD
          064132 000610              .WORD 392
          064134 026513              .WORD ERR023
          064136 024474              .WORD MSG008
9069 064140              ESCAPE TST                ; AND ABORT TEST
          064140 104410              TRAP  C$ESCAPE
          064142 002302              .WORD L10053-.
9070
9071 064144          ;230$:
9072 064144 012777 004100 116054 MOV    #DNI!INTE,@PCSR0 ;ENABLE INTERRUPTS
9073 064152 112777 000117 116046 MOVB   #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
9074 064160 004737 030706      JSR    PC,CHKDNI        ; DNI ?
9075 064164 103010              BCC    240$             ; YES
9076 064166              FTL
          064166 004737 031010      JSR    PC,CHKFTL        ; 'FATL' BIT SET?
          064172 004737 031010      ERRHRD 393.,ERR019,MSG003 ; NO, REPORT ERROR
9077 064172              TRAP  C$ERHRD
          064172 104456              .WORD 393
          064174 000611              .WORD ERR019
          064176 026222              .WORD MSG003
          064200 024032              .WORD
9078 064202              ESCAPE TST                ; AND ABORT TEST
          064202 104410              TRAP  C$ESCAPE
          064204 002240              .WORD L10053-.
9079
9080 064206 004737 032320      ;240$: JSR    PC,CLRDN1        ; WRITE ONE TO CLEAR DNI
9081 064212 103010              BCC    245$             ; ERROR ?
9082 064212 103010              FTL                      ; NO
9083 064214              JSR    PC,CHKFTL        ; 'FATL' BIT SET?
          064214 004737 031010      ERRHRD 394.,ERR006,MSG003 ; YES, REPORT ERROR
9084 064220              TRAP  C$ERHRD
          064220 104456              .WORD 394
          064222 000612              .WORD ERR006
          064224 025124
  
```

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9085 064226 024032          ESCAPE TST          ; AND ABORT TEST          .WORD  MSG003
      064230          ; AND ABORT TEST          TRAP   C$ESCAPE
      064230 104410          ; AND ABORT TEST          .WORD  L10053-.
      064232 002212          ; AND ABORT TEST          ; AND ABORT TEST

9086          ;
9087 064234          ;245$:          ;
9088 064234 004737 032272          JSR    PC,CLRCV          ; CLEAR RECEIVE BUFFER
9089 064240 062702 000006          ADD    #6,R2          ; UPDATE R2
9090 064244 062703 000004          ADD    #4,R3          ; UPDATE R3
9091 064250 005304          DEC    R4          ; DONE TEN LOOPBACKS?
9092 064252 001402          BEQ    246$          ; YES
9093 064254 000137 063412          JMP    110$          ; NO
9094          ;
9095          ;
9096          ;DO TEN LOOPS WITH DEST ADDRESS = COMPLIMENTED MULTICAST ADDRESS
9097          ;
9098          ;
9099 064260 012704 000012          246$:  MOV    #10.,R4          ; DO LOOP = TEN
9100 064264 012702 020172          MOV    #MULTLC,R2          ; R2 POINTS TO COMPLIMENTED LIST
9101          ;
9102          ;SET UP RINGS FOR ONE BUFFER LOOPBACK
9103          ;
9104 064270 012705 016412          250$:  MOV    #TDRB1A,R5          ; DEFAULT ONE BUFFER TRANSMIT RING
9105 064274 004737 034040          JSR    PC,LDTDRB          ; LOAD TDRB
9106 064300 012705 014752          MOV    #RDRB1A,R5          ; DEFAULT ONE BUFFER RECEIVE RING
9107 064304 004737 033744          JSR    PC,LDRDRB          ; LOAD RDRB
9108          ;
9109          ;SET UP BUFFERS AND START
9110          ;
9111 064310 012701 002266          MOV    #SRC,R1          ; SOURCE = PHY ADDR
9112 064314 004737 035062          JSR    PC,SRCDST          ; DEST = COMPLIMENTED MULTICAST ADDR
9113 064320 005037 020564          CLR    D0CRC          ; NO APPEND CRC
9114 064324 012737 000006 020562          MOV    #6,BYTCNT          ; BYTES/PACKET
9115 064332 004737 034662          JSR    PC,SETBUF          ; SET UP BUFFERS
9116 064336 012777 004100 115662          MOV    #DNI!INTE,@PCSR0          ; ENABLE INTERRUPTS
9117 064344 112777 000104 115654          MOVB  #INTE!START,@PCSR0          ; ISSUE START PORT COMMAND
9118 064352 004737 030706          JSR    PC,CHKDNI          ; DNI?
9119 064356 103010          BCC    260$          ; YES
9120 064360          FTL
      064360 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
9121 064364          ERRHRD 395.,ERR012,MSG003          ; NO, REPORT ERROR
      064364 104456          TRAP   C$ERHRD
      064366 000613          .WORD 395
      064370 025543          .WORD ERR012
      064372 024032          .WORD MSG003
9122 064374          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
      064374 104410          ; AND ABORT TEST          .WORD  L10053-.
      064376 002046          ; AND ABORT TEST          ; AND ABORT TEST

9123          ;
9124 064400 004737 032320          ;260$:  JSR    PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
9125          ;
9126 064404 103010          BCC    270$          ; ERROR ?
9127 064406          FTL          ; NO
      064406 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
  
```

L6

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9128 064412          ERRHRD  396.,ERR006,MSG003      ; YES, REPORT ERROR
      064412 104456
      064414 000614
      064416 025124
      064420 024032
9129 064422          ESCAPE  TST              ; AND ABORT TEST
      064422 104410
      064424 002020
9130
9131 064426 004737 031724      ;270$: JSR    PC,CHKTXI          ; TXI ?
9132 064432 103010
9133 064434          BCC    280$              ; YES
      064434 004737 031010          FTL
      JSR    PC,CHKFTL              ; 'FATL' BIT SET?
9134 064440          ERRHRD  397.,ERR013,MSG003  ; NO, REPORT ERROR
      064440 104456
      064442 000615
      064444 025624
      064446 024032
9135 064450          ESCAPE  TST              ; AND ABORT TEST
      064450 104410
      064452 001772
9136
9137 064454 004737 032502      ;280$: JSR    PC,CLRTXI         ; WRITE ONE TO CLEAR TXI
9138
9139 064460 103010          BCC    290$              ; ERROR ?
9140 064462          FTL
      JSR    PC,CHKFTL              ; NO
      JSR    PC,CHKFTL              ; 'FATL' BIT SET?
9141 064466          ERRHRD  400.,ERR014,MSG003  ; YES, REPORT ERROR
      064466 104456
      064470 000620
      064472 025655
      064474 024032
9142 064476          ESCAPE  TST              ; AND ABORT TEST
      064476 104410
      064500 001744
9143
9144 064502 012705 002622      ;290$: MOV    #TDRB,R5          ; CHECK TDRB OWNERSHIP
9145 064506 004737 031162      JSR    PC,CHKOWN          ; OWN = PORT DRIVER ?
9146 064512 103010          BCC    300$              ; YES
9147 064514          FTL
      JSR    PC,CHKFTL              ; 'FATL' BIT SET?
9148 064520          ERRHRD  401.,ERR018          ; NO, REPORT ERROR
      064520 104456
      064522 000621
      064524 026122
      064526 000000
9149 064530          ESCAPE  TST              ; AND ABORT TEST
      064530 104410
      064532 001712
9150

```

```

TRAP  C$ERHRD
.WORD 396
.WORD ERR006
.WORD MSG003

```

```

TRAP  C$ESCAPE
.WORD L10053-.

```

```

TRAP  C$ERHRD
.WORD 397
.WORD ERR013
.WORD MSG003

```

```

TRAP  C$ESCAPE
.WORD L10053-.

```

```

TRAP  C$ERHRD
.WORD 400
.WORD ERR014
.WORD MSG003

```

```

TRAP  C$ESCAPE
.WORD L10053-.

```

```

TRAP  C$ERHRD
.WORD 401
.WORD ERR018
.WORD 0

```

```

TRAP  C$ESCAPE
.WORD L10053-.

```

M6

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TEST 21: MULTICAST ADDRESS TEST

SEQ 284

```

9151 064534 012705 020346      300$:  MOV    #TDR21X,R5      ; POINT TO EXPECTED TDRB
9152 064540 004737 034244      JSR    PC,LDXTDR      ; LOAD INTO XTDRBO TABLE
9153 064544 012705 002622      MOV    #TDRB,R5      ; CHECK TDRB
9154 064550 004737 031636      JSR    PC,CHKTDR      ; ERRORS ?
9155 064554 103010              BCC    310$           ; NO
9156 064556                          FTL

      064556 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?
9157 064562                          ERRHRD 402.,ERR020,MSG005 ; YES, REPORT ERROR
      064562 104456              TRAP   C$ERRRD
      064564 000622              .WORD 402
      064566 026302              .WORD ERR020
      064570 024136              .WORD MSG005
9158 064572                          ESCAPE TST            ; AND ABORT TEST
      064572 104410              TRAP   C$ESCAPE
      064574 001650              .WORD L10053-.
9159 064576 004737 034276      i310$: JSR    PC,NORXI       ; RXI ?
9160 064602 103010              BCC    320$           ; NO
9161 064604                          FTL
      064604 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?
9163 064610                          ERRHRD 403.,ERR039    ; YES, REPORT ERROR
      064610 104456              TRAP   C$ERRRD
      064612 000623              .WORD 403
      064614 027671              .WORD ERR039
      064616 000000              .WORD 0
9164 064620                          ESCAPE TST            ; AND ABORT TEST
      064620 104410              TRAP   C$ESCAPE
      064622 001622              .WORD L10053-.
9165 064624 012777 004100 115374 i320$: MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
9166 064624 112777 000117 115366 MOV    #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
9167 064632 004737 030706      JSR    PC,CHKDNI      ; DNI ?
9168 064640 103010              BCC    330$           ; YES
9169 064644                          FTL
      064646 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?
9172 064652                          ERRHRD 404.,ERR019,MSG003 ; NO, REPORT ERROR
      064652 104456              TRAP   C$ERRRD
      064654 000624              .WORD 404
      064656 026222              .WORD ERR019
      064660 024032              .WORD MSG003
9173 064662                          ESCAPE TST            ; AND ABORT TEST
      064662 104410              TRAP   C$ESCAPE
      064664 001560              .WORD L10053-.
9174 064666 004737 032320      i330$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
9175 064672 103010              BCC    335$           ; ERROR ?
9176 064674                          FTL
      064674 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?

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```

9179 064700          ERRHRD  405.,ERR006,MSG003      ; YES, REPORT ERROR
      064700 104456
      064702 000625
      064704 025124
      064706 024032
      TRAP      C$ERHRD
      .WORD     405
      .WORD     ERR006
      .WORD     MSG003
9180 064710          ESCAPE  TST                      ; AND ABORT TEST
      064710 104410
      064712 001532
      TRAP      C$ESCAPE
      .WORD     L10053-.
9181
9182 064714          ;335$:
9183 064714 004737 032272      JSR      PC,CLRCV          ; CLEAR RECEIVER
9184 064720 062702 000006      ADD      #6,R2           ; UPDATE R2
9185 064724 005304          DEC      R4              ; DONE 10 LOOPBACKS?
9186 064726 001402          BEQ      340$            ; YES, EXIT LOOP
9187 064730 000137 064270      JMP      250$            ; NO, LOOP AGAIN
9188
9189          ;REPEAT WITH COMPLEMENTED MULTICAST ADDRESS LIST
9190
9191          ;WRITE MULTICAST ADDRESS LIST
9192
9193 064734          ;340$:
9194 064734 012705 014522      MOV      #WTMULA,R5      ; DEFAULT WRITE MULTICAST ADDR FUNC
9195 064740 004737 033656      JSR      PC,LDPCBB       ; LOAD FUNCTION -> PCBB
9196 064744 012705 020172      MOV      #MULTLC,R5     ; LOAD LIST INTO UDBB
9197 064750 012700 000036      MOV      #30.,R0        ; LOAD 30 ENTRIES
9198 064754 004737 034134      JSR      PC,LDUDBB      ; MULTICAST LIST -> UDBB
9199 064760 012777 004100 115240  MOV      #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
9200 064766 112777 000102 115232  MOVB     #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
9201 064774 004737 030706      JSR      PC,CHKDNI      ; DNI ?
9202 065000 103010          BCC      350$            ; YES
9203 065002
      JSR      PC,CHKFTL          ; 'FATL' BIT SET?
      065002 004737 031010
9204 065006          ERRHRD  406.,ERR010,MSG003      ; NO, REPORT ERROR
      065006 104456
      065010 000626
      065012 025425
      065014 024032
      TRAP      C$ERHRD
      .WORD     406
      .WORD     ERR010
      .WORD     MSG003
9205 065016          ESCAPE  TST                      ; AND ABORT TEST
      065016 104410
      065020 001424
      TRAP      C$ESCAPE
      .WORD     L10053-.
9206
9207 065022 004737 032320      ;350$: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
9208          BCC      355$            ; ERROR ?
9209 065026 103010          BCC      355$            ; NO
9210 065030
      FTL
      JSR      PC,CHKFTL          ; 'FATL' BIT SET?
      065030 004737 031010
9211 065034          ERRHRD  407.,ERR006,MSG003      ; YES, REPORT ERROR
      065034 104456
      065036 000627
      065040 025124
      065042 024032
      TRAP      C$ERHRD
      .WORD     407
      .WORD     ERR006
      .WORD     MSG003
9212 065044          ESCAPE  TST                      ; AND ABORT TEST
  
```

```

065044 104410
065046 001376
9213
9214
9215
9216
9217 065050 012704 000012
9218 065054 012702 020172
9219
9220
9221
9222 065060 012705 016412
9223 065064 004737 034040
9224 065070 012705 014752
9225 065074 004737 033744
9226
9227
9228
9229 065100 012701 002266
9230 065104 004737 035062
9231 065110 005037 020564
9232 065114 012737 000006 020562
9233 065122 004737 034662
9234 065126 012777 004100 115072
9235 065134 112777 000104 115064
9236 065142 004737 030706
9237 065146 103010
9238 065150
065150 004737 031010
9239 065154
065154 104456
065156 000632
065160 025543
065162 024032
9240 065164
065164 104410
065166 001256
9241
9242 065170 004737 032320
9243
9244 065174 103010
9245 065176
065176 004737 031010
9246 065202
065202 104456
065204 000633
065206 025124
065210 024032
9247 065212
065212 104410
065214 001230
9248
9249 065216 004737 031724

```

```

;DO TEN LOOPS WITH DEST ADDR = NEW COMPLEMENTED MULTICAST ADDRESS
;
355$: MOV #10.,R4 ; DO LOOP = TEN
MOV #MULTLC,R2 ; R2 = COMPLEMENTED ADDRESS LIST
;SET UP RINGS FOR ONE BUFFER LOOPBACK
360$: MOV #TDRB1A,R5 ; DEFAULT ONE BUFFER TRANSMIT RING
JSR PC,LDTDRB ; LOAD TDRB
MOV #RDRB1A,R5 ; DEFAULT ONE BUFFER RECEIVE RING
JSR PC,LDRDRB ; LOAD RDRB
;SET UP BUFFERS AND START
MOV #SRC,R1 ; SOURCE = PHYSICAL ADDRESS
JSR PC,SRCDST ; R2 = NEW COMPLEMENTED MULTICAST ADR
CLR DOCRC ; NO APPEND CRC
MOV #6,BYTCNT ; BYTES/PACKET
JSR PC,SETBUF ; SET UP BUFFERS
MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
MOVB #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
JSR PC,CHKDNI ; DNI?
BCC 370$ ; YES
FTL
JSR PC,CHKFTL ; 'FATL' BIT SET?
ERRHRD 410.,ERR012,MSG003 ; NO, REPORT ERROR
ESCAPE TST ; AND ABORT TEST
;370$: JSR PC,CLR DNI ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 380$ ; NO
FTL
JSR PC,CHKFTL ; 'FATL' BIT SET?
ERRHRD 411.,ERR006,MSG003 ; YES, REPORT ERROR
ESCAPE TST ; AND ABORT TEST
;380$: JSR PC,CHKTXI ; TXI ?

```

```

TRAP C$ESCAPE
.WORD L10053-.
TRAP C$ERHRD
.WORD 410
.WORD ERR012
.WORD MSG003
TRAP C$ESCAPE
.WORD L10053-.
TRAP C$ERHRD
.WORD 411
.WORD ERR006
.WORD MSG003
TRAP C$ESCAPE
.WORD L10053-.

```

C7

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TEST 21: MULTICAST ADDRESS TEST

SEQ 287

9250	065222	103010		BCC	390\$; YES		
9251	065224			FTL					
	065224	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9252	065230			ERRHRD	412.,ERR013,MSG003		; NO, REPORT ERROR	TRAP	C\$ERHRD
	065230	104456						.WORD	412
	065232	000634						.WORD	ERR013
	065234	025624						.WORD	MSG003
	065236	024032							
9253	065240			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	065240	104410						.WORD	L10053-
	065242	001202							
9254									
9255	065244	004737	032502	JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI		
9256							; ERROR ?		
9257	065250	103010		BCC	400\$; NO		
9258	065252			FTL					
	065252	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9259	065256			ERRHRD	413.,ERR014,MSG003		; YES, REPORT ERROR	TRAP	C\$ERHRD
	065256	104456						.WORD	413
	065260	000635						.WORD	ERR014
	065262	025655						.WORD	MSG003
	065264	024032							
9260	065266			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	065266	104410						.WORD	L10053-
	065270	001154							
9261									
9262	065272	012705	002622	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP		
9263	065276	004737	031162	JSR	PC,CHKOWN		; OMN = PORT DRIVER ?		
9264	065302	103010		BCC	410\$; YES		
9265	065304			FTL					
	065304	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9266	065310			ERRHRD	414.,ERR018		; NO, REPORT ERROR	TRAP	C\$ERHRD
	065310	104456						.WORD	414
	065312	000636						.WORD	ERR018
	065314	026122						.WORD	0
	065316	000000							
9267	065320			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	065320	104410						.WORD	L10053-
	065322	001122							
9268									
9269	065324	012705	020266	MOV	#TDR14A,R5		; POINT TO EXPECTED TDRB		
9270	065330	004737	034244	JSR	PC,LDXTDR		; LOAD INTO XTDRB0 TABLE		
9271	065334	012705	002622	MOV	#TDRB,R5		; CHECK TDRB		
9272	065340	004737	031636	JSR	PC,CHKTDR		; ERRORS ?		
9273	065344	103010		BCC	420\$; NO		
9274	065346			FTL					
	065346	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9275	065352			ERRHRD	415.,ERR020,MSG005		; YES, REPORT ERROR	TRAP	C\$ERHRD
	065352	104456							

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	065354	000637					.WORD	415
	065356	026302					.WORD	ERR020
	065360	024136					.WORD	MSG005
9276	065362			ESCAPE	TST			; AND ABORT TEST
	065362	104410					TRAP	C\$ESCAPE
	065364	001060					.WORD	L10053-
9277								
9278	065366	004737	031454	i420\$:	JSR	PC,CHKRXI		; RXI ?
9279	065372	103010			BCC	430\$; YES
9280	065374				FTL			
	065374	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
9281	065400				ERRHRD	416.,ERR015,MSG003		; '0, REPORT ERROR
	065400	104456					TRAP	C\$ERHRD
	065402	000640					.WORD	416
	065404	025723					.WORD	ERR015
	065406	024032					.WORD	MSG003
9282	065410				ESCAPE	TST		; AND ABORT TEST
	065410	104410					TRAP	C\$ESCAPE
	065412	001032					.WORD	L10053-
9283								
9284	065414	004737	032434	i430\$:	JSR	PC,CLRRXI		; WRITE ONE TO CLEAR RXI
9285								; ERROR ?
9286	065420	103010			BCC	440\$; NO
9287	065422				FTL			
	065422	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
9288	065426				ERRHRD	417.,ERR016,MSG003		; YES, REPORT ERROR
	065426	104456					TRAP	C\$ERHRD
	065430	000641					.WORD	417
	065432	025754					.WORD	ERR016
	065434	024032					.WORD	MSG003
9289	065436				ESCAPE	TST		; AND ABORT TEST
	065436	104410					TRAP	C\$ESCAPE
	065440	001004					.WORD	L10053-
9290								
9291	065442	012705	002662	i440\$:	MOV	#RDRB,R5		; CHECK RDRB OWNERSHIP
9292	065446	004737	031162		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
9293	065452	103010			BCC	450\$; YES
9294	065454				FTL			
	065454	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
9295	065460				ERRHRD	420.,ERR017		; NO, REPORT ERROR
	065460	104456					TRAP	C\$ERHRD
	065462	000644					.WORD	420
	065464	026022					.WORD	ERR017
	065466	000000					.WORD	0
9296	065470				ESCAPE	TST		; AND ABORT TEST
	065470	104410					TRAP	C\$ESCAPE
	065472	000752					.WORD	L10053-
9297								
9298	065474	012705	020456	i450\$:	MOV	#RDR20C,R5		; POINT TO EXPECTED RDRB
9299	065500	004737	034214		JSR	PC,LDXRDR		; LOAD INTO XRDRBO TABLE
9300	065504	012705	002662		MOV	#RDRB,R5		; CHECK RDRB

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TEST 21: MULTICAST ADDRESS TEST

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9301 065510 004737 031344      JSR    PC,CHKRDR      ; ERRORS ?
9302 065514 103010              BCC    460$           ; NO
9303 065516              FTL

      065516 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?
9304 065522              ERRHRD 421.,ERR021,MSG006 ; YES, REPORT ERROR
      065522 104456              TRAP  C$ERHRD
      065524 000645              .WORD 421
      065526 026363              .WORD ERR021
      065530 024300              .WORD MSG006
9305 065532              ESCAPE TST           ; AND ABORT TEST
      065532 104410              TRAP  C$ESCAPE
      065534 000710              .WORD L10053-.
9306
9307      ;COMPARE RBUF WITH TBUF
9308
9309 065536 013705 020562      460$: MOV    BYTCNT,R5      ; COMPARE DATA
9310 065542 004737 032646      JSR    PC,CMPDAT     ; DATA COMPARE ERROR ?
9311 065546 103006              BCC    470$           ; NO
9312 065550              ERRHRD 422.,ERR022,MSG007 ; YES, REPORT ERROR
      065550 104456              TRAP  C$ERHRD
      065552 000646              .WORD 422
      065554 026444              .WORD ERR022
      065556 024442              .WORD MSG007
9313 065560              ESCAPE TST           ; AND ABORT TEST
      065560 104410              TRAP  C$ESCAPE
      065562 000662              .WORD L10053-.
9314
9315 065564              ;470$:
9316 065564 012705 010474      MOV    #RBUF+26.,R5  ; CHECK CRC
9317 065570 004737 032576      JSR    PC,CMPCRC     ; ERRORS ?
9318 065574 103006              BCC    480$           ; NO
9319 065576              ERRHRD 423.,ERR023,MSG008 ; YES, REPORT ERROR
      065576 104456              TRAP  C$ERHRD
      065600 000647              .WORD 423
      065602 026513              .WORD ERR023
      065604 024474              .WORD MSG008
9320 065606              ESCAPE TST           ; AND ABORT TEST
      065606 104410              TRAP  C$ESCAPE
      065610 000634              .WORD L10053-.
9321
9322 065612              ;480$:
9323 065612 012777 004100 114406      MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
9324 065620 112777 000117 114400      MOVB  #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
9325 065626 004737 030706      JSR    PC,CHKDNI     ; DNI ?
9326 065632 103010              BCC    490$           ; YES
9327 065634              FTL

      065634 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?
9328 065640              ERRHRD 424.,ERR019,MSG003 ; NO, REPORT ERROR
      065640 104456              TRAP  C$ERHRD
      065642 000650              .WORD 424
      065644 026222              .WORD ERR019
      065646 024032              .WORD MSG003
9329 065650              ESCAPE TST           ; AND ABORT TEST

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	066034	000652					.WORD	426
	066036	025543					.WORD	ERR012
	066040	024032					.WORD	MSG003
9372	066042			ESCAPE	TST			; AND ABORT TEST
	066042	104410					TRAP	C\$ESCAPE
	066044	000400					.WORD	L10053--
9373								
9374	066046	004737	032320	510\$:	JSR	PC,CLRDNI		; WRITE ONE TO CLEAR DNI
9375								; ERROR ?
9376	066052	103010			BCC	520\$; NO
9377	066054				FTL			
	066054	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
9378	066060				ERRHRD	427.,ERR006,MSG003		; YES, REPORT ERROR
	066060	104456					TRAP	C\$ERHRD
	066062	000653					.WORD	427
	066064	025124					.WORD	ERR006
	066066	024032					.WORD	MSG003
9379	066070				ESCAPE	TST		; AND ABORT TEST
	066070	104410					TRAP	C\$ESCAPE
	066072	000352					.WORD	L10053--
9380								
9381	066074	004737	031724	520\$:	JSR	PC,CHKTXI		; TXI ?
9382	066100	103010			BCC	530\$; YES
9383	066102				FTL			
	066102	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
9384	066106				ERRHRD	430.,ERR013,MSG003		; NO, REPORT ERROR
	066106	104456					TRAP	C\$ERHRD
	066110	000656					.WORD	430
	066112	025624					.WORD	ERR013
	066114	024032					.WORD	MSG003
9385	066116				ESCAPE	TST		; AND ABORT TEST
	066116	104410					TRAP	C\$ESCAPE
	066120	000324					.WORD	L10053--
9386								
9387	066122	004737	032502	530\$:	JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI
9388								; ERROR
9389	066126	103010			BCC	540\$; NO
9390	066130				FTL			
	066130	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
9391	066134				ERRHRD	431.,ERR014,MSG003		; YES, REPORT ERROR
	066134	104456					TRAP	C\$ERHRD
	066136	000657					.WORD	431
	066140	025655					.WORD	ERR014
	066142	024032					.WORD	MSG003
9392	066144				ESCAPE	TST		; AND ABORT TEST
	066144	104410					TRAP	C\$ESCAPE
	066146	000276					.WORD	L10053--
9393								
9394	066150	012705	002622	540\$:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP
9395	066154	004737	031162		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
9396	066160	103010			BCC	550\$; YES

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9397 066162          FTL
      066162 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
9398 066166          ERRHRD 432.,ERR018      ; NO, REPORT ERROR
      066166 104456          TRAP  C$ERHRD
      066170 000660          .WORD 432
      066172 026122          .WORD ERR018
      066174 000000          .WORD 0
9399 066176          ESCAPE TST          ; AND ABORT TEST
      066176 104410          TRAP  C$ESCAPE
      066200 000244          .WORD L10053-.
9400
9401 066202 012705 020346      i550$: MOV    #TDR21X,R5      ; POINT TO EXPECTED TDRB
9402 066206 004737 034244      JSR    PC,LDXTDR         ; LOAD INTO XTDRBO TABLE
9403 066212 012705 002622      MOV    #TDRB,R5         ; CHECK TDRB
9404 066216 004737 031636      JSR    PC,CHKTDR         ; ERRORS ?
9405 066222 103010          BCC    560$             ; NO
9406 066224
      066224 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
9407 066230          ERRHRD 433.,ERR020,MSG005      ; YES, REPORT ERROR
      066230 104456          TRAP  C$ERHRD
      066232 000661          .WORD 433
      066234 026302          .WORD ERR020
      066236 024136          .WORD MSG005
9408 066240          ESCAPE TST          ; AND ABORT TEST
      066240 104410          TRAP  C$ESCAPE
      066242 000202          .WORD L10053-.
9409
9410 066244 004737 034276      i560$: JSR    PC,NORXI         ; RXI ?
9411 066250 103010          BCC    570$             ; NO
9412 066252
      066252 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
9413 066256          ERRHRD 434.,ERR039      ; YES, REPORT ERROR
      066256 104456          TRAP  C$ERHRD
      066260 000662          .WORD 434
      066262 027671          .WORD ERR039
      066264 000000          .WORD 0
9414 066266          ESCAPE TST          ; AND ABORT TEST
      066266 104410          TRAP  C$ESCAPE
      066270 000154          .WORD L10053-.
9415
9416 066272          i570$: MOV    #DNI!INTE,@PCSRO      ; ENABLE INTERRUPTS
9417 066272 012777 004100 113726      MOV    #INTE!STOP,@PCSRO ; ISSUE STOP PORT COMMAND
9418 066300 112777 000117 113720      JSR    PC,CHKDNI         ; DNI ?
9419 066306 004737 030706      BCC    580$             ; YES
9420 066312 103010          FTL
9421 066314
      066314 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
9422 066320          ERRHRD 435.,ERR019,MSG003      ; NO, REPORT ERROR
      066320 104456          TRAP  C$ERHRD

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066322 000663 .WORD 435
066324 026222 .WORD ERR019
066326 024032 .WORD MSG003
9423 066330 ESCAPE TST ; AND ABORT TEST
066330 104410 TRAP C$ESCAPE
066332 000112 .WORD L10053-.
9424
9425 066334 004737 032320 ;580$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
9426 ; ERROR ?
9427 066340 103010 BCC 590$ ; NO
9428 066342 FTL
066342 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
9429 066346 ERRHRD 436.,ERR006,MSG003 ; YES, REPORT ERROR
066346 104456 TRAP C$ERHRD
066350 000664 .WORD 436
066352 025124 .WORD ERR006
066354 024032 .WORD MSG003
9430 066356 ESCAPE TST ; AND ABORT TEST
066356 104410 TRAP C$ESCAPE
066360 000064 .WORD L10053-.
9431
9432 ;590$:
9433 066362 004737 032272 JSR PC,CLRCV ; CLEAR RECEIVE BUFFER
9434 066366 062702 000006 ADD #6,R2 ; UPDATE R2
9435 066372 005304 DEC R4 ; DONE TEN LOOPBACKS ?
9436 066374 001402 BEQ 600$ ; YES, EXIT LOOP
9437 066376 000137 065736 JMP 500$ ; NO, LOOP AGAIN
9438 066402
9439 066402 004737 032402 ;600$: JSR PC,CLINTR ; INSURE DELUA INTR BITS CLEAR
9440
9441
9442 066406 EXIT TST
066406 104432 TRAP C$EXIT
066410 000034 .WORD L10053-.
9443
9444 ;LOCAL TEST MESSAGE
9445
9446 066412 104 105 114 T21ID:.ASCIZ 'DELUA MULTICAST ADDRESS '
066415 125 101 040
066420 115 125 114
066423 124 111 103
066426 101 123 124
066431 040 101 104
066434 104 122 105
066437 123 123 040
066442 000
9447 .EVEN
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9449 066444 ENDTST
066444
066444 104401 L10053: TRAP C$ETST

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066446 012704 072650
066452 004737 034610

9498 066456 004737 035310
9499 066462 103034
9500 066464 012777 004100 113534

.SBTTL TEST 22: PROMISCUOUS ADDRESS MODE TEST

: THIS TEST VERIFIES THAT PROMISCUOUS ADDRESSING MODE
: IS OPERATIONAL.
: A WRITE PHYSICAL ADDRESS FUNCTION IS USED TO SET
: THE DELUA'S PHYSICAL ADDRESS.
: A WRITE MULTICAST ADDRESS LIST FUNCTION IS USED TO SET
: THE DELUA'S MULTICAST ADDRESS LIST.
: INTERNAL LOOPBACKS ARE THEN PERFORMED WITH
: CURRENTLY ENABLED AND THEN CURRENTLY DISABLED
: PHYSICAL AND MULTICAST DESTINATION ADDRESSES.

TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
2. WRITE RING FORMAT
3. WRITE PHYSICAL ADDRESS
4. WRITE MULTICAST ADDRESS LIST
5. SET UP RINGS AND BUFFERS
WITH DESTINATION ADDRESS = PHYSICAL ADDRESS
6. ISSUE START
7. CHECK FOR ERRORS
8. ISSUE STOP
9. SET UP RINGS AND BUFFERS
WITH DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
10. ISSUE START
11. CHECK FOR ERRORS
12. ISSUE STOP
13. SET UP RINGS AND BUFFERS
WITH DESTINATION ADDRESS = MULTICAST ADDRESS
14. ISSUE START
15. CHECK FOR ERRORS
16. ISSUE STOP
17. REPEAT STEPS 13 - 16 FOR ALL TEN LIST ENTRIES
18. SET UP RINGS AND BUFFERS
WITH DESTINATION ADDRESS NOT = MULTICAST ADDRESS
19. ISSUE START
20. CHECK FOR ERRORS
21. ISSUE STOP
22. REPEAT STEPS 18 - 21 FOR ALL TEN ENTRIES

BGNTST

T22::

PNTMAC T22ID

MOV #T22ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

END OF MACRO EXPANSION OF 'PNTMAC'

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS

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TEST 22: PROMISCUOUS ADDRESS MODE TEST

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9501 066472 112777 000140 113526      MOVB  #INTE!RSET,@PCSR0      ; YES, RESET DELUA
9502 066500 004737 032034              JSR   PC,CKDNI                ; DNI ?
9503 066504 103010                    BCC  20$                      ; YES
9504 066506                            FTL

      066506 004737 031010              JSR   PC,CHKFTL                ; 'FATL' BIT SET?
9505 066512                            ERRHRD 437.,ERR042,MSG003      ; NO, REPORT ERROR
      066512 104456                      TRAP  C$ERHRD
      066514 000665                      .WORD 437
      066516 030105                      .WORD ERR042
      066520 024032                      .WORD MSG003
9506 066522                            ESCAPE TST                      ; AND ABORT TEST
      066522 104410                      TRAP  C$ESCAPE
      066524 004154                      .WORD L10054-.
9507
9508 066526 004737 032320      i 20$: JSR   PC,CLRDN1            ; WRITE ONE TO CLEAR DNI
9509                                     ; ERROR ?
9510 066532 103010                    BCC  30$                      ; NO
9511 066534                            FTL

      066534 004737 031010              JSR   PC,CHKFTL                ; 'FATL' BIT SET?
9512 066540                            ERRHRD 440.,ERR006,MSG003      ; YES, REPORT ERROR
      066540 104456                      TRAP  C$ERHRD
      066542 000670                      .WORD 440
      066544 025124                      .WORD ERR006
      066546 024032                      .WORD MSG003
9513 066550                            ESCAPE TST                      ; AND ABORT TEST
      066550 104410                      TRAP  C$ESCAPE
      066552 004126                      .WORD L10054-.
9514
9515 066554                            i 30$: JSR   PC,CLRBUF          ; CLEAR TBUF AND RBUF
9516 066554 004737 032246              JSR   PC,LDDFLT                ; LOAD DEFAULT PHY.ADDRESS TABLES
9517 066560 004737 033606              JSR   PC,LDPCSR                ; ADDRESS OF PCBB -> PCSR2!3
9518 066564 004737 033706              JSR   PC,LDPCSR                ; ENABLE INTERRUPTS
9519 066570 012777 004100 113430      MOV   #DNI!INTE,@PCSR0        ; ISSUE GET_PCBB PORT COMMAND
9520 066576 112777 000101 113422      MOVB  #INTE!GETPCB,@PCSR0     ; DNI?
9521 066604 004737 030706              JSR   PC,CHKDNI                ; YES
9522 066610 103010                    BCC  40$
9523 066612                            FTL

      066612 004737 031010              JSR   PC,CHKFTL                ; 'FATL' BIT SET?
9524 066616                            ERRHRD 441.,ERR009,MSG003      ; NO, REPORT ERROR
      066616 104456                      TRAP  C$ERHRD
      066620 000671                      .WORD 441
      066622 025341                      .WORD ERR009
      066624 024032                      .WORD MSG003
9525 066626                            ESCAPE TST                      ; AND ABORT TEST
      066626 104410                      TRAP  C$ESCAPE
      066630 004050                      .WORD L10054-.
9526
9527 066632 004737 032320      i 40$: JSR   PC,CLRDN1            ; WRITE ONE TO CLEAR DNI
9528                                     ; ERROR ?
9529 066636 103010                    BCC  50$                      ; NO
9530 066640                            FTL

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066640 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
9531 066644      ERRHRD  442.,ERR006,MSG003 ; YES, REPORT ERROR
066644 104456      TRAP      C$ERHRD
066646 000672      .WORD    442
066650 025124      .WORD    ERR006
066652 024032      .WORD    MSG003
9532 066654      ESCAPE  TST           ; AND ABORT TEST
066654 104410      TRAP      C$ESCAPE
066656 004022      .WORD    L10054-.
9533
9534      ;WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
9535
9536 066660 012705 014602      50$:  MOV      #WTMODE,R5      ; DEFAULT WRITE MODE FUNCTION
9537 066664 004737 033656      JSR      PC,LDPCBB          ; LOAD FUNCTION -> PCBB
9538 066670 012777 004100 113330      MOV      #DNI!INTE,@PCSR0   ; ENABLE INTERRUPTS
9539 066676 112777 000102 113322      MOV      #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
9540 066704 004737 030706      JSR      PC,CHKDNI         ; DNI ?
9541 066710 103010      BCC      60$              ; YES
9542 066712      FTL
066712 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
9543 066716      ERRHRD  443.,ERR010,MSG003 ; NO, REPORT ERROR
066716 104456      TRAP      C$ERHRD
066720 000673      .WORD    443
066722 025425      .WORD    ERR010
066724 024032      .WORD    MSG003
9544 066726      ESCAPE  TST           ; AND ABORT TEST
066726 104410      TRAP      C$ESCAPE
066730 003750      .WORD    L10054-.
9545
9546 066732 004737 032320      60$:  JSR      PC,CLRDN1     ; WRITE ONE TO CLEAR DNI
9547      ; ERROR ?
9548 066736 103010      BCC      70$              ; NO
9549 066740      FTL
066740 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
9550 066744      ERRHRD  444.,ERR006,MSG003 ; YES, REPORT ERROR
066744 104456      TRAP      C$ERHRD
066746 000674      .WORD    444
066750 025124      .WORD    ERR006
066752 024032      .WORD    MSG003
9551 066754      ESCAPE  TST           ; AND ABORT TEST
066754 104410      TRAP      C$ESCAPE
066756 003722      .WORD    L10054-.
9552
9553      ;WRITE RING FORMAT
9554
9555 066760 012705 014542      70$:  MOV      #WTRNGS,R5     ; DEFAULT WRITE RING FORMAT FUNCTION
9556 066764 004737 033656      JSR      PC,LDPCBB          ; LOAD FUNCTION -> PCBB
9557 066770 012705 014706      MOV      #RFRMT,R5         ; DEFAULT RING FORMAT
9558 066774 012700 000006      MOV      #6,R0             ; FORMAT = SIX WORDS
9559 067000 004737 034134      JSR      PC,LDUDBB         ; LOAD RING FORMAT -> UDBB
9560 067004 012777 004100 113214      MOV      #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS

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9561 067012 112777 000102 113206      MOVB  #INTE!GETCMD,@PCSR0      ; ISSUE GET_CMD PORT COMMAND
9562 067020 004737 030706              JSR   PC,CHKDNI                ; DNI ?
9563 067024 103010                      BCC   80$                      ; YES
9564 067026                                FTL

          067026 004737 031010          JSR   PC,CHKFTL                ; 'FATL' BIT SET?
9565 067032                                ERRHRD 445.,ERR010,MSG003      ; NO, REPORT ERROR
          067032 104456                                TRAP  C$ERHRD
          067034 000675                                .WORD 445
          067036 025425                                .WORD ERR010
          067040 024032                                .WORD MSG003
9566 067042                                ESCAPE TST                      ; AND ABORT TEST
          067042 104410                                TRAP  C$ESCAPE
          067044 003634                                .WORD L10054-.
9567                                ;
9568 067046 004737 032320      i80$: JSR   PC,CLRDN1            ; WRITE ONE TO CLEAR DNI
9569                                ; ERROR ?
9570 067052 103010                      BCC   90$                      ; NO
9571 067054                                FTL

          067054 004737 031010          JSR   PC,CHKFTL                ; 'FATL' BIT SET?
9572 067060                                ERRHRD 446.,ERR006,MSG003      ; YES, REPORT ERROR
          067060 104456                                TRAP  C$ERHRD
          067062 000676                                .WORD 446
          067064 025124                                .WORD ERR006
          067066 024032                                .WORD MSG003
9573 067070                                ESCAPE TST                      ; AND ABORT TEST
          067070 104410                                TRAP  C$ESCAPE
          067072 003606                                .WORD L10054-.
9574                                ;
9575                                ;WRITE PHYSICAL ADDRESS
9576                                ;
9577 067074                                90$:
9578 067074 012705 002274      MOV   #DEFAULT,R5              ; GET DEFAULT PHYSICAL ADDRESS
9579 067100 004737 033724      JSR   PC,LDPHYA                ; SAVE IN DEFAULT FILE
9580 067104 012705 014502      MOV   #WTPHYA,R5              ; DEFAULT WRITE PHYSICAL ADDR FUNC
9581 067110 004737 033656      JSR   PC,LPCBB                 ; LOAD FUNCTION -> PCBB
9582 067114 012777 004100 113104    MOV   #DNI!INTE,@PCSR0        ; ENABLE INTERRUPTS
9583 067122 112777 000102 113076    MOVB  #INTE!GETCMD,@PCSR0      ; ISSUE GET_CMD PORT COMMAND
9584 067130 004737 030706      JSR   PC,CHKDNI                ; DNI ?
9585 067134 103010                      BCC   100$                     ; YES
9586 067136                                FTL

          067136 004737 031010          JSR   PC,CHKFTL                ; 'FATL' BIT SET?
9587 067142                                ERRHRD 447.,ERR010,MSG003      ; NO, REPORT ERROR
          067142 104456                                TRAP  C$ERHRD
          067144 000677                                .WORD 447
          067146 025425                                .WORD ERR010
          067150 024032                                .WORD MSG003
9588 067152                                ESCAPE TST                      ; AND ABORT TEST
          067152 104410                                TRAP  C$ESCAPE
          067154 003524                                .WORD L10054-.
9589                                ;
9590 067156 004737 032320      i100$: JSR  PC,CLRDN1            ; WRITE ONE TO CLEAR DNI

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9591                                     ; ERROR ?
9592 067162 103010                      BCC 102$                               ; NO
9593 067164                               FTL
                                     ;
    067164 004737 031010                 JSR PC,CHKFTL                           ; 'FATL' BIT SET?
9594 067170                               ERRHRD 450.,ERR006,MSG003                 ; YES, REPORT ERROR
    067170 104456                               TRAP C$ERHRD
    067172 000702                               .WORD 450
    067174 025124                               .WORD ERR006
    067176 024032                               .WORD MSG003
9595 067200                               ESCAPE TST                               ; AND ABORT TEST
    067200 104410                               TRAP C$ESCAPE
    067202 003476                               .WORD L10054-.
9596                                     ;
9597                                     ;WRITE MULTICAST ADDRESS LIST
9598                                     ;
9599 067204 012705 014522                102$: MOV #WTMULA,R5                       ; DEFAULT WRITE MULTICAST ADDR FUNC
9600 067210 004737 033656                JSR PC,LDPCCBB                           ; LOAD FUNCTION -> PCBB
9601 067214 012705 020076                MOV #MULTL,R5                             ; LOAD LIST INTO UDBB
9602 067220 012700 000036                MOV #30.,R0                               ; LOAD 30 ENTRIES
9603 067224 004737 034134                JSR PC,LDUDBB                             ; MULTICAST LIST -> UDBB
9604 067230 012777 004100 112770        MOV #DNI!INTE,@PCSR0                     ; ENABLE INTERRUPTS
9605 067236 112777 000102 112762        MOVB #INTE!GETCMD,@PCSR0                 ; ISSUE GET_CMD PORT COMMAND
9606 067244 004737 030706                JSR PC,CHKDNI                             ; DNI ?
9607 067250 103010                      BCC 104$                               ; YES
9608 067252                               FTL
                                     ;
    067252 004737 031010                 JSR PC,CHKFTL                           ; 'FATL' BIT SET?
9609 067256                               ERRHRD 451.,ERR010,MSG003                 ; NO, REPORT ERROR
    067256 104456                               TRAP C$ERHRD
    067260 000703                               .WORD 451
    067262 025425                               .WORD ERR010
    067264 024032                               .WORD MSG003
9610 067266                               ESCAPE TST                               ; AND ABORT TEST
    067266 104410                               TRAP C$ESCAPE
    067270 003410                               .WORD L10054-.
9611                                     ;
9612 067272 004737 032320                104$: JSR PC,CLRDN1                       ; WRITE ONE TO CLEAR DNI
9613                                     ; ERROR ?
9614 067276 103010                      BCC 110$                               ; NO
9615 067300                               FTL
                                     ;
    067300 004737 031010                 JSR PC,CHKFTL                           ; 'FATL' BIT SET?
9616 067304                               ERRHRD 452.,ERR006,MSG003                 ; YES, REPORT ERROR
    067304 104456                               TRAP C$ERHRD
    067306 000704                               .WORD 452
    067310 025124                               .WORD ERR006
    067312 024032                               .WORD MSG003
9617 067314                               ESCAPE TST                               ; AND ABORT TEST
    067314 104410                               TRAP C$ESCAPE
    067316 003362                               .WORD L10054-.
9618                                     ;
9619                                     ;DESTINATION ADDRESS = PHYSICAL ADDRESS
9620                                     ;

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9621          ;SET UP RINGS FOR ONE BUFFER LOOPBACK
9622
9623 067320 012705 016412      110$:  MOV   #TDRB1A,R5      ; DEFAULT ONE BUFFER TRANSMIT RING
9624 067324 004737 034040      JSR   PC,LDTDRB      ; LOAD TDRB
9625 067330 012705 014752      MOV   #RDRB1A,R5      ; DEFAULT ONE BUFFER RECEIVE RING
9626 067334 004737 033744      JSR   PC,LDRDRB      ; LOAD RDRB
9627
9628          ;SET UP BUFFERS AND START
9629
9630 067340 012701 002274      MOV   #DEFAULT,R1     ; POINT TO SOURCE ADDRESS
9631 067344 012702 020062      MOV   #ADR21,R2       ; DESTINATION = SOURCE
9632 067350 004737 035062      JSR   PC,SRCDST       ; SAVE FOR PACKET BUILD
9633 067354 005037 020564      CLR   DDCRC           ; NO APPEND CRC
9634 067360 012737 000006 020562  MOV   #6,BYTCNT       ; BYTES/PACKET
9635 067366 004737 034662      JSR   PC,SETBUF       ; SET UP BUFFERS
9636 067372 012777 004100 112626  MOV   #DNI!INTE,@PCSRO ; ENABLE INTERRUPTS
9637 067400 112777 000104 112620  MOVB  #INTE!START,@PCSRO ; ISSUE START PORT COMMAND
9638 067406 004737 030706      JSR   PC,CHKDNI       ; DNI?
9639 067412 103010      BCC   120$           ; YES
9640 067414      FTL
          JSR   PC,CHKFTL      ; 'FATL' BIT SET?
          ERRHRD 452.,ERR012,MSG003 ; NO, REPORT ERROR
          TRAP   C$ERHRD
          .WORD 452
          .WORD ERR012
          .WORD MSG003
9641 067420      ERRHRD 452.,ERR012,MSG003 ; NO, REPORT ERROR
          TRAP   C$ERHRD
          .WORD 452
          .WORD ERR012
          .WORD MSG003
          067420 104456
          067422 000704
          067424 025543
          067426 024032
9642 067430      ESCAPE TST      ; AND ABORT TEST
          TRAP   C$ESCAPE
          .WORD L10054-.
          067430 104410
          067432 003246
9643
9644 067434 004737 032320      120$: JSR   PC,CLRDN1     ; WRITE ONE TO CLEAR DNI
9645          BCC   130$           ; ERROR ?
9646 067440 103010      FTL           ; NO
9647 067442      FTL
          JSR   PC,CHKFTL      ; 'FATL' BIT SET?
          ERRHRD 453.,ERR006,MSG003 ; YES, REPORT ERROR
          TRAP   C$ERHRD
          .WORD 453
          .WORD ERR006
          .WORD MSG003
9648 067446      ERRHRD 453.,ERR006,MSG003 ; YES, REPORT ERROR
          TRAP   C$ERHRD
          .WORD 453
          .WORD ERR006
          .WORD MSG003
          067446 104456
          067450 000705
          067452 025124
          067454 024032
9649 067456      ESCAPE TST      ; AND ABORT TEST
          TRAP   C$ESCAPE
          .WORD L10054-.
          067456 104410
          067460 003220
9650
9651 067462 004737 031724      130$: JSR   PC,CHKTXI     ; TXI ?
9652 067466 103010      BCC   140$           ; YES
9653 067470      FTL
          JSR   PC,CHKFTL      ; 'FATL' BIT SET?
          ERRHRD 454.,ERR013,MSG003 ; NO, REPORT ERROR
          TRAP   C$ERHRD
          .WORD 454
          067470 004737 031010
9654 067474      ERRHRD 454.,ERR013,MSG003 ; NO, REPORT ERROR
          TRAP   C$ERHRD
          .WORD 454
          067474 104456
          067476 000706

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	067500	025624						.WORD	ERR013
	067502	024032						.WORD	MSG003
9655	067504			ESCAPE	TST				; AND ABORT TEST
	067504	104410						TRAP	C\$ESCAPE
	067506	003172						.WORD	L10054--
9656									
9657	067510	004737	032502	i140\$:	JSR	PC,CLRTXI			; WRITE ONE TO CLEAR TXI
9658									; ERROR ?
9659	067514	103010			BCC	150\$; NO
9660	067516				FTL				
	067516	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
9661	067522				ERRHRD	455.,ERR014,MSG003			; YES, REPORT ERROR
	067522	104456						TRAP	C\$ERHRD
	067524	000707						.WORD	455
	067526	025655						.WORD	ERR014
	067530	024032						.WORD	MSG003
9662	067532				ESCAPE	TST			; AND ABORT TEST
	067532	104410						TRAP	C\$ESCAPE
	067534	003144						.WORD	L10054--
9663									
9664	067536	012705	002622	i150\$:	MOV	#TDRB,R5			; CHECK TDRB OWNERSHIP
9665	067542	004737	031162		JSR	PC,CHKOWN			; OMN = PORT DRIVER ?
9666	067546	103010			BCC	160\$; YES
9667	067550				FTL				
	067550	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
9668	067554				ERRHRD	456.,ERR018			; NO, REPORT ERROR
	067554	104456						TRAP	C\$ERHRD
	067556	000710						.WORD	456
	067560	026122						.WORD	ERR018
	067562	000000						.WORD	0
9669	067564				ESCAPE	TST			; AND ABORT TEST
	067564	104410						TRAP	C\$ESCAPE
	067566	003112						.WORD	L10054--
9670									
9671	067570	012705	020266	i160\$:	MOV	#TDR14A,R5			; POINT TO EXPECTED TDRB
9672	067574	004737	034244		JSR	PC,LDXTDR			; LOAD INTO XTDRBO TABLE
9673	067600	012705	002622		MOV	#TDRB,R5			; CHECK TDRB
9674	067604	004737	031636		JSR	PC,CHKTDR			; ERRORS ?
9675	067610	103010			BCC	170\$; NO
9676	067612				FTL				
	067612	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
9677	067616				ERRHRD	457.,ERR020,MSG005			; YES, REPORT ERROR
	067616	104456						TRAP	C\$ERHRD
	067620	000711						.WORD	457
	067622	026302						.WORD	ERR020
	067624	024136						.WORD	MSG005
9678	067626				ESCAPE	TST			; AND ABORT TEST
	067626	104410						TRAP	C\$ESCAPE
	067630	003050						.WORD	L10054--
9679									
9680	067632	004737	031454	i170\$:	JSR	PC,CHKRXI			; RXI ?

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 TEST 22: PROMISCUOUS ADDRESS MODE TEST

SEQ 301

9681	067636	103010		BCC	180\$; YES		
9682	067640			FTL					
	067640	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9683	067644			ERRHRD	460.,ERR015,MSG003		; NO, REPORT ERROR	TRAP	C\$ERHRD
	067644	104456						.WORD	460
	067646	000714						.WORD	ERR015
	067650	025723						.WORD	MSG003
	067652	024032							
9684	067654			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	067654	104410						.WORD	L10054--
	067656	003022							
9685									
9686	067660	004737	032434	i180\$: JSR	PC,CLRRXI		; WRITE ONE TO CLEAR RXI		
9687							; ERROR ?		
9688	067664	103010		BCC	190\$; NO		
9689	067666			FTL					
	067666	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9690	067672			ERRHRD	461.,ERR016,MSG003		; YES, REPORT ERROR	TRAP	C\$ERHRD
	067672	104456						.WORD	461
	067674	000715						.WORD	ERR016
	067676	025754						.WORD	MSG003
	067700	024032							
9691	067702			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	067702	104410						.WORD	L10054--
	067704	002774							
9692									
9693	067706	012705	002662	i190\$: MOV	#RDRB,R5		; CHECK RDRB OWNERSHIP		
9694	067712	004737	031162	JSR	PC,CHKOWN		; OWN = PORT DRIVER ?		
9695	067716	103010		BCC	200\$; YES		
9696	067720			FTL					
	067720	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9697	067724			ERRHRD	462.,ERR017		; NO, REPORT ERROR	TRAP	C\$ERHRD
	067724	104456						.WORD	462
	067726	000716						.WORD	ERR017
	067730	026022						.WORD	0
	067732	000000							
9698	067734			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	067734	104410						.WORD	L10054--
	067736	002742							
9699									
9700	067740	012705	020456	i200\$: MOV	#RDR20C,R5		; POINT TO EXPECTED RDRB		
9701	067744	004737	034214	JSR	PC,LDXRDR		; LOAD INTO XRDRBO TABLE		
9702	067750	012705	002662	MOV	#RDRB,R5		; CHECK RDRB		
9703	067754	004737	031344	JSR	PC,CHKRDR		; ERRORS ?		
9704	067760	103010		BCC	210\$; NO		
9705	067762			FTL					
	067762	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9706	067766			ERRHRD	463.,ERR021,MSG006		; YES, REPORT ERROR	TRAP	C\$ERHRD
	067766	104456							

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067770 000717 .WORD 463
067772 026363 .WORD ERRO21
067774 024300 .WORD MSG006
9707 067776 ESCAPE TST ; AND ABORT TEST TRAP C$ESCAPE
067776 104410 .WORD L10054-.
070000 002700

9708
9709 ;COMPARE RBUF WITH TBUF
9710
9711 070002 013705 020562 210$: MOV BYTCNT,R5 ; COMPARE DATA
9712 070006 004737 032646 JSR PC,CMPDAT ; DATA COMPARE ERROR ?
9713 070012 103006 BCC 220$ ; NO
9714 070014 ERRHRD 464.,ERRO22,MSG007 ; YES, REPORT ERROR
070014 104456 TRAP C$ERHRD
070016 000720 .WORD 464
070020 026444 .WORD ERRO22
070022 024442 .WORD MSG007
9715 070024 ESCAPE TST ; AND ABORT TEST TRAP C$ESCAPE
070024 104410 .WORD L10054-.
070026 002652

9716
9717 070030 ;220$:
9718 070030 012705 010474 MOV #RBUF+26.,R5 ; CHECK CRC
9719 070034 004737 032576 JSR PC,CMPCRC ; ERRORS ?
9720 070040 103006 BCC 230$ ; NO
9721 070042 ERRHRD 465.,ERRO23,MSG008 ; YES, REPORT ERROR
070042 104456 TRAP C$ERHRD
070044 000721 .WORD 465
070046 026513 .WORD ERRO23
070050 024474 .WORD MSG008
9722 070052 ESCAPE TST ; AND ABORT TEST TRAP C$ESCAPE
070052 104410 .WORD L10054-.
070054 002624

9723
9724 070056 ;230$:
9725 070056 012777 004100 112142 MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
9726 070064 112777 000117 112134 MOVB #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
9727 070072 004737 030706 JSR PC,CHKDNI ; DNI ?
9728 070076 103010 BCC 240$ ; YES
9729 070100 FTL

070100 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
ERRHRD 466.,ERRO19,MSG003 ; NO, REPORT ERROR
9730 070104 TRAP C$ERHRD
070104 104456 .WORD 466
070106 000722 .WORD ERRO19
070110 026222 .WORD MSG003
070112 024032
9731 070114 ESCAPE TST ; AND ABORT TEST TRAP C$ESCAPE
070114 104410 .WORD L10054-.
070116 002562

9732
9733 070120 ;240$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
9734 .WORD ERRO19
9735 070124 103010 BCC 250$ ; ERROR ?
9736 070126 FTL ; NO

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070126 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
9737 070132      ERRHRD  467.,ERR006,MSG003 ; YES, REPORT ERROR
070132 104456      TRAP    C$ERHRD
070134 000723      .WORD  467
070136 025124      .WORD  ERR006
070140 024032      .WORD  MSG003
9738 070142      ESCAPE  TST           ; AND ABORT TEST
070142 104410      TRAP    C$ESCAPE
070144 002534      .WORD  L10054-.

9739
9740      ;DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
9741
9742      ;SET UP RINGS FOR ONE BUFFER LOOPBACK
9743
9744 070146      250$:
9745 070146 004737 032272      JSR      PC,CLRCV      ; CLEAR RECEIVE BUFFER
9746 070152 012705 016412      MOV      #TDRB1A,R5    ; DEFAULT ONE BUFFER TRANSMIT RING
9747 070156 004737 034040      JSR      PC,LDTDRB     ; LOAD TDRB
9748 070162 012705 014752      MOV      #RDRB1A,R5    ; DEFAULT ONE BUFFER RECEIVE RING
9749 070166 004737 033744      JSR      PC,LDRDRB     ; LOAD RDRB
9750
9751      ;SET UP BUFFERS AND START
9752
9753 070172 012701 002274      MOV      #DEFAULT,R1   ; SOURCE = PHYSICAL ADDRESS
9754 070176 012702 020070      MOV      #ADR21C,R2    ; DEST = COMPLEMENTED ADDRESS
9755 070202 004737 035062      JSR      PC,SRCDST     ; SAVE FOR PACKET BUILD
9756 070206 005037 020564      CLR      D0CRC         ; NO APPEND CRC
9757 070212 012737 000006 020562      MOV      #6,BYTCNT     ; BYTES/PACKET
9758 070220 004737 034662      JSR      PC,SETBUF     ; SET UP BUFFERS
9759 070224 012777 004100 111774      MOV      #DNI!INTE,@PCSRO ; ENABLE INTERRUPTS
9760 070232 112777 000104 111766      MOV      #INTE!START,@PCSRO ; ISSUE START PORT COMMAND
9761 070240 004737 030706      JSR      PC,CHKDNI     ; DNI?
9762 070244 103010      BCC     260$          ; YES
9763 070246      FTL

070246 004737 031010      JSR      PC,CHKFTL     ; 'FATL' BIT SET?
9764 070252      ERRHRD  470.,ERR012,MSG003 ; NO, REPORT ERROR
070252 104456      TRAP    C$ERHRD
070254 000726      .WORD  470
070256 025543      .WORD  ERR012
070260 024032      .WORD  MSG003
9765 070262      ESCAPE  TST           ; AND ABORT TEST
070262 104410      TRAP    C$ESCAPE
070264 002414      .WORD  L10054-.

9766
9767 070266 004737 032320      260$: JSR      PC,CLRDN1     ; WRITE ONE TO CLEAR DNI
9768      ; ERROR ?
9769 070272 103010      BCC     270$          ; NO
9770 070274      FTL

070274 004737 031010      JSR      PC,CHKFTL     ; 'FATL' BIT SET?
9771 070300      ERRHRD  471.,ERR006,MSG003 ; YES, REPORT ERROR
070300 104456      TRAP    C$ERHRD
070302 000727      .WORD  471

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	070304	025124					.WORD	ERR006
	070306	024032					.WORD	MSG003
9772	070310			ESCAPE	TST			; AND ABORT TEST
	070310	104410					TRAP	C\$ESCAPE
	070312	002366					.WORD	L10054-.
9773								
9774	070314	004737	031724	i	270\$: JSR	PC,CHKTXI		; TXI ?
9775	070320	103010			BCC	280\$; YES
9776	070322				FTL			
	070322	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
9777	070326				ERRHRD	472.,ERR013,MSG003		; NO, REPORT ERROR
	070326	104456					TRAP	C\$ERHRD
	070330	000730					.WORD	472
	070332	025624					.WORD	ERR013
	070334	024032					.WORD	MSG003
9778	070336				ESCAPE	TST		; AND ABORT TEST
	070336	104410					TRAP	C\$ESCAPE
	070340	002340					.WORD	L10054-.
9779								
9780	070342	004737	032502	i	280\$: JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI
9781								; ERROR ?
9782	070346	103010			BCC	290\$; NO
9783	070350				FTL			
	070350	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
9784	070354				ERRHRD	473.,ERR014,MSG003		; YES, REPORT ERROR
	070354	104456					TRAP	C\$ERHRD
	070356	000731					.WORD	473
	070360	025655					.WORD	ERR014
	070362	024032					.WORD	MSG003
9785	070364				ESCAPE	TST		; AND ABORT TEST
	070364	104410					TRAP	C\$ESCAPE
	070366	002312					.WORD	L10054-.
9786								
9787	070370	012705	002622	i	290\$: MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP
9788	070374	004737	031162		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
9789	070400	103010			BCC	300\$; YES
9790	070402				FTL			
	070402	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
9791	070406				ERRHRD	474.,ERR018		; NO, REPORT ERROR
	070406	104456					TRAP	C\$ERHRD
	070410	000732					.WORD	474
	070412	026122					.WORD	ERR018
	070414	000000					.WORD	0
9792	070416				ESCAPE	TST		; AND ABORT TEST
	070416	104410					TRAP	C\$ESCAPE
	070420	002260					.WORD	L10054-.
9793								
9794	070422	012705	020266	i	300\$: MOV	#TDR14A,R5		; POINT TO EXPECTED TDRB
9795	070426	004737	034244		JSR	PC,LDXTDR		; LOAD INTO XTDRBO TABLE
9796	070432	012705	002622		MOV	#TDRB,R5		; CHECK TDRB
9797	070436	004737	031636		JSR	PC,CHKTDR		; ERRORS ?

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 TEST 22: PROMISCUOUS ADDRESS MODE TEST

SEQ 305

9798	070442	103010		BCC	310\$; NO		
9799	070444			FTL					
	070444	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9800	070450			ERRHRD	475.,ERR020,MSG005		; YES, REPORT ERROR	TRAP	C\$ERHRD
	070450	104456						.WORD	475
	070452	000733						.WORD	ERR020
	070454	026302						.WORD	MSG005
	070456	024136							
9801	070460			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	070460	104410						.WORD	L10054--
	070462	002216							
9802									
9803	070464	004737	031454	JSR	PC,CHKRXI		; RXI ?		
9804	070470	103010		BCC	320\$; YES		
9805	070472			FTL					
	070472	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9806	070476			ERRHRD	476.,ERR015,MSG003		; NO, REPORT ERROR	TRAP	C\$ERHRD
	070476	104456						.WORD	476
	070500	000734						.WORD	ERR015
	070502	025723						.WORD	MSG003
	070504	024032							
9807	070506			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	070506	104410						.WORD	L10054--
	070510	002170							
9808									
9809	070512	004737	032434	JSR	PC,CLRRXI		; WRITE ONE TO CLEAR RXI		
9810							; ERROR ?		
9811	070516	103010		BCC	330\$; NO		
9812	070520			FTL					
	070520	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9813	070524			ERRHRD	477.,ERR016,MSG003		; YES, REPORT ERROR	TRAP	C\$ERHRD
	070524	104456						.WORD	477
	070526	000735						.WORD	ERR016
	070530	025754						.WORD	MSG003
	070532	024032							
9814	070534			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	070534	104410						.WORD	L10054--
	070536	002142							
9815									
9816	070540	012705	002662	MOV	#RDRB,R5		; CHECK RDRB OWNERSHIP		
9817	070544	004737	031162	JSR	PC,CHKOWN		; OWN = PORT DRIVER ?		
9818	070550	103010		BCC	340\$; YES		
9819	070552			FTL					
	070552	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9820	070556			ERRHRD	480.,ERR017		; NO, REPORT ERROR	TRAP	C\$ERHRD
	070556	104456						.WORD	480
	070560	000740						.WORD	ERR017
	070562	026022						.WORD	0
	070564	000000							

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9821 070566          ESCAPE TST          ; AND ABORT TEST          TRAP
      070566 104410          ;                               .WORD          C$ESCAPE
      070570 002110          ;                               ;                               L10054-.

9822          ;
9823 070572 012705 020456 340$: MOV #RDR20C,R5          ; POINT TO EXPECTED RDRB
9824 070576 004737 034214 JSR PC,LDXRDR          ; LOAD INTO XRDRBO TABLE
9825 070602 012705 002662 MOV #RDRB,R5          ; CHECK RDRB
9826 070606 004737 031344 JSR PC,CHKRDR          ; ERRORS ?
9827 070612 103010 BCC 350$          ; NO
9828 070614          FTL

      070614 004737 031010 JSR PC,CHKFTL          ; 'FATL' BIT SET?

9829 070620          ERRHRD 481.,ERR021,MSG006 ; YES, REPORT ERROR
      070620 104456          ;                               TRAP
      070622 000741          ;                               .WORD          C$ERHRD
      070624 026363          ;                               .WORD          481
      070626 024300          ;                               .WORD          ERR021
      070630          ESCAPE TST          ; AND ABORT TEST          TRAP          C$ESCAPE
9830 070630 104410          ;                               .WORD          L10054-.
      070632 002046          ;

9831          ;
9832          ;COMPARE RBUF WITH TBUF
9833          ;
9834 070634 013705 020562 350$: MOV BYTCNT,R5          ; COMPARE DATA
9835 070640 004737 032646 JSR PC,CMPDAT          ; DATA COMPARE ERROR ?
9836 070644 103006 BCC 360$          ; NO
9837 070646          ERRHRD 482.,ERR022,MSG007 ; YES, REPORT ERROR
      070646 104456          ;                               TRAP
      070650 000742          ;                               .WORD          C$ERHRD
      070652 026444          ;                               .WORD          482
      070654 024442          ;                               .WORD          ERR022
      070654 024442          ;                               .WORD          MSG007

9838 070656          ESCAPE TST          ; AND ABORT TEST          TRAP
      070656 104410          ;                               .WORD          C$ESCAPE
      070660 002020          ;                               ;                               L10054-.

9839          ;
9840 070662          ;
9841 070662 012705 010474 360$: MOV #RBUF+26.,R5          ; CHECK CRC
9842 070666 004737 032576 JSR PC,CMPCRC          ; ERRORS ?
9843 070672 103006 BCC 370$          ; NO
9844 070674          ERRHRD 483.,ERR023,MSG008 ; YES, REPORT ERROR
      070674 104456          ;                               TRAP
      070676 000743          ;                               .WORD          C$ERHRD
      070700 026513          ;                               .WORD          483
      070702 024474          ;                               .WORD          ERR023
      070702 024474          ;                               .WORD          MSG008

9845 070704          ESCAPE TST          ; AND ABORT TEST          TRAP
      070704 104410          ;                               .WORD          C$ESCAPE
      070706 001772          ;                               ;                               L10054-.

9846          ;
9847 070710          ;
9848 070710 012777 004100 111310 370$: MOV #DNI!INTE,@PCSR0          ; ENABLE INTERRUPTS
9849 070716 112777 000117 111302 MOVB #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
9850 070724 004737 030706 JSR PC,CHKDNI          ; DNI ?
9851 070730 103010 BCC 380$          ; YES
9852 070732          FTL

      070732 004737 031010 JSR PC,CHKFTL          ; 'FATL' BIT SET?

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9853 070736          ERRHRD  484.,ERR019,MSG003      ; NO, REPORT ERROR
      070736 104456
      070740 000744
      070742 026222
      070744 024032
9854 070746          ESCAPE  TST                    ; AND ABORT TEST
      070746 104410
      070750 001730
9855          ;
9856 070752 004737 032320      ;380$: JSR      PC,CLRDNI                ; WRITE ONE TO CLEAR DNI
9857          ;
9858 070756 103010          BCC      390$                ; ERROR ?
9859 070760          FTL
      070760 004737 031010      JSR      PC,CHKFTL                ; 'FATL' BIT SET?
9860 070764          ERRHRD  485.,ERR006,MSG003      ; YES, REPORT ERROR
      070764 104456
      070766 000745
      070770 025124
      070772 024032
9861 070774          ESCAPE  TST                    ; AND ABORT TEST
      070774 104410
      070776 001702
9862          ;
9863          ;REWRITE DEFAULT PHYSICAL ADDRESS
9864          ;
9865 071000          ;390$:
9866 071000 012705 002274      MOV      #DEFAULT,R5                ; GET DEFAULT PHYSICAL ADDRESS
9867 071004 004737 033724      JSR      PC,LDPHYA                ; SAVE IT IN DEFAULT TABLE
9868 071010 012705 014502      MOV      #WTPHYA,R5                ; DEFAULT WRITE PHYSICAL ADDR FUNC
9869 071014 004737 033656      JSR      PC,LPCBB                  ; LOAD FUNCTION -> PCBB
9870 071020 012777 004100 111200  MOV      #DNI!INTE,@PCSRO            ; ENABLE INTERRUPTS
9871 071026 112777 000102 111172  MOVB    #INTE!GETCMD,@PCSRO          ; ISSUE GET_CMD PORT COMMAND
9872 071034 004737 030706      JSR      PC,CHKDNI                ; DNI ?
9873 071040 103010          BCC      400$                ; YES
9874 071042          FTL
      071042 004737 031010      JSR      PC,CHKFTL                ; 'FATL' BIT SET?
9875 071046          ERRHRD  486.,ERR010,MSG003      ; NO, REPORT ERROR
      071046 104456
      071050 000746
      071052 025425
      071054 024032
9876 071056          ESCAPE  TST                    ; AND ABORT TEST
      071056 104410
      071060 001620
9877          ;
9878 071062 004737 032320      ;400$: JSR      PC,CLRDNI                ; WRITE ONE TO CLEAR DNI
9879          ;
9880 071066 103010          BCC      410$                ; ERROR ?
9881 071070          FTL
      071070 004737 031010      JSR      PC,CHKFTL                ; 'FATL' BIT SET?

TRAP C$ERHRD
.WORD 484
.WORD ERR019
.WORD MSG003

TRAP C$ESCAPE
.WORD L10054-.

TRAP C$ERHRD
.WORD 485
.WORD ERR006
.WORD MSG003

TRAP C$ESCAPE
.WORD L10054-.

TRAP C$ERHRD
.WORD 486
.WORD ERR010
.WORD MSG003

TRAP C$ESCAPE
.WORD L10054-.
    
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 TEST 22: PROMISCUOUS ADDRESS MODE TEST

SEQ 309

	071250	000753					.WORD	491
	071252	025124					.WORD	ERR006
	071254	024032					.WORD	MSG003
9920	071256			ESCAPE	TST			; AND ABORT TEST
	071256	104410					TRAP	C\$ESCAPE
	071260	001420					.WORD	L10054-
9921								
9922	071262	004737	031724	i440\$:	JSR	PC,CHKTXI		; TXI ?
9923	071266	103010			BCC	450\$; YES
9924	071270				FTL			
	071270	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
9925	071274				ERRHRD	492.,ERR013,MSG003		; NO, REPORT ERROR
	071274	104456					TRAP	C\$ERHRD
	071276	000754					.WORD	492
	071300	025624					.WORD	ERR013
	071302	024032					.WORD	MSG003
9926	071304			ESCAPE	TST			; AND ABORT TEST
	071304	104410					TRAP	C\$ESCAPE
	071306	001372					.WORD	L10054-
9927								
9928	071310	004737	032502	i450\$:	JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI
9929								; ERROR ?
9930	071314	103010			BCC	470\$; NO
9931	071316				FTL			
	071316	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
9932	071322				ERRHRD	493.,ERR014,MSG003		; YES, REPORT ERROR
	071322	104456					TRAP	C\$ERHRD
	071324	000755					.WORD	493
	071326	025655					.WORD	ERR014
	071330	024032					.WORD	MSG003
9933	071332			ESCAPE	TST			; AND ABORT TEST
	071332	104410					TRAP	C\$ESCAPE
	071334	001344					.WORD	L10054-
9934								
9935	071336	012705	002622	i470\$:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP
9936	071342	004737	031162		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
9937	071346	103010			BCC	480\$; YES
9938	071350				FTL			
	071350	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
9939	071354				ERRHRD	494.,ERR018		; NO, REPORT ERROR
	071354	104456					TRAP	C\$ERHRD
	071356	000756					.WORD	494
	071360	026122					.WORD	ERR018
	071362	000000					.WORD	0
9940	071364			ESCAPE	TST			; AND ABORT TEST
	071364	104410					TRAP	C\$ESCAPE
	071366	001312					.WORD	L10054-
9941								
9942	071370	012705	020266	i480\$:	MOV	#TDR14A,R5		; POINT TO EXPECTED TDRB
9943	071374	004737	034244		JSR	PC,LDXTDR		; LOAD INTO XTDRBO TABLE
9944	071400	012705	002622		MOV	#TDRB,R5		; CHECK TDRB


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9969 071532 000000          ESCAPE TST          ; AND ABORT TEST          .WORD 0
      071534          ; AND ABORT TEST          TRAP C$ESCAPE
      071534 104410          ; AND ABORT TEST          .WORD L10054-.
      071536 001142

9970          ;
9971 071540 012705 020456    ;520$: MOV #RDR20C,R5      ; POINT TO EXPECTED RDRB
9972 071544 004737 034214    JSR PC,LDXRDR          ; LOAD INTO XRDRB0 TABLE
9973 071550 012705 002662    MOV #RDRB,R5          ; CHECK RDRB
9974 071554 004737 031344    JSR PC,CHKRDR          ; ERRORS ?
9975 071560 103010          BCC 530$              ; NO
9976 071562          FTL

      071562 004737 031010    JSR PC,CHKFTL          ; 'FATL' BIT SET?

9977 071566          ERRHRD 501.,ERR021,MSG006      ; YES, REPORT ERROR
      071566 104456          TRAP C$ERHRD
      071570 000765          .WORD 501
      071572 026363          .WORD ERR021
      071574 024300          .WORD MSG006

9978 071576          ESCAPE TST          ; AND ABORT TEST          TRAP C$ESCAPE
      071576 104410          ; AND ABORT TEST          .WORD L10054-.
      071600 001100

9979          ;
9980          ;COMPARE RBUF WITH TBUF
9981          ;
9982 071602 013705 020562    ;530$: MOV BYTCNT,R5      ; COMPARE DATA
9983 071606 004737 032646    JSR PC,CMPDAT          ; DATA COMPARE ERROR ?
9984 071612 103006          BCC 540$              ; NO
9985 071614          ERRHRD 502.,ERR022,MSG007      ; YES, REPORT ERROR
      071614 104456          TRAP C$ERHRD
      071616 000766          .WORD 502
      071620 026444          .WORD ERR022
      071622 024442          .WORD MSG007

9986 071624          ESCAPE TST          ; AND ABORT TEST          TRAP C$ESCAPE
      071624 104410          ; AND ABORT TEST          .WORD L10054-.
      071626 001052

9987          ;
9988 071630          ;540$: MOV #RBUF+26.,R5      ; CHECK CRC
9989 071630 012705 010474    JSR PC,CMPCRC          ; ERRORS ?
9990 071634 004737 032576    BCC 550$              ; NO
9991 071640 103006          ERRHRD 503.,ERR023,MSG008 ; YES, REPORT ERROR
9992 071642          TRAP C$ERHRD
      071642 104456          .WORD 503
      071644 000767          .WORD ERR023
      071646 026513          .WORD MSG008
      071650 024474

9993 071652          ESCAPE TST          ; AND ABORT TEST          TRAP C$ESCAPE
      071652 104410          ; AND ABORT TEST          .WORD L10054-.
      071654 001024

9994          ;
9995 071656          ;550$: MOV #DNI!INTE,@PCSR0      ; ENABLE INTERRUPTS
9996 071656 012777 004100 110342 MOVB #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
9997 071664 112777 000117 110334 JSR PC,CHKDNI          ; DNI ?
9998 071672 004737 030706    BCC 560$              ; YES
9999 071676 103010          FTL
10000 071700
    
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071700 004737 031010          JSR      PC,CHKFTL          ; 'FATL' BIT SET?
10001 071704          ERRHRD  504.,ERR019,MSG003 ; NO, REPORT ERROR
071704 104456          TRAP   C$ERHRD
071706 000770          .WORD  504
071710 026222          .WORD  ERR019
071712 024032          .WORD  MSG003
10002 071714          ESCAPE  TST                ; AND ABORT TEST
071714 104410          TRAP   C$ESCAPE
071716 000762          .WORD  L10054-.
10003
10004 071720 004737 032320 560$: JSR      PC,CLRDNI        ; WRITE ONE TO CLEAR DNI
10005
10006 071724 103010          BCC     565$              ; ERROR ?
10007 071726          FTL
071726 004737 031010          JSR      PC,CHKFTL        ; 'FATL' BIT SET?
10008 071732          ERRHRD  505.,ERR006,MSG003 ; YES, REPORT ERROR
071732 104456          TRAP   C$ERHRD
071734 000771          .WORD  505
071736 025124          .WORD  ERR006
071740 024032          .WORD  MSG003
10009 071742          ESCAPE  TST                ; AND ABORT TEST
071742 104410          TRAP   C$ESCAPE
071744 000734          .WORD  L10054-.
10010
10011 071746          565$:
10012 071746 004737 032272          JSR      PC,CLRCV        ; CLEAR RECEIVE BUFFER
10013 071752 062702 000006          ADD     #6,R2            ; UPDATE R2
10014 071756 062703 000004          ADD     #4,R3            ; UPDATE R3
10015 071762 005304          DEC     R4                ; DONE TEN LOOPBACKS
10016 071764 001402          BEQ     566$              ; YES
10017 071766 000137 071124          JMP     420$              ; NO
10018
10019
10020
10021
10022 071772 012704 000012          ;DO TEN LOOPS WITH DEST ADDRESS = COMPLIMENTED MULTICAST ADDRESS
10023 071776 012702 020172          566$: MOV     #10.,R4         ; DO LOOP = TEN
10024
10025          MOV     #MULTLC,R2      ; R2 POINTS TO COMPLIMENTED LIST
10026
10027          ;SET UP RINGS FOR ONE BUFFER LOOPBACK
10028 072002          570$: MOV     #TDRB1A,R5        ; DEFAULT ONE BUFFER TRANSMIT RING
10029 072006 004737 034040          JSR     PC,LDTDRB        ; LOAD TDRB
10030 072012 012705 014752          MOV     #RDRB1A,R5      ; DEFAULT ONE BUFFER RECEIVE RING
10031 072016 004737 033744          JSR     PC,LDRDRB        ; LOAD RDRB
10032
10033          ;SET UP BUFFERS AND START
10034
10035 072022 012701 002266          MOV     #SRC,R1          ; SOURCE = DEF PHYSICAL ADDR
10036 072026 004737 035062          JSR     PC,SRC DST       ; DEST = COMPL MULTICAST ADDR
10037 072032 005037 020564          CLR     DOCRC            ; NO APPEND CRC
10038 072036 012737 000006 020562          MOV     #6,BYTCNT       ; BYTES/PACKET
10039 072044 004737 034662          JSR     PC,SETBUF        ; SET UP BUFFERS
10040 072050 012777 004100 110150          MOV     #DNI!INTE,#PCSR0 ; ENABLE INTERRUPTS

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10041	072056	112777	000104	110142	MOVB	#INTE!START,@PCSRO	; ISSUE START PORT COMMAND		
10042	072064	004737	030706		JSR	PC,CHKDNI	; DNI?		
10043	072070	103010			BCC	580\$; YES		
10044	072072				FTL				
	072072	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
10045	072076				ERRHRD	506.,ERR012,MSG003	; NO, REPORT ERROR		
	072076	104456						TRAP	C\$ERHRD
	072100	000772						.WORD	506
	072102	025543						.WORD	ERR012
	072104	024032						.WORD	MSG003
10046	072106				ESCAPE	TST	; AND ABORT TEST		
	072106	104410						TRAP	C\$ESCAPE
	072110	000570						.WORD	L10054-.
10047									
10048	072112	004737	032320		JSR	PC,CLRDN1	; WRITE ONE TO CLEAR DNI		
10049							; ERROR ?		
10050	072116	103010			BCC	590\$; NO		
10051	072120				FTL				
	072120	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
10052	072124				ERRHRD	507.,ERR006,MSG003	; YES, REPORT ERROR		
	072124	104456						TRAP	C\$ERHRD
	072126	000773						.WORD	507
	072130	025124						.WORD	ERR006
	072132	024032						.WORD	MSG003
10053	072134				ESCAPE	TST	; AND ABORT TEST		
	072134	104410						TRAP	C\$ESCAPE
	072136	000542						.WORD	L10054-.
10054									
10055	072140	004737	031724		JSR	PC,CHKTXI	; TXI ?		
10056	072144	103010			BCC	600\$; YES		
10057	072146				FTL				
	072146	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
10058	072152				ERRHRD	510.,ERR013,MSG003	; NO, REPORT ERROR		
	072152	104456						TRAP	C\$ERHRD
	072154	000776						.WORD	510
	072156	025624						.WORD	ERR013
	072160	024032						.WORD	MSG003
10059	072162				ESCAPE	TST	; AND ABORT TEST		
	072162	104410						TRAP	C\$ESCAPE
	072164	000514						.WORD	L10054-.
10060									
10061	072166	004737	032502		JSR	PC,CLRTXI	; WRITE ONE TO CLEAR TXI		
10062							; ERROR ?		
10063	072172	103010			BCC	610\$; NO		
10064	072174				FTL				
	072174	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
10065	072200				ERRHRD	511.,ERR014,MSG003	; YES, REPORT ERROR		
	072200	104456						TRAP	C\$ERHRD
	072202	000777						.WORD	511

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	072204	025655					.WORD	ERR014
	072206	024032					.WORD	MSG003
10066	072210			ESCAPE	TST			; AND ABORT TEST
	072210	104410					TRAP	C\$ESCAPE
	072212	000466					.WORD	L10054-.
10067								
10068	072214	012705	002622	i	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP
10069	072220	004737	031162	610\$:	JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
10070	072224	103010			BCC	620\$; YES
10071	072226				FTL			
	072226	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
10072	072232				ERRHRD	512.,ERR018		; NO, REPORT ERROR
	072232	104456					TRAP	C\$ERHRD
	072234	001000					.WORD	512
	072236	026122					.WORD	ERR018
	072240	000000					.WORD	0
10073	072242			ESCAPE	TST			; AND ABORT TEST
	072242	104410					TRAP	C\$ESCAPE
	072244	000434					.WORD	L10054-.
10074								
10075	072246	012705	020266	i	MOV	#TDR14A,R5		; POINT TO EXPECTED TDRB
10076	072252	004737	034244	620\$:	JSR	PC,LDXTDR		; LOAD INTO XTDRBO TABLE
10077	072256	012705	002622		MOV	#TDRB,R5		; CHECK TDRB
10078	072262	004737	031636		JSR	PC,CHKTDR		; ERRORS ?
10079	072266	103010			BCC	630\$; NO
10080	072270				FTL			
	072270	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
10081	072274				ERRHRD	513.,ERR020,MSG005		; YES, REPORT ERROR
	072274	104456					TRAP	C\$ERHRD
	072276	001001					.WORD	513
	072300	026302					.WORD	ERR020
	072302	024136					.WORD	MSG005
10082	072304			ESCAPE	TST			; AND ABORT TEST
	072304	104410					TRAP	C\$ESCAPE
	072306	000372					.WORD	L10054-.
10083								
10084	072310	004737	031454	i	JSR	PC,CHKRXI		; RXI ?
10085	072314	103010		630\$:	BCC	640\$; YES
10086	072316				FTL			
	072316	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
10087	072322				ERRHRD	514.,ERR015,MSG003		; NO, REPORT ERROR
	072322	104456					TRAP	C\$ERHRD
	072324	001002					.WORD	514
	072326	025723					.WORD	ERR015
	072330	024032					.WORD	MSG003
10088	072332			ESCAPE	TST			; AND ABORT TEST
	072332	104410					TRAP	C\$ESCAPE
	072334	000344					.WORD	L10054-.
10089								
10090	072336	004737	032434	i	JSR	PC,CLRRXI		; WRITE ONE TO CLEAR RXI
10091				640\$:				; ERROR ?

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TEST 22: PROMISCUOUS ADDRESS MODE TEST

SEQ 315

10092	072342	103010		BCC	650\$; NO		
10093	072344			FTL					
	072344	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
10094	072350			ERRHRD	515.,ERR016,MSG003		; YES, REPORT ERROR	TRAP	C\$ERHRD
	072350	104456						.WORD	515
	072352	001003						.WORD	ERR016
	072354	025754						.WORD	MSG003
	072356	024032							
10095	072360			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	072360	104410						.WORD	L10054-.
	072362	000316							
10096									
10097	072364	012705	002662	650\$:	MOV	#RDRB,R5	; CHECK RDRB OWNERSHIP		
10098	072370	004737	031162		JSR	PC,CHKOWN	; OWN = PORT DRIVER ?		
10099	072374	103010			BCC	660\$; YES		
10100	072376				FTL				
	072376	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
10101	072402			ERRHRD	516.,ERR017		; NO, REPORT ERROR	TRAP	C\$ERHRD
	072402	104456						.WORD	516
	072404	001004						.WORD	ERR017
	072406	026022						.WORD	0
	072410	000000							
10102	072412			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	072412	104410						.WORD	L10054-.
	072414	000264							
10103									
10104	072416	012705	020456	660\$:	MOV	#RDR20C,R5	; POINT TO EXPECTED RDRB		
10105	072422	012705	002662		MOV	#RDRB,R5	; CHECK RDRB		
10106	072426	004737	031344		JSR	PC,CHKRDR	; ERRORS ?		
10107	072432	103010			BCC	670\$; NO		
10108	072434				FTL				
	072434	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
10109	072440			ERRHRD	517.,ERR021,MSG006		; YES, REPORT ERROR	TRAP	C\$ERHRD
	072440	104456						.WORD	517
	072442	001005						.WORD	ERR021
	072444	026363						.WORD	MSG006
	072446	024300							
10110	072450			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	072450	104410						.WORD	L10054-.
	072452	000226							
10111									
10112									
10113									
10114	072454	013705	020562	670\$:	MOV	BYTCNT,R5	; COMPARE DATA		
10115	072460	004737	032646		JSR	PC,CMPDAT	; DATA COMPARE ERROR ?		
10116	072464	103006			BCC	680\$; NO		
10117	072466			ERRHRD	520.,ERR022,MSG007		; YES, REPORT ERROR	TRAP	C\$ERHRD
	072466	104456						.WORD	520
	072470	001010						.WORD	ERR022
	072472	026444						.WORD	MSG007
	072474	024442							

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10118 072476          ESCAPE TST          ; AND ABORT TEST          TRAP      C$ESCAPE
      072476 104410          .WORD      L10054-.
      072500 000200
10119
10120 072502          ;
      ; 680$:
10121 072502 012705 010474  MOV      #RBUF+26.,R5      ; CHECK CRC
10122 072506 004737 032576  JSR      PC,CMPCRC        ; ERRORS ?
10123 072512 103006      BCC      690$            ; NO
10124 072514          ERRHRD  521.,ERR023,MSG008 ; YES, REPORT ERROR
      072514 104456          TRAP      C$ERHRD
      072516 001011          .WORD      521
      072520 026513          .WORD      ERR023
      072522 024474          .WORD      MSG008
10125 072524          ESCAPE TST          ; AND ABORT TEST          TRAP      C$ESCAPE
      072524 104410          .WORD      L10054-.
      072526 000152
10126
10127 072530          ;
      ; 690$:
10128 072530 012777 004100 107470  MOV      #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10129 072536 112777 000117 107462  MOVB    #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
10130 072544 004737 030706      JSR      PC,CHKDNI        ; DNI ?
10131 072550 103010      BCC      700$            ; YES
10132 072552          FTL
      072552 004737 031010      JSR      PC,CHKFTL        ; 'FATL' BIT SET?
10133 072556          ERRHRD  522.,ERR019,MSG003 ; NO, REPORT ERROR
      072556 104456          TRAP      C$ERHRD
      072560 001012          .WORD      522
      072562 026222          .WORD      ERR019
      072564 024032          .WORD      MSG003
10134 072566          ESCAPE TST          ; AND ABORT TEST          TRAP      C$ESCAPE
      072566 104410          .WORD      L10054-.
      072570 000110
10135
10136 072572 004737 032320  ; 700$:
10137          JSR      PC,CLRDNIS      ; WRITE ONE TO CLEAR DNI
10138 072576 103010      BCC      710$            ; ERROR ?
10139 072600          FTL
      072600 004737 031010      JSR      PC,CHKFTL        ; 'FATL' BIT SET?
10140 072604          ERRHRD  523.,ERR006,MSG003 ; YES, REPORT ERROR
      072604 104456          TRAP      C$ERHRD
      072606 001013          .WORD      523
      072610 025124          .WORD      ERR006
      072612 024032          .WORD      MSG003
10141 072614          ESCAPE TST          ; AND ABORT TEST          TRAP      C$ESCAPE
      072614 104410          .WORD      L10054-.
      072616 000062
10142
10143 072620          ;
      ; 710$:
10144 072620 004737 032272  JSR      PC,CLRCV        ; CLEAR RECEIVE BUFFER
10145 072624 062702 000006  ADD      #6,R2            ; UPDATE R2
10146 072630 062703 000004  ADD      #4,R3            ; UPDATE R3
10147 072634 005304          DEC      R4              ; DONE TEN LOOPBACKS
10148 072636 001402          BEQ      900$            ; YES
  
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10149 072640 000137 072002          JMP      570$          ; NO
10150                                     ;
10151 072644          ;900$:
10152                                     ;
10153 072644          EXIT      TST
      072644 104432
      072646 000032          TRAP      C$EXIT
                                     .WORD   L10054-.
10154
10155          ;LOCAL TEST MESSAGE
10156
10157 072650          104      105      114  T22ID: .ASCIZ 'DELUA PROMISCUOUS MODE '
      072653          125      101      040
      072656          120      122      117
      072661          115      111      123
      072664          103      125      117
      072667          125      123      040
      072672          115      117      104
      072675          105      040      000
10158          .EVEN
10159
10160          ENDTST
      072700
      072700          L10054: TRAP      C$ETST
      072700 104401

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.SBTTL TEST 23: ENABLE ALL MULTICAST MODE TEST

THIS TEST VERIFIES THAT ENABLE ALL MULTICAST MODE IS OPERATIONAL.
A WRITE MULTICAST ADDRESS LIST FUNCTION IS USED TO SET THE DELUA'S MULTICAST ADDRESS LIST.
INTERNAL LOOPBACKS ARE THEN PERFORMED WITH CURRENTLY ENABLED AND THEN CURRENTLY DISABLED MULTICAST DESTINATION ADDRESSES.
ALL LOOPBACKS ARE VERIFIED FOR SUCCESSFUL RECEPTION.

- TEST SEQUENCE:
1. WRITE MODE REGISTER = INTERNAL LOOPBACK and ENABLE ALL MULTICAST MODE
 2. WRITE RING FORMAT
 3. WRITE PHYSICAL ADDRESS
 4. WRITE MULTICAST ADDRESS LIST
 5. SET UP RINGS AND BUFFERS WITH DESTINATION ADDRESS = MULTICAST ADDRESS
 6. ISSUE START
 7. CHECK FOR ERRORS
 8. ISSUE STOP
 9. REPEAT STEPS 5 - 8 FOR ALL TEN LIST ENTRIES
 10. SET UP RINGS AND BUFFERS WITH DESTINATION ADDRESS = COMPLIMENTED MULTICAST ADDRESS
 11. ISSUE START
 12. CHECK FOR ERRORS
 13. ISSUE STOP
 14. REPEAT STEPS 10 - 13 FOR ALL TEN ENTRIES

10196 072702
072702
10197
10198 072702

BGNTST

T23::

PNTMAC T23ID

072702 012704 075130
072706 004737 034610

MOV #T23ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

END OF MACRO EXPANSION OF 'PNTMAC'

10199 072712 004737 035310
10200 072716 103034
10201 072720 012777 004100 107300
10202 072726 112777 000140 107272
10203 072734 004737 032034
10204 072740 103010
10205 072742

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSRO ; ENABLE INTERRUPTS
MOVB #INTE!RSET,@PCSRO ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

072742 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

10206 072746
072746 104456
072750 001014

ERRHRD 524.,ERR042,MSG003 ; NO, REPORT ERROR

TRAP :B0
.WORD C\$ERHRD
524

	072752	030105					.WORD	ERR042
	072754	024032					.WORD	MSG003
10207	072756				ESCAPE TST	; AND ABORT TEST		
	072756	104410					TRAP	C\$ESCAPE
	072760	002212					.WORD	L10055-.
10208								
10209	072762	004737	032320	i 20\$:	JSR PC,CLRDN1	; WRITE ONE TO CLEAR DNI		
10210						; ERROR ?		
10211	072766	103010			BCC 30\$; NO		
10212	072770				FTL			
	072770	004737	031010		JSR PC,CHKFTL	; 'FATL' BIT SET?		
10213	072774				ERRHRD 525.,ERR006,MSG003	; YES, REPORT ERROR		
	072774	104456					TRAP	C\$ERHRD
	072776	001015					.WORD	525
	073000	025124					.WORD	ERR006
	073002	024032					.WORD	MSG003
10214	073004				ESCAPE TST	; AND ABORT TEST		
	073004	104410					TRAP	C\$ESCAPE
	073006	002164					.WORD	L10055-.
10215								
10216	073010			i 30\$:				
10217	073010	004737	032246		JSR PC,CLRBUF	; CLEAR RBUF AND TBUF		
10218	073014	004737	033606		JSR PC,LDDFLT	; LOAD DEFAULT PHY ADDRESS TABLES		
10219	073020	004737	033706		JSR PC,LDPCSR	; ADDRESS OF PCBB -> PCSR2!3		
10220	073024	012777	004100	107174	MOV #DNI!INTE,@PCSR0	; ENABLE INTERRUPTS		
10221	073032	112777	000101	107166	MOVB #INTE!GETPCB,@PCSR0	; ISSUE GET_PCBB PORT COMMAND		
10222	073040	004737	030706		JSR PC,CHKDNI	; DNI?		
10223	073044	103010			BCC 40\$; YES		
10224	073046				FTL			
	073046	004737	031010		JSR PC,CHKFTL	; 'FATL' BIT SET?		
10225	073052				ERRHRD 526.,ERR009,MSG003	; NO, REPORT ERROR		
	073052	104456					TRAP	C\$ERHRD
	073054	001016					.WORD	526
	073056	025341					.WORD	ERR009
	073060	024032					.WORD	MSG003
10226	073062				ESCAPE TST	; AND ABORT TEST		
	073062	104410					TRAP	C\$ESCAPE
	073064	002106					.WORD	L10055-.
10227								
10228	073066	004737	032320	i 40\$:	JSR PC,CLRDN1	; WRITE ONE TO CLEAR DNI		
10229						; ERROR ?		
10230	073072	103010			BCC 50\$; NO		
10231	073074				FTL			
	073074	004737	031010		JSR PC,CHKFTL	; 'FATL' BIT SET?		
10232	073100				ERRHRD 527.,ERR006,MSG003	; YES, REPORT ERROR		
	073100	104456					TRAP	C\$ERHRD
	073102	001017					.WORD	527
	073104	025124					.WORD	ERR006
	073106	024032					.WORD	MSG003
10233	073110				ESCAPE TST	; AND ABORT TEST		
	073110	104410					TRAP	C\$ESCAPE


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073112 002060                                     .WORD L10055-.
10234
10235                                     ;WRITE MODE REGISTER = INTERNAL LOOPBACK
10236                                     ;and ENABLE ALL MULTICAST MODE
10237
10238 073114 012705 014602 50$: MOV #WTMODE,R5 ; DEFAULT WRITE MODE FUNCTION
10239 073120 004737 033656 JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
10240 073124 013737 020476 002304 MOV MODE24,PCBB+2 ; MODE = INTL LOOPBACK AND ENAL
10241 073132 012777 004100 107066 MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10242 073140 112777 000102 107066 MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
10243 073146 004737 030706 JSR PC,CHKDNI ; DNI ?
10244 073152 103010 BCC 60$ ; YES
10245 073154 FTL

073154 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

10246 073160 ERRHRD 530.,ERR010,MSG003 ; NO, REPORT ERROR
073160 104456 TRAP C$ERHRD
073162 001022 .WORD 530
073164 025425 .WORD ERR010
073166 024032 .WORD MSG003
10247 073170 ESCAPE TST ; AND ABORT TEST
073170 104410 TRAP C$ESCAPE
073172 002000 .WORD L10055-.

10248
10249 073174 004737 032320 60$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
10250 BCC 70$ ; ERROR ?
10251 073200 103010 FTL ; NO
10252 073202

073202 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

10253 073206 ERRHRD 531.,ERR006,MSG003 ; YES, REPORT ERROR
073206 104456 TRAP C$ERHRD
073210 001023 .WORD 531
073212 025124 .WORD ERR006
073214 024032 .WORD MSG003
10254 073216 ESCAPE TST ; AND ABORT TEST
073216 104410 TRAP C$ESCAPE
073220 001752 .WORD L10055-.

10255
10256                                     ;WRITE RING FORMAT
10257 073222 012705 014542 70$: MOV #WTRNGS,R5 ; DEFAULT WRITE RING FORMAT FUNCTION
10258 073226 004737 033656 JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
10259 073232 012705 014706 MOV #RFRMT,R5 ; DEFAULT RING FORMAT
10260 073236 012700 000006 MOV #6,R0 ; FORMAT = SIX WORDS
10261 073242 004737 034134 JSR PC,LDUDBB ; LOAD RING FORMAT -> UDBB
10262 073246 012777 004100 106752 MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10263 073254 112777 000102 106744 MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
10264 073262 004737 030706 JSR PC,CHKDNI ; DNI ?
10265 073266 103010 BCC 80$ ; YES
10266 073270

073270 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

10267 073274 ERRHRD 532.,ERR010,MSG003 ; NO, REPORT ERROR
073274 104456 TRAP C$ERHRD
  
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073276 001024 .WORD 532
073300 025425 .WORD ERR010
073302 024032 .WORD MSG003
10268 073304 ESCAPE TST ; AND ABORT TEST
073304 104410 TRAP C$ESCAPE
073306 001664 .WORD L10055-.

10269 ;
10270 073310 004737 032320 80$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
10271 ; ERROR ?
10272 073314 103010 BCC 90$ ; NO
10273 073316 FTL

073316 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

10274 073322 ERRHRD 533.,ERR006,MSG003 ; YES, REPORT ERROR
073322 104456 TRAP C$ERHRD
073324 001025 .WORD 533
073326 025124 .WORD ERR006
073330 024032 .WORD MSG003
10275 073332 ESCAPE TST ; AND ABORT TEST
073332 104410 TRAP C$ESCAPE
073334 001636 .WORD L10055-.

10276 ;
10277 ;WRITE PHYSICAL ADDRESS
10278 ;
10279 073336 90$: MOV #DEFAULT,R5 ; POINT TO DEFAULT PHYS. ADDRESS
10280 073336 012705 002274 JSR PC,LDPHYA ; SAVE DEF PHY ADDR IN DEF TABLE
10281 073342 004737 033724 MOV #WTPHYA,R5 ; DEFAULT WRITE PHYSICAL ADDR FUNC
10282 073346 012705 014502 JSR PC,LDPCCBB ; LOAD FUNCTION -> PCBB
10283 073352 004737 033656 MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10284 073356 012777 004100 106642 MOV #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
10285 073364 112777 000102 106634 JSR PC,CHKDNI ; DNI ?
10286 073372 004737 030706 BCC 100$ ; YES
10287 073376 103010 FTL

073400 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

10289 073404 ERRHRD 534.,ERR010,MSG003 ; NO, REPORT ERROR
073404 104456 TRAP C$ERHRD
073406 001026 .WORD 534
073410 025425 .WORD ERR010
073412 024032 .WORD MSG003
10290 073414 ESCAPE TST ; AND ABORT TEST
073414 104410 TRAP C$ESCAPE
073416 001554 .WORD L10055-.

10291 ;
10292 073420 004737 032320 100$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
10293 ; ERROR ?
10294 073424 103010 BCC 102$ ; NO
10295 073426 FTL

073426 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

10296 073432 ERRHRD 535.,ERR006,MSG003 ; YES, REPORT ERROR
073432 104456 TRAP C$ERHRD
073434 001027 .WORD 535

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073436 025124                                .WORD  ERR006
073440 024032                                .WORD  MSG003
10297 073442                                ESCAPE TST                                ; AND ABORT TEST
073442 104410                                TRAP   C$ESCAPE
073444 001526                                .WORD  L10055-.

10298
10299
10300
10301 073446 012705 014522                    102$: MOV    #WTMULA,R5                    ; DEFAULT WRITE MULTICAST ADDR FUNC
10302 073452 004737 033656                    JSR    PC,LDPCBB                          ; LOAD FUNCTION -> PCBB
10303 073456 012705 020076                    MOV    #MULTL,R5                          ; LOAD LIST INTO UDBB
10304 073462 012700 000036                    MOV    #30.,R0                            ; LOAD 30 ENTRIES
10305 073466 004737 034134                    JSR    PC,LDUDBB                          ; MULTICAST LIST -> UDBB
10306 073472 012777 004100 106526            MOV    #DNI!INTE,@PCSR0                  ; ENABLE INTERRUPTS
10307 073500 112777 000102 106520            MOVB  #INTE!GETCMD,@PCSR0                ; ISSUE GET_CMD PORT COMMAND
10308 073506 004737 030706                    JSR    PC,CHKDNI                          ; DNI ?
10309 073512 103010                    BCC   104$                               ; YES
10310 073514                                FTL

073514 004737 031010                    JSR    PC,CHKFTL                          ; 'FATL' BIT SET?

10311 073520                                ERRHRD 536.,ERR010,MSG003                ; NO, REPORT ERROR
073520 104456                                TRAP   C$ERHRD
073522 001030                                .WORD  536
073524 025425                                .WORD  ERR010
073526 024032                                .WORD  MSG003
10312 073530                                ESCAPE TST                                ; AND ABORT TEST
073530 104410                                TRAP   C$ESCAPE
073532 001440                                .WORD  L10055-.

10313
10314 073534 004737 032320                    104$: JSR    PC,CLRDN1                    ; WRITE ONE TO CLEAR DNI
10315
10316 073540 103010                    BCC   106$                               ; ERROR ?
10317 073542                                FTL                                        ; NO

073542 004737 031010                    JSR    PC,CHKFTL                          ; 'FATL' BIT SET?

10318 073546                                ERRHRD 537.,ERR006,MSG003                ; YES, REPORT ERROR
073546 104456                                TRAP   C$ERHRD
073550 001031                                .WORD  537
073552 025124                                .WORD  ERR006
073554 024032                                .WORD  MSG003
10319 073556                                ESCAPE TST                                ; AND ABORT TEST
073556 104410                                TRAP   C$ESCAPE
073560 001412                                .WORD  L10055-.

10320
10321
10322
10323 073562
10324 073562 004737 032272                    ;DO TEN LOOPS WITH DEST ADDR = MULTICAST ADDRESS
10325 073566 012704 000012                    106$: JSR    PC,CLRCV                    ; CLEAR RECEIVE BUFFER
10326 073572 012702 020076                    MOV    #10.,R4                            ; DO LOOP = TEN
10327
10328
10329
10330 073576 012705 016412                    ;SET UP RINGS FOR ONE BUFFER LOOPBACK
10331 073602 004737 034040                    110$: MOV    #TDRB1A,R5                    ; DEFAULT ONE BUFFER TRANSMIT RING
10331 073602 004737 034040                    JSR    PC,LDTDRB                          ; LOAD TDRB

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10332 073606 012705 014752          MOV    #RDRB1A,R5          ; DEFAULT ONE BUFFER RECEIVE RING
10333 073612 004737 033744          JSR    PC,LDRDRB          ; LOAD RDRB
10334
10335          ;SET UP BUFFERS AND START
10336
10337 073616 012701 002266          MOV    #SRC,R1            ; SOURCE = PHYSICAL ADDRESS
10338 073622 004737 035062          JSR    PC,SRCDST          ; DEST = MULTICAST ADDRESS
10339 073626 005037 020564          CLR    D0CRC              ; NO APPEND CRC
10340 073632 012737 000006 020562    MOV    #6,BYTCNT          ; BYTES/PACKET
10341 073640 004737 034662          JSR    PC,SETBUF          ; SET UP BUFFERS
10342 073644 012777 004100 106354    MOV    #DNI!INTE,@PCSRO  ; ENABLE INTERRUPTS
10343 073652 112777 000104 106346    MOVB   #INTE!START,@PCSRO ; ISSUE START PORT COMMAND
10344 073660 004737 030706          JSR    PC,CHKDNI          ; DNI?
10345 073664 103010          BCC    120$               ; YES
10346 073666          FTL
          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
          ERRHRD 540.,ERR012,MSG003 ; NO, REPORT ERROR
          TRAP   C$ERHRD
          .WORD 540
          .WORD ERR012
          .WORD MSG003
10347 073672          104456
          073672 001034
          073674 025543
          073676 024032
          073700          024032
10348 073702          ESCAPE TST                ; AND ABORT TEST
          TRAP   C$ESCAPE
          .WORD L10055-.
          073702 104410
          073704 001266
10349          ;120$:
10350 073706 004737 032320          JSR    PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
10351          ; ERROR ?
10352 073712 103010          BCC    130$               ; NO
10353 073714          FTL
          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
          ERRHRD 541.,ERR006,MSG003 ; YES, REPORT ERROR
          TRAP   C$ERHRD
          .WORD 541
          .WORD ERR006
          .WORD MSG003
10354 073720          104456
          073720 001035
          073722 025124
          073724 024032
          073726          024032
10355 073730          ESCAPE TST                ; AND ABORT TEST
          TRAP   C$ESCAPE
          .WORD L10055-.
          073730 104410
          073732 001240
10356          ;130$:
10357 073734 004737 031724          JSR    PC,CHKTXI          ; TXI ?
10358 073740 103010          BCC    140$               ; YES
10359 073742          FTL
          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
          ERRHRD 542.,ERR013,MSG003 ; NO, REPORT ERROR
          TRAP   C$ERHRD
          .WORD 542
          .WORD ERR013
          .WORD MSG003
10360 073746          104456
          073746 001036
          073750 025624
          073752 024032
          073754          024032
10361 073756          ESCAPE TST                ; AND ABORT TEST
          TRAP   C$ESCAPE
          .WORD L10055-.
          073756 104410
          073760 001212

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10362									
10363	073762	004737	032502	i140\$:	JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI	
10364								; ERROR ?	
10365	073766	103010			BCC	150\$; NO	
10366	073770				FTL				
	073770	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?	
10367	073774				ERRHRD	543.,ERR014,MSG003		; YES, REPORT ERROR	
	073774	104456							TRAP
	073776	001037							.WORD
	074000	025655							.WORD
	074002	024032							.WORD
10368	074004				ESCAPE	TST		; AND ABORT TEST	
	074004	104410							TRAP
	074006	001164							.WORD
10369									C\$ERHRD
10370	074010	012705	002622	i150\$:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP	
10371	074014	004737	031162		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?	
10372	074020	103010			BCC	160\$; YES	
10373	074022				FTL				
	074022	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?	
10374	074026				ERRHRD	544.,ERR018		; NO, REPORT ERROR	
	074026	104456							TRAP
	074030	001040							.WORD
	074032	026122							.WORD
	074034	000000							.WORD
10375	074036				ESCAPE	TST		; AND ABORT TEST	
	074036	104410							TRAP
	074040	001132							.WORD
10376									C\$ERHRD
10377	074042	012705	020266	i160\$:	MOV	#TDR14A,R5		; POINT TO EXPECTED TDRB	
10378	074046	004737	034244		JSR	PC,LDXTR		; LOAD INTO XTDRBO TABLE	
10379	074052	012705	002622		MOV	#TDRB,R5		; CHECK TDRB	
10380	074056	004737	031636		JSR	PC,CHKTDR		; ERRORS ?	
10381	074062	103010			BCC	170\$; NO	
10382	074064				FTL				
	074064	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?	
10383	074070				ERRHRD	545.,ERR020,MSG005		; YES, REPORT ERROR	
	074070	104456							TRAP
	074072	001041							.WORD
	074074	026302							.WORD
	074076	024136							.WORD
10384	074100				ESCAPE	TST		; AND ABORT TEST	
	074100	104410							TRAP
	074102	001070							.WORD
10385									C\$ERHRD
10386	074104	004737	031454	i170\$:	JSR	PC,CHKRXI		; RXI ?	
10387	074110	103010			BCC	180\$; YES	
10388	074112				FTL				
	074112	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?	

10389	074116				ERRHRD 546.,ERR015,MSG003	; NO, REPORT ERROR		
	074116	104456					TRAP	C\$ERHRD
	074120	001042					.WORD	546
	074122	025723					.WORD	ERR015
	074124	024032					.WORD	MSG003
10390	074126				ESCAPE TST	; AND ABORT TEST		
	074126	104410					TRAP	C\$ESCAPE
	074130	001042					.WORD	L10055-.
10391								
10392	074132	004737	032434	i180\$:	JSR PC,CLRRXI	; WRITE ONE TO CLEAR RXI		
10393						; ERROR ?		
10394	074136	103010			BCC 190\$; NO		
10395	074140				FTL			
	074140	004737	031010		JSR PC,CHKFTL	; 'FATL' BIT SET?		
10396	074144				ERRHRD 547.,ERR016,MSG003	; YES, REPORT ERROR		
	074144	104456					TRAP	C\$ERHRD
	074146	001043					.WORD	547
	074150	025754					.WORD	ERR016
	074152	024032					.WORD	MSG003
10397	074154				ESCAPE TST	; AND ABORT TEST		
	074154	104410					TRAP	C\$ESCAPE
	074156	001014					.WORD	L10055-.
10398								
10399	074160	012705	002662	i190\$:	MOV #RDRB,R5	; CHECK RDRB OWNERSHIP		
10400	074164	004737	031162		JSR PC,CHKOWN	; OMN = PORT DRIVER ?		
10401	074170	103010			BCC 200\$; YES		
10402	074172				FTL			
	074172	004737	031010		JSR PC,CHKFTL	; 'FATL' BIT SET?		
10403	074176				ERRHRD 550.,ERR017	; NO, REPORT ERROR		
	074176	104456					TRAP	C\$ERHRD
	074200	001046					.WORD	550
	074202	026022					.WORD	ERR017
	074204	000000					.WORD	0
10404	074206				ESCAPE TST	; AND ABORT TEST		
	074206	104410					TRAP	C\$ESCAPE
	074210	000762					.WORD	L10055-.
10405								
10406	074212	012705	020456	i200\$:	MOV #RDR20C,R5	; POINT TO EXPECTED RDRB		
10407	074216	004737	034214		JSR PC,LDXRDR	; LOAD INTO XRDRBO TABLE		
10408	074222	012705	002662		MOV #RDRB,R5	; CHECK RDRB		
10409	074226	004737	031344		JSR PC,CHKRDR	; ERRORS ?		
10410	074232	103010			BCC 210\$; NO		
10411	074234				FTL			
	074234	004737	031010		JSR PC,CHKFTL	; 'FATL' BIT SET?		
10412	074240				ERRHRD 551.,ERR021,MSG006	; YES, REPORT ERROR		
	074240	104456					TRAP	C\$ERHRD
	074242	001047					.WORD	551
	074244	026363					.WORD	ERR021
	074246	024300					.WORD	MSG006
10413	074250				ESCAPE TST	; AND ABORT TEST		
	074250	104410					TRAP	C\$ESCAPE

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074252 000720                                .WORD  L10055-.
10414
10415      ;COMPARE RBUF WITH TBUF
10416
10417 074254 013705 020562      210$:  MOV    BYTCNT,R5      ; COMPARE DATA
10418 074260 004737 032646      JSR    PC,CMPCDAT      ; DATA COMPARE ERROR ?
10419 074264 103006      BCC    220$            ; NO
10420 074266      ERRHRD 552.,ERR022,MSG007 ; YES, REPORT ERROR
      074266 104456      TRAP  C$ERHRD
      074270 001050      .WORD 552
      074272 026444      .WORD ERR022
      074274 024442      .WORD MSG007
10421 074276      ESCAPE TST      ; AND ABORT TEST
      074276 104410      TRAP  C$ESCAPE
      074300 000672      .WORD L10055-.
10422
10423      ;
10424 074302      220$:  MOV    #RBUF+26.,R5      ; CHECK CRC
10425 074306 012705 010474      JSR    PC,CMPCRC      ; ERRORS ?
10426 074312 004737 032576      BCC    230$            ; NO
10427 074314      ERRHRD 553.,ERR023,MSG008 ; YES, REPORT ERROR
      074314 104456      TRAP  C$ERHRD
      074316 001051      .WORD 553
      074320 026513      .WORD ERR023
      074322 024474      .WORD MSG008
10428 074324      ESCAPE TST      ; AND ABORT TEST
      074324 104410      TRAP  C$ESCAPE
      074326 000644      .WORD L10055-.
10429
10430      ;
10431 074330      230$:  MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10432 074336 012777 004100 105670 ; MOV    #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
10433 074344 112777 000117 105662 ; JSR    PC,CHKDNI      ; DNI ?
10434 074350 004737 030706      BCC    240$            ; YES
10435 074352      FTL
      074352 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?
10436 074356      ERRHRD 554.,ERR019,MSG003 ; NO, REPORT ERROR
      074356 104456      TRAP  C$ERHRD
      074360 001052      .WORD 554
      074362 026222      .WORD ERR019
      074364 024032      .WORD MSG003
10437 074366      ESCAPE TST      ; AND ABORT TEST
      074366 104410      TRAP  C$ESCAPE
      074370 000602      .WORD L10055-.
10438
10439 074372 004737 032320      240$:  JSR    PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
10440      BCC    245$            ; ERROR ?
10441 074376 103010      FTL      ; NO
10442 074400
      074400 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?
10443 074404      ERRHRD 555.,ERR006,MSG003 ; YES, REPORT ERROR
      074404 104456      TRAP  C$ERHRD
      074406 001053      .WORD 555

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D10

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074410 025124
074412 024032
10444 074414 ESCAPE TST ; AND ABORT TEST
074414 104410 TRAP C$ESCAPE
074416 000554 .WORD L10055-.

10445
10446 074420
10447 074420 004737 032272
10448 074424 062702 000006
10449 074430 062703 000004
10450 074434 005304
10451 074436 001402
10452 074440 000137 073576
10453
10454
10455
10456
10457 074444 012704 000012
10458 074450 012702 020172
10459
10460
10461
10462 074454 012705 016412
10463 074460 004737 034040
10464 074464 012705 014752
10465 074470 004737 033744
10466
10467
10468
10469 074474 012701 002266
10470 074500 004737 035062
10471 074504 005037 020564
10472 074510 012737 000006 020562
10473 074516 004737 034662
10474 074522 012777 004100 105476
10475 074530 112777 000104 105470
10476 074536 004737 030706
10477 074542 103010
10478 074544

074544 004737 031010
10479 074550 ERRHRD 556.,ERR012,MSG003 ; NO, REPORT ERROR
074550 104456 TRAP C$ERHRD
074552 001054 .WORD 556
074554 025543 .WORD ERR012
074556 024032 .WORD MSG003
10480 074560 ESCAPE TST ; AND ABORT TEST
074560 104410 TRAP C$ESCAPE
074562 000410 .WORD L10055-.

10481
10482 074564 004737 032320
10483
10484 074570 103010
10485 074572

074572 004737 031010

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245\$:

246\$:

250\$:

260\$:

020562

105476

105470

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10509 074720 012705 020266      300$: MOV      #TDR14A,R5      ; POINT TO EXPECTED TDRB
10510 074724 004737 034244      JSR      PC,LDXTDR      ; LOAD INTO XTDRB0 TABLE
10511 074730 012705 002622      MOV      #TDRB,R5      ; CHECK TDRB
10512 074734 004737 031636      JSR      PC,CHKTDR      ; ERRORS ?
10513 074740 103010                BCC      420$           ; NO
10514 074742                FTL

      074742 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?

10515 074746                ERRHRD   563.,ERR020,MSG005 ; YES, REPORT ERROR
      074746 104456                TRAP    C$ERHRD
      074750 001063                .WORD   563
      074752 026302                .WORD   ERR020
      074754 024136                .WORD   MSG005

10516 074756                ESCAPE   TST            ; AND ABORT TEST
      074756 104410                TRAP    C$ESCAPE
      074760 000212                .WORD   L10055-.

10517                i
10518 074762 004737 034276      420$: JSR      PC,NORXI      ; RXI ?
10519 074766 103010                BCC      480$           ; NO
10520 074770                FTL

      074770 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?

10521 074774                ERRHRD   564.,ERR039,MSG003 ; YES, REPORT ERROR
      074774 104456                TRAP    C$ERHRD
      074776 001064                .WORD   564
      075000 027671                .WORD   ERR039
      075002 024032                .WORD   MSG003

10522 075004                ESCAPE   TST            ; AND ABORT TEST
      075004 104410                TRAP    C$ESCAPE
      075006 000164                .WORD   L10055-.

10523                i
10524 075010                480$: MOV      #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10525 075010 012777 004100 105210  MOVB     #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
10526 075016 112777 000117 105202  JSR      PC,CHKDNI      ; DNI ?
10527 075024 004737 030706      BCC      490$           ; YES
10528 075030 103010                FTL

      075032 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?

10530 075036                ERRHRD   565.,ERR019,MSG003 ; NO, REPORT ERROR
      075036 104456                TRAP    C$ERHRD
      075040 001065                .WORD   565
      075042 026222                .WORD   ERR019
      075044 024032                .WORD   MSG003

10531 075046                ESCAPE   TST            ; AND ABORT TEST
      075046 104410                TRAP    C$ESCAPE
      075050 000122                .WORD   L10055-.

10532                i
10533 075052 004737 032320      490$: JSR      PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
10534                BCC      495$           ; ERROR ?
10535 075056 103010                FTL
10536 075060                JSR      PC,CHKFTL      ; 'FATL' BIT SET?

      075060 004737 031010
  
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G10

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10537 075064          ERRHRD 566.,ERR006,MSG003      ; YES, REPORT ERROR      TRAP   C$ERHRD
      075064 104456          .WORD 566
      075066 001066          .WORD ERR006
      075070 025124          .WORD MSG003
10538 075074          ESCAPE TST                    ; AND ABORT TEST        TRAP   C$ESCAPE
      075074 104410          .WORD L10055-
      075076 000074
10539
10540 075100          ;495$:
10541 075100 004737 032272      JSR    PC,CLRCV          ; CLEAR RECEIVE BUFFER
10542 075104 062702 000006      ADD    #6,R2             ; UPDATE R2
10543 075110 062703 000004      ADD    #4,R3             ; UPDATE R3
10544 075114 005304          DEC    R4                 ; DONE TEN LOOPBACKS ?
10545 075116 001402          BEQ    500$              ; YES
10546 075120 000137 074454      JMP    250$              ; NO
10547
10548 075124          ;500$:
10549
10550 075124          EXIT TST                                TRAP   C$EXIT
      075124 104432          .WORD L10055-
      075126 000044
10551
10552          ;LOCAL TEST MESSAGE
10553
10554 075130          104      105      114      T23ID: .ASCIZ 'DELUA ENABLE ALL MULTICAST MODE '
      075133          125      101      040
      075136          105      116      101
      075141          102      114      105
      075144          040      101      114
      075147          114      040      115
      075152          125      114      124
      075155          111      103      101
      075160          123      124      040
      075163          115      117      104
      075166          105      040      000
10555          .EVEN
10556
10557 075172          ENDTST                                L10055: TRAP   C$ETST
      075172
      075172 104401

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.SBTTL TEST 24: INTERNAL LOOPBACK TRANSMIT LENGTH ERROR TEST

```

*****
:
: THIS TEST VERIFIES THAT, IF THE PORT DRIVER ATTEMPTS TO
: TRANSMIT GREATER THAN 32 BYTE <DTCR = 0>, OR 36 BYTE <DTCR = 1>
: TRANSMIT FRAME, THE DEVICE WILL RETURN A 'TRANSMIT LENGTH' ERROR.
:
: TEST SEQUENCE:
: 1. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM MODE
: 2. WRITE RING FORMAT
: 3. WRITE PHYSICAL ADDRESS
: 4. SET UP RINGS AND BUFFERS
: 5. ISSUE START
: 6. CHECK FOR BUFFER LENGTH ERROR IN TDRB+6
:
*****

```

10578 075174
075174
10579
10580 075174

BGNTST

T24::

PNTMAC T24ID

075174 012704 076552
075200 004737 034610

MOV #T24ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

; END OF MACRO EXPANSION OF 'PNTMAC'

10581 075204 004737 035310
10582 075210 103034
10583 075212 012777 004100 105006
10584 075220 112777 000140 105000
10585 075226 004737 032034
10586 075232 103010
10587 075234

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSR0 ;ENABLE INTERRUPTS
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

075234 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

10588 075240
075240 104456
075242 001067
075244 030105
075246 024032

ERRHRD 567.,ERR042,MSG003 ; NO, REPORT ERROR

;BO
C\$ERRRD
567
ERR042
MSG003

10589 075250
075250 104410
075252 001360

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10056-.

10590
10591 075254 004737 032320
10592
10593 075260 103010
10594 075262

20\$: JSR PC,CLRDN ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 30\$; NO
FTL

075262 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

10595 075266
075266 104456

ERRHRD 570.,ERR006,MSG003 ; YES, REPORT ERROR

TRAP C\$ERRRD

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075270 001072 .WORD 570
075272 025124 .WORD ERR006
075274 024032 .WORD MSG003
10596 075276 ESCAPE TST ; AND ABORT TEST TRAP C$ESCAPE
075276 104410 .WORD L10056-
075300 001332

10597
10598 075302 30$: JSR PC,LDDFLT ; LOAD DEFAULT PHY. ADDRESS TABLES
10599 075302 004737 033606 JSR PC,LDDFLT ; INIT PASS COUNTER
10600 075306 012704 000001 MOV #1,R4
10601 075312 35$: JSR PC,CLRBUF ; CLEAR TBUF AND RBUF
10602 075312 004737 032246 JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2!3
10603 075316 004737 033706 JSR PC,LDPCSR ; ENABLE INTERRUPTS
10604 075322 012777 004100 104676 MOV #DNI!INTE,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
10605 075330 112777 000101 104670 MOV #INTE!GETPCB,@PCSR0 ; DNI?
10606 075336 004737 030706 JSR PC,CHKDNI ; YES
10607 075342 103010 BCC 40$
10608 075344 FTL

075344 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

10609 075350 ERRHRD 571.,ERR009,MSG003 ; NO, REPORT ERROR
075350 104456 TRAP C$ERHRD
075352 001073 .WORD 571
075354 025341 .WORD ERR009
075356 024032 .WORD MSG003
10610 075360 ESCAPE TST ; AND ABORT TEST TRAP C$ESCAPE
075360 104410 .WORD L10056-
075362 001250

10611
10612 075364 004737 032320 40$: JSR PC,CLR DNI ; WRITE ONE TO CLEAR DNI
10613 BCC 50$ ; ERROR ?
10614 075370 103010 FTL ; NO
10615 075372

075372 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

10616 075376 ERRHRD 572.,ERR006,MSG003 ; YES, REPORT ERROR
075376 104456 TRAP C$ERHRD
075400 001074 .WORD 572
075402 025124 .WORD ERR006
075404 024032 .WORD MSG003
10617 075406 ESCAPE TST ; AND ABORT TEST TRAP C$ESCAPE
075406 104410 .WORD L10056-
075410 001222
10618 075412
10619
10620 ;WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
10621 ;IF 2ND PASS SKIP 1ST PASS PCBB SETUP
10622
10623
10624 075412 005304 DEC R4 ;ADJUST PASS COUNT
10625 075414 005704 TST R4 ;1ST PASS
10626 075416 100425 BMI 55$ ;NO, SKIP THIS SETUP
10627 075420 012705 014602 MOV #WTMODE,R5 ; WRITE MODE FUNCTION (NO CRC)
10628 075424 004737 033656 JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
10629 075430 012777 004100 104570 MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS

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J10

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10630 075436 112777 000102 104562      MOVB  #INTE!GETCMD,@PCSR0      ; ISSUE GET_CMD PORT COMMAND
10631 075444 004737 030706      JSR   PC,CHKDNI                ; DNI ?
10632 075450 103035                BCC   60$                      ; YES
10633 075452                FTL

      075452 004737 031010      JSR   PC,CHKFTL                ; 'FATL' BIT SET?
10634 075456                ERRHRD 573.,ERR010,MSG003      ; NO, REPORT ERROR
      075456 104456                TRAP  C$ERHRD
      075460 001075                .WORD 573
      075462 025425                .WORD ERR010
      075464 024032                .WORD MSG003
10635 075466                ESCAPE TST                      ; AND ABORT TEST
      075466 104410                TRAP  C$ESCAPE
      075470 001142                .WORD L10056-.

10636
10637 075472                55$:
10638
10639                ;2ND PASS PCBB SETUP
10640
10641 075472 012705 014622      MOV   #WTMOD2,R5                ;DEFAULT MODE FUNCTION
10642 075476 004737 033656      JSR   PC,LDPBB                 ;LOAD FUNCTION -> PCBB
10643 075502 012777 004100 104516  MOV   #DNI!INTE,@PCSR0         ;ENABLE INTERRUPTS
10644 075510 112777 000102 104510  MOVB  #INTE!GETCMD,@PCSR0     ;ISSUE GET_CMD PORT COMMAND
10645 075516 004737 030706      JSR   PC,CHKDNI                ;DNI?
10646 075522 103010                BCC   60$                      ;YES, SKIP ERROR REPORT
10647 075524                FTL

      075524 004737 031010      JSR   PC,CHKFTL                ; 'FATL' BIT SET?
10648 075530                ERRHRD 574.,ERR010,MSG003      ;NO, REPORT ERROR
      075530 104456                TRAP  C$ERHRD
      075532 001076                .WORD 574
      075534 025425                .WORD ERR010
      075536 024032                .WORD MSG003
10649 075540                ESCAPE TST                      ; AND ABORT TEST
      075540 104410                TRAP  C$ESCAPE
      075542 001070                .WORD L10056-.

10650
10651 075544                ;60$:
10652 075544 004737 032320      JSR   PC,CLRDN                 ;WRITE ONE TO CLEAR DNI
10653                ;ERROR?
10654 075550 103010                BCC   70$                      ; NO
10655 075552                FTL

      075552 004737 031010      JSR   PC,CHKFTL                ; 'FATL' BIT SET?
10656 075556                ERRHRD 575.,ERR006,MSG003      ; YES, REPORT ERROR
      075556 104456                TRAP  C$ERHRD
      075560 001077                .WORD 575
      075562 025124                .WORD ERR006
      075564 024032                .WORD MSG003
10657 075566                ESCAPE TST                      ; AND ABORT TEST
      075566 104410                TRAP  C$ESCAPE
      075570 001042                .WORD L10056-.

10658
10659                ;WRITE RING FORMAT

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10660
10661 075572 012705 014542      70$:  MOV    #WTRNGS,R5      ; DEFAULT WRITE RING FORMAT FUNCTION
10662 075576 004737 033656      JSR    PC,LDPCCBB      ; LOAD FUNCTION -> PCBB
10663 075602 012705 014706      MOV    #RFRMT,R5      ; DEFAULT RING FORMAT
10664 075606 012700 000006      MOV    #6,R0           ; FORMAT = SIX WORDS
10665 075612 004737 034134      JSR    PC,LDUDBB      ; LOAD RING FORMAT -> UDBB
10666 075616 012777 004100      MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10667 075624 112777 000102      MOV    #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
10668 075632 004737 030706      JSR    PC,CHKDNI      ; DNI ?
10669 075636 103010      BCC    80$            ; YES
10670 075640      FTL

      075640 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?

10671 075644      ERRHRD 576.,ERR010,MSG003 ; NO, REPORT ERROR
      075644 104456      TRAP  C$ERHRD
      075646 001100      .WORD 576
      075650 025425      .WORD ERR010
      075652 024032      .WORD MSG003

10672 075654      ESCAPE TST           ; AND ABORT TEST
      075654 104410      TRAP  C$ESCAPE
      075656 000754      .WORD L10056-.

10673
10674 075660 004737 032320      80$:  JSR    PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
10675      BCC    90$            ; ERROR ?
10676 075664 103010      BCC    90$            ; NO
10677 075666      FTL

      075666 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?

10678 075672      ERRHRD 577.,ERR006,MSG003 ; YES, REPORT ERROR
      075672 104456      TRAP  C$ERHRD
      075674 001101      .WORD 577
      075676 025124      .WORD ERR006
      075700 024032      .WORD MSG003

10679 075702      ESCAPE TST           ; AND ABORT TEST
      075702 104410      TRAP  C$ESCAPE
      075704 000726      .WORD L10056-.

10680      ;WRITE PHYSICAL ADDRESS
10681
10682
10683 075706      90$:  MOV    #DFUALT,R5      ; POINT TO DEFAULT PHYS. ADDR
10684 075706 012705 002274      JSR    PC,LDPHYA      ; SAVE IN DEFAULT TABLE
10685 075712 004737 033724      MOV    #WTPHYA,R5     ; DEFAULT WRITE PHYSICAL ADDR FUNC
10686 075716 012705 014502      JSR    PC,LDPCCBB      ; LOAD FUNCTION -> PCBB
10687 075722 004737 033656      JSR    PC,LDUDBB      ; LOAD RING FORMAT -> UDBB
10688 075726 012777 004100      MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10689 075734 112777 000102      MOV    #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
10690 075742 004737 030706      JSR    PC,CHKDNI      ; DNI ?
10691 075746 103010      BCC    100$           ; YES
10692 075750      FTL

      075750 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?

10693 075754      ERRHRD 600.,ERR010,MSG003 ; NO, REPORT ERROR
      075754 104456      TRAP  C$ERHRD
      075756 001130      .WORD 600

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075760 025425
075762 024032
10694 075764          ESCAPE TST          ; AND ABORT TEST          .WORD  ERR010
075764 104410          ;                               .WORD  MSG003
075766 000644          ;                               TRAP   C$ESCAPE
10695          ;                               .WORD  L10056-.
10696 075770 004737 032320 100$: JSR    PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
10697          ;                               ; ERROR ?
10698 075774 103010          BCC    110$          ; NO
10699 075776          FTL
10700          075776 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
ERRHRD 601.,ERR006,MSG003          ; YES, REPORT ERROR
10701 076002          ERRHRD 601.,ERR006,MSG003          ; YES, REPORT ERROR          TRAP   C$ERHRD
076002 104456          .WORD  601
076004 001131          .WORD  ERR006
076006 025124          .WORD  MSG003
10701 076012          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
076012 104410          ;                               .WORD  L10056-.
076014 000616          ;
10702          ;SET UP RINGS FOR ONE BUFFER LOOPBACK
10703
10704
10705 076016 012705 016512 110$: MOV    #TDRB1C,R5          ; DEFAULT ONE BUFFER TRANSMIT RING
10706 076022 004737 034040          JSR    PC,LDTDRB          ; LOAD TDRB
10707 076026 012705 014752          MOV    #RDRB1A,R5          ; DEFAULT ONE BUFFER RECEIVE RING
10708 076032 004737 033744          JSR    PC,LDRDRB          ; LOAD RDRB
10709
10710          ;SET UP BUFFERS AND START
10711
10712          ;IF 1ST PASS WILL LOAD FOR 32 BYTE PACKET, NO CRC
10713
10714 076036 005704          TST    R4          ; 1ST PASS?
10715 076040 100405          BMI    115$          ; NO, SKIP 1ST PASS SETUP
10716 076042 012702 000016          MOV    #14.,R2          ; PACKET SIZE (WORDS), NO CRC TO BE ADDED
10717 076046 005037 020564          CLR    D0CRC          ; NO CRC
10718 076052 000410          BR     117$          ; SKIP 2ND PASS SETUP
10719 076054          115$: MOV    #TDRB1D,R5          ; SETUP BUFFER TRANSMIT RING
10720 076054 012705 016532          JSR    PC,LDTDRB          ; LOAD TDRB
10721 076060 004737 034040          MOV    #14.,R2          ; PACKET SIZE (WORDS) CRC TO BE ADDED
10722 076064 012702 000016          CLR    D0CRC          ; TRANSMITTER TO ADD CRC
10723 076070 005037 020564          117$: JSR    PC,SETBF          ; LOAD HEADER AND DATA
10724 076074          MOV    #DNI!INTE,@PCSR0          ; ENABLE INTERRUPTS
10725 076074 004737 034420          MOVB  #INTE!START,@PCSR0          ; ISSUE START PORT COMMAND
10726 076100 012777 004100 104120          JSR    PC,CHKDNI          ; DNI?
10727 076106 112777 000104 104112          BCC   120$          ; YES
10728 076114 004737 030706          FTL
10729 076120 103010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
10730 076122 004737 031010          ERRHRD 602.,ERR012,MSG003          ; NO, REPORT ERROR
10731 076126          ERRHRD 602.,ERR012,MSG003          ; NO, REPORT ERROR          TRAP   C$ERHRD
076126 104456          .WORD  602
076130 001132          .WORD  ERR012
076132 025543

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10732 076134 024032          ESCAPE TST          ; AND ABORT TEST          .WORD  MSG003
      076136          ;                               TRAP   C$ESCAPE
      076136 104410          ;                               .WORD  L10056-.
      076140 000472

10733          ;120$: JSR    PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
10734 076142 004737 032320          ; ERROR ?
10735          ;                               ; NO
10736 076146 103010          BCC    130$
10737 076150          FTL

      076150 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?

10738 076154          ERRHRD 603.,ERR006,MSG003          ; YES, REPORT ERROR
      076154 104456          ;                               TRAP   C$ERHRD
      076156 001133          ;                               .WORD  603
      076160 025124          ;                               .WORD  ERR006
      076162 024032          ;                               .WORD  MSG003

10739 076164          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
      076164 104410          ;                               .WORD  L10056-.
      076166 000444

10740          ;130$: JSR    PC,CHKTXI          ; TXI ?
10741 076170 004737 031724          ; YES, SKIP ERROR REPORT
      076174 103010          BCC    140$
10743 076176          FTL

      076176 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?

10744 076202          ERRHRD 604.,ERR013,MSG003          ; NO, REPORT ERROR
      076202 104456          ;                               TRAP   C$ERHRD
      076204 001134          ;                               .WORD  604
      076206 025624          ;                               .WORD  ERR013
      076210 024032          ;                               .WORD  MSG003

10745 076212          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
      076212 104410          ;                               .WORD  L10056-.
      076214 000416

10746          ;140$: JSR    PC,CLRTXI          ; WRITE ONE TO CLEAR TXI
10747 076216 004737 032502          ; ERROR ?
10748          ;                               ; NO
10749 076222 103010          BCC    150$
10750 076224          FTL

      076224 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?

10751 076230          ERRHRD 605.,ERR014,MSG003          ; YES, REPORT ERROR
      076230 104456          ;                               TRAP   C$ERHRD
      076232 001135          ;                               .WORD  605
      076234 025655          ;                               .WORD  ERR014
      076236 024032          ;                               .WORD  MSG003

10752 076240          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
      076240 104410          ;                               .WORD  L10056-.
      076242 000370

10753          ;1ST PASS CHECK
10754
10755
10756 076244          ;150$: JSR    PC,CLRCV          ; CLEAR RECEIVE BUFFER
10757 076244 004737 032272          ; 1ST PASS?
      076250 005704          TST    R4

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10759 076252 100436          BMI    165$          ; NO, SKIP 1ST PASS CHECK
10760
10761 076254 012705 020356    MOV    #TDR24A,R5      ; POINT TO EXPECTED TDRB
10762 076260 004737 034244    JSR    PC,LDXTDR       ; LOAD INTO XTDRBO TABLE
10763
10764          ;PERFORM SPECIFIC CHECK THAT 'BUFL' SET IN TDRB+6, THEN
10765          ; CHECK OTHER TDRB PARAMETERS.
10766
10767 076264 013700 002630    MOV    TDRB+6,R0       ; GET CONTENTS OF TDRB+6
10768 076270 005700          TST    R0              ; 'BUFL', BIT15 SET?
10769 076272 100410          BMI    155$          ; YES, SKIP ERROR CHECK
10770 076274
          076274 004737 031010    JSR    PC,CHKFTL       ; 'FATL' BIT SET?
10771 076300          ERRHRD 606.,ERR043     ; REPORT ERROR
          076300 104456          TRAP   C$ERHRD
          076302 001136          .WORD 606
          076304 030157          .WORD ERR043
          076306 000000          .WORD 0
10772 076310          ESCAPE TST            ; AND EXIT TEST
          076310 104410          TRAP   C$ESCAPE
          076312 000320          .WORD L10056-.
10773 076314          155$:
10774 076314 012705 002622    MOV    #TDRB,R5        ; CHECK TDRB
10775 076320 004737 031636    JSR    PC,CHKTDR       ; ERRORS ?
10776 076324 103046          BCC   170$            ; NO
10777 076326
          076326 004737 031010    JSR    PC,CHKFTL       ; 'FATL' BIT SET?
10778 076332          ERRHRD 607.,ERR020,MSG005 ; YES, REPORT ERROR
          076332 104456          TRAP   C$ERHRD
          076334 001137          .WORD 607
          076336 026302          .WORD ERR020
          076340 024136          .WORD MSG005
10779 076342          ESCAPE TST            ; AND ABORT TEST
          076342 104410          TRAP   C$ESCAPE
          076344 000266          .WORD L10056-.
10780 076346 000435          BR    170$            ; SKIP 2ND PASS CHECK
10781
10782          ;2ND PASS CHECK
10783
10784 076350          165$:
10785 076350 012705 020366    MOV    #TDR24B,R5      ;POINT TO EXPECTED TDRB
10786 076354 004737 034244    JSR    PC,LDXTDR       ;LOAD INTO XTDRBO TABLE
10787
10788          ;INSURE THAT 'BUFL' BIT SET IN TDRB+6, THEN CHECK REMAINDER
10789          ; OF TDRB+6.
10790
10791 076360 013700 002630    MOV    TDRB+6,R0       ;GET CONTENTS OF TDRB+6
10792 076364 005700          TST    R0              ;'BUFL', BIT15 SET IN TDRB+6?
10793 076366 100410          BMI    167$          ;YES, SKIP ERROR REPORT
10794 076370
          076370 004737 031010    JSR    PC,CHKFTL       ; 'FATL' BIT SET?

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10795	076374				ERRHRD 610.,ERR044		;NO, REPORT ERROR		
	076374	104456						TRAP	C\$ERHRD
	076376	001142						.WORD	610
	076400	030256						.WORD	ERR044
	076402	000000						.WORD	0
10796	076404				ESCAPE TST		; AND EXIT TEST		
	076404	104410						TRAP	C\$ESCAPE
	076406	000224						.WORD	L10056-.
10797	076410			167\$:					
10798	076410	012705	002622		MOV #TDRB,R5		;CHECK TDRB		
10799	076414	004737	031636		JSR PC,CHKTDR		;ERRORS?		
10800	076420	103010			BCC 170\$;NO		
10801	076422				FTL				
	076422	004737	031010		JSR PC,CHKFTL		; 'FATL' BIT SET?		
10802	076426				ERRHRD 611.,ERR020,MSG005		;YES, REPORT ERROR		
	076426	104456						TRAP	C\$ERHRD
	076430	001143						.WORD	611
	076432	026302						.WORD	ERR020
	076434	024136						.WORD	MSG005
10803	076436				ESCAPE TST		; AND ABORT TEST		
	076436	104410						TRAP	C\$ESCAPE
	076440	000172						.WORD	L10056-.
10804									
10805	076442								
10806	076442	012777	004100	103556	MOV #DNI!INTE,@PCSR0		; ENABLE INTERRUPTS		
10807	076450	112777	000117	103550	MOV #INTE!STOP,@PCSR0		; ISSUE STOP PORT COMMAND		
10808	076456	004737	030706		JSR PC,CHKDNI		; DNI ?		
10809	076462	103010			BCC 180\$; YES		
10810	076464				FTL				
	076464	004737	031010		JSR PC,CHKFTL		; 'FATL' BIT SET?		
10811	076470				ERRHRD 612.,ERR019,MSG003		; NO, REPORT ERROR		
	076470	104456						TRAP	C\$ERHRD
	076472	001144						.WORD	612
	076474	026222						.WORD	ERR019
	076476	024032						.WORD	MSG003
10812	076500				ESCAPE TST		; AND ABORT TEST		
	076500	104410						TRAP	C\$ESCAPE
	076502	000130						.WORD	L10056-.
10813									
10814	076504	004737	032320		JSR PC,CLRDNI		; WRITE ONE TO CLEAR DNI		
10815							; ERROR ?		
10816	076510	103010			BCC 190\$; NO		
10817	076512				FTL				
	076512	004737	031010		JSR PC,CHKFTL		; 'FATL' BIT SET?		
10818	076516				ERRHRD 613.,ERR006,MSG003		; YES, REPORT ERROR		
	076516	104456						TRAP	C\$ERHRD
	076520	001145						.WORD	613
	076522	025124						.WORD	ERR006
	076524	024032						.WORD	MSG003
10819	076526				ESCAPE TST		; AND ABORT TEST		
	076526	104410						TRAP	C\$ESCAPE

C11

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076530 000102                                .WORD L10056-.
10820 076532                                190$:
10821
10822                                ;IF DONE ONLY 1 PASS MUST GO FOR 2ND
10823
10824 076532 004737 032272                    JSR   PC,CLRCV      ;CLEAR RECEIVE BUFFER
10825 076536 005704                            TST   R4            ;2ND PASS?
10826 076540 100402                            BMI   200$         ;YES, EXIT TEST
10827 076542 000137 075312                    JMP   35$         ;NO, DO 2ND PASS
10828 076546                                200$:
10829
10830 076546                                EXIT   TST
10830 076546 104432                                TRAP  C$EXIT
10830 076550 000062                                .WORD L10056-.
10831
10832                                ;LOCAL TEST MESSAGE
10833
10834 076552      104      105      114      T24ID: .ASCIZ 'DELUA INTERNAL LOOPBACK TRANSMIT LENGTH ERROR '
10834 076555      125      101      040
10834 076560      111      116      124
10834 076563      105      122      116
10834 076566      101      114      040
10834 076571      114      117      117
10834 076574      120      102      101
10834 076577      103      113      040
10834 076602      124      122      101
10834 076605      116      123      115
10834 076610      111      124      040
10834 076613      114      105      116
10834 076616      107      124      110
10834 076621      040      105      122
10834 076624      122      117      122
10834 076627      040      000
10835                                .EVEN
10836
10837 076632                                ENDTST
10837 076632                                L10056: TRAP  C$ETST
10837 076632 104401
10838
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10863 076634
076634
10864
10865 076634

076634 012704 100456
076640 004737 034610

10866 076644 004737 035310
10867 076650 103034
10868 076652 012777 004100 103346
10869 076660 112777 000140 103340
10870 076666 004737 032034
10871 076672 103010
10872 076674

076674 004737 031010

10873 076700
076700 104456
076702 001146
076704 030105
076706 024032

10874 076710
076710 104410
076712 001604

10875
10876 076714 004737 032320
10877
10878 076720 103010
10879 076722

076722 004737 031010

.SBTTL TEST 25: SIMULTANEOUS OPERATIONS TEST

```
*****
:
: THIS TEST VERIFIES THAT SIMULTANEOUS OPERATIONS CAN BE PERFORMED,
: AN INTERNAL LOOPBACK WILL BE PERFORMED SIMULTANEOUSLY WITH A READ
: COUNTERS PORT FUNCTION.
:
: TEST SEQUENCE:
: 1. WRITE MODE REGISTER = PROM and INTERNAL LOOPBACK MODE
: 2. WRITE RING FORMAT
: 3. WRITE PHYSICAL ADDRESS
: 4. SET UP RINGS AND BUFFERS
: 5. SET UP READ COUNTERS FUNCTION
: 6. ISSUE START
: 7. ISSUE GET COMMAND PORT COMMAND
: 8. CHECK FOR ERRORS
: 9. ISSUE STOP
:
: *****
```

BGNTST

T25::

PNTMAC T25ID

MOV #T25ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

: END OF MACRO EXPANSION OF 'PNTMAC'

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

JSR PC,CHKFTL ; 'FATL' BIT SET?

ERRHRD 614.,ERR042,MSG003 ; NO, REPORT ERROR

TRAP ;B0
.WORD C\$ERRHRD
.WORD 614
.WORD ERR042
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10057-.

20\$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 30\$; NO
FTL

JSR PC,CHKFTL ; 'FATL' BIT SET?

E11

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10880 076726          ERRHRD  615.,ERR006,MSG003      ; YES, REPORT ERROR
      076726 104456
      076730 001147
      076732 025124
      076734 024032
10881 076736          ESCAPE  TST              ; AND ABORT TEST
      076736 104410
      076740 001556
10882
10883 076742          ; 30$:
10884 076742 004737 032246      JSR      PC,CLRBUF      ; CLEAR TBUF AND RBUF
10885 076746 004737 033606      JSR      PC,LDDFLT     ; LOAD DEFAULT PHY. ADDRESS TABLES
10886 076752 004737 033706      JSR      PC,LDPCSR     ; ADDRESS OF PCBB -> PCSR2!3
10887 076756 012777 004100 103242  MOV      #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10888 076764 112777 000101 103234  MOVB    #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
10889 076772 004737 030706      JSR      PC,CHKDNI    ; DNI?
10890 076776 103010
10891 077000          BCC     40$              ; YES
      FTL
      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
10892 077004          ERRHRD  616.,ERR009,MSG003      ; NO, REPORT ERROR
      077004 104456
      077006 001150
      077010 025341
      077012 024032
10893 077014          ESCAPE  TST              ; AND ABORT TEST
      077014 104410
      077016 001500
10894
10895 077020          ; 40$:
10896
10897 077024 103010          BCC     50$              ; NO
10898 077026          FTL
      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
10899 077032          ERRHRD  617.,ERR006,MSG003      ; YES, REPORT ERROR
      077032 104456
      077034 001151
      077036 025124
      077040 024032
10900 077042          ESCAPE  TST              ; AND ABORT TEST
      077042 104410
      077044 001452
10901
10902          ;WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
10903
10904 077046 012705 014602 50$:  MOV      #WTMODE,R5      ; DEFAULT WRITE MODE FUNCTION
10905 077052 004737 033656      JSR      PC,LDPCCBB    ; LOAD FUNCTION -> PCBB
10906 077056 012777 004100 103142  MOV      #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10907 077064 112777 000102 103134  MOVB    #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
10908 077072 004737 030706      JSR      PC,CHKDNI    ; DNI ?
10909 077076 103010          BCC     60$              ; YES
10910 077100          FTL
      JSR      PC,CHKFTL      ; 'FATL' BIT SET?

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10911 077104          ERRHRD 620.,ERR010,MSG003      ; NO, REPORT ERROR
      077104 104456
      077106 001154
      077110 025425
      077112 024032
      10912 077114          ESCAPE TST                ; AND ABORT TEST
      077114 104410
      077116 001400
      10913
      10914 077120 004737 032320      ;60$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
      10915
      10916 077124 103010
      10917 077126          FTL
      077126 004737 031010          JSR PC,CHKFTL          ; 'FATL' BIT SET?
      10918 077132          ERRHRD 621.,ERR006,MSG003      ; YES, REPORT ERROR
      077132 104456
      077134 001155
      077136 025124
      077140 024032
      10919 077142          ESCAPE TST                ; AND ABORT TEST
      077142 104410
      077144 001352
      10920
      10921          ;WRITE RING FORMAT
      10922 077146 012705 014542      ;70$: MOV #WTRNGS,R5      ; DEFAULT WRITE RING FORMAT FUNCTION
      10923 077152 004737 033656      JSR PC,LDPCBB          ; LOAD FUNCTION -> PCBB
      10924 077156 012705 014736      MOV #RFRMTE,R5        ; DEFAULT RING FORMAT
      10925 077162 012700 000006      MOV #6,R0              ; FORMAT = SIX WORDS
      10926 077166 004737 034134      JSR PC,LDUDBB          ; LOAD RING FORMAT -> UDBB
      10927 077172 012777 004100 103026 MOV #DNI!INTE,@PCSR0    ; ENABLE INTERRUPTS
      10928 077200 112777 000102 103020 MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
      10929 077206 004737 030706      JSR PC,CHKDNI          ; DNI ?
      10930 077212 103010
      10931 077214          FTL
      077214 004737 031010          JSR PC,CHKFTL          ; 'FATL' BIT SET?
      10932 077220          ERRHRD 622.,ERR010,MSG003      ; NO, REPORT ERROR
      077220 104456
      077222 001156
      077224 025425
      077226 024032
      10933 077230          ESCAPE TST                ; AND ABORT TEST
      077230 104410
      077232 001264
      10934
      10935 077234 004737 032320      ;80$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
      10936
      10937 077240 103010
      10938 077242          FTL
      077242 004737 031010          JSR PC,CHKFTL          ; 'FATL' BIT SET?
      10939 077246          ERRHRD 623.,ERR006,MSG003      ; YES, REPORT ERROR
    
```

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TEST 25: SIMULTANEOUS OPERATIONS TEST

SEQ 343

```

077246 104456
077250 001157
077252 025124
077254 024032
10940 077256          ESCAPE TST          ; AND ABORT TEST
077256 104410
077260 001236
10941
10942          ;WRITE PHYSICAL ADDRESS
10943
10944 077262          90$:
10945 077262 012705 002274          MOV      #DEFAULT,R5          ; POINT TO DEFAULT PHYS. ADDRESS
10946 077266 004737 033724          JSR      PC,LDPHYA          ; SAVE IN DEFAULT ADDR TABLE
10947 077272 012705 014502          MOV      #WTPHYA,R5          ; DEFAULT WRITE PHYSICAL ADDR FUNC
10948 077276 004737 033656          JSR      PC,LDP PBB          ; LOAD FUNCTION -> PCBB
10949 077302 012777 004100 102716          MOV      #DNI!INTE,@PCSR0    ; ENABLE INTERRUPTS
10950 077310 112777 000102 102710          MOVB    #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
10951 077316 004737 030706          JSR      PC,CHKDNI          ; DNI ?
10952 077322 103010          BCC     100$                ; YES
10953 077324          FTL
077324 004737 031010          JSR      PC,CHKFTL          ; 'FATL' BIT SET?
10954 077330          ERRHRD 624.,ERR010,MSG003    ; NO, REPORT ERROR
077330 104456
077332 001160
077334 025425
077336 024032
10955 077340          ESCAPE TST          ; AND ABORT TEST
077340 104410
077342 001154
10956
10957 077344 004737 032320          100$: JSR      PC,CLR DNI          ; WRITE ONE TO CLEAR DNI
10958          BCC     110$                ; ERROR ?
10959 077350 103010          BCC     110$                ; NO
10960 077352          FTL
077352 004737 031010          JSR      PC,CHKFTL          ; 'FATL' BIT SET?
10961 077356          ERRHRD 625.,ERR006,MSG003    ; YES, REPORT ERROR
077356 104456
077360 001161
077362 025124
077364 024032
10962 077366          ESCAPE TST          ; AND ABORT TEST
077366 104410
077370 001126
10963
10964          ;SET UP RING BUFFER LOOPBACK
10965
10966 077372 012705 016742          110$: MOV      #TDRBXX,R5          ; DEFAULT BUFFER TRANSMIT RING
10967 077376 004737 034076          JSR      PC,LDTDRX          ; LOAD TDRB
10968 077402 012705 015572          MOV      #RDRBXX,R5          ; DEFAULT BUFFER RECEIVE RING
10969 077406 004737 034002          JSR      PC,LDRDRX          ; LOAD RDRB
10970
10971          ;SET UP BUFFERS
10972

```

```

TRAP  C$ERHRD
.WORD 623
.WORD ERR006
.WORD MSG003

```

```

TRAP  C$ESCAPE
.WORD L10057-.

```

```

TRAP  C$ERHRD
.WORD 624
.WORD ERR010
.WORD MSG003

```

```

TRAP  C$ESCAPE
.WORD L10057-.

```

```

TRAP  C$ERHRD
.WORD 625
.WORD ERR006
.WORD MSG003

```

```

TRAP  C$ESCAPE
.WORD L10057-.

```


H11

```

10973 077412 005037 020564          CLR    DOCRC          ; NO APPEND CRC
10974 077416 012737 000006 020562  MOV    #6,BYTCNT     ; BYTES/PACKET
10975 077424 004737 034662          JSR    PC,SETBUF     ; SET UP BUFFERS
10976
10977          ;SET UP READ COUNTERS FUNCTION
10978
10979 077430 012705 014552          MOV    #RDCNT,R5     ; DEFAULT READ COUNTERS FUNCTION
10980 077434 004737 033656          JSR    PC,LDPCCBB    ; LOAD FUNCTION -> PCBB
10981 077440 005037 002316          CLR    UDBB+4        ; INSURE RECEIVED PACKET COUNTER
10982          ; IS CLEAR
10983
10984          ;CLEAR INTERRUPT BITS
10985
10986 077444 012777 175400 102554     MOV    #CLINTB,@PCSR0 ; CLEAR INTERRUPT BITS
10987
10988          ;
10989          ;ISSUE START
10990 077452 112777 000004 102546     MOVB   #START,@PCSR0 ; ISSUE START PORT COMMAND
10991 077460 004737 030706          JSR    PC,CHKDNI     ; DNI?
10992 077464 103010          BCC    112$         ; YES, SKIP ERROR REPORT
10993 077466          FTL
          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
          ERRHRD 626.,ERR012,MSG003 ; REPORT ERROR
          TRAP   C$ERHRD
          .WORD  626
          .WORD  ERR012
          .WORD  MSG003
10994 077472          ;
          077472 104456
          077474 001162
          077476 025543
          077500 024032
10995 077502          ESCAPE TST          ; AND ABORT TEST
          077502 104410          TRAP   C$ESCAPE
          077504 001012          .WORD  L10057-.
10996
10997 077506          112$:
10998 077506 004737 032320          JSR    PC,CLRDNIE    ; CLEAR DNI
10999 077512 103010          BCC    113$         ; IF DNI CLEARED SKIP ERROR REPORT
11000 077514          FTL
          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
          ERRHRD 627.,ERR006,MSG003 ; ELSE REPORT ERROR
          TRAP   C$ERHRD
          .WORD  627
          .WORD  ERR006
          .WORD  MSG003
11001 077520          ESCAPE TST          ; AND ABORT TEST
          077520 104410          TRAP   C$ESCAPE
          077522 001163          .WORD  L10057-.
          077524 025124
          077526 024032
11002 077530          ;
          077530 104410
          077532 000764
11003          ;
11004          ;ISSUE GET COMMAND FOR READ COUNTERS FUNCTION
11005
11006 077534          113$:
11007 077534 112777 000002 102464     MOVB   #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
11008
11009          ;WAIT FOR DNI BEFORE CONTINUING
11010
11011 077542 004737 030706          JSR    PC,CHKDNI     ; CHECK FOR DNI

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11012	077546	103010		BCC	118\$; SKIP ERROR REPORT IF DNI		
11013	077550			FTL					
	077550	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
11014	077554			ERRHRD	630.,ERR010,MSG003		; REPORT ERROR	TRAP	C\$ERHRD
	077554	104456						.WORD	630
	077556	001166						.WORD	ERR010
	077560	025425						.WORD	MSG003
	077562	024032							
11015	077564			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	077564	104410						.WORD	L10057-.
	077566	000730							
11016	077570					118\$:			
11017	077570	004737	032320	JSR	PC,CLRDN1		; CLEAR DNI		
11018	077574	103010		BCC	125\$; CONTINUE IF OK		
11019	077576			FTL					
	077576	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
11020	077602			ERRHRD	631.,ERR006,MSG003		; ELSE REPORT ERROR	TRAP	C\$ERHRD
	077602	104456						.WORD	631
	077604	001167						.WORD	ERR006
	077606	025124						.WORD	MSG003
	077610	024032							
11021	077612			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	077612	104410						.WORD	L10057-.
	077614	000702							
11022									
11023	077616	152777	000100	102402	125\$:	BISB	#INTE,@PCSR0		; ENABLE INTERRUPTS
11024									
11025	077624	004737	031724	JSR	PC,CHKTXI		; TXI ?		
11026	077630	103010		BCC	140\$; YES		
11027	077632			FTL					
	077632	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
11028	077636			ERRHRD	632.,ERR013,MSG003		; NO, REPORT ERROR	TRAP	C\$ERHRD
	077636	104456						.WORD	632
	077640	001170						.WORD	ERR013
	077642	025624						.WORD	MSG003
	077644	024032							
11029	077646			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	077646	104410						.WORD	L10057-.
	077650	000646							
11030						140\$:			
11031	077652	004737	032502	JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI		
11032							; ERROR ?		
11033	077656	103010		BCC	150\$; NO		
11034	077660			FTL					
	077660	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
11035	077664			ERRHRD	633.,ERR014,MSG003		; YES, REPORT ERROR	TRAP	C\$ERHRD
	077664	104456						.WORD	633
	077666	001171						.WORD	ERR014
	077670	025655							

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11036	077672	024032		ESCAPE TST		; AND ABORT TEST	.WORD	MSG003
	077674	104410					TRAP	C\$ESCAPE
	077676	000620					.WORD	L10057-.
11037								
11038				;CHECK 1ST RING ENTRY				
11039								
11040	077700	012705	003016	150\$: MOV #TDRX,R5		; CHECK TDRB OWNERSHIP		
11041	077704	004737	031162	JSR PC,CHKOWN		; OWN = PORT DRIVER ?		
11042	077710	103010		BCC 160\$; YES		
11043	077712			FTL				
	077712	004737	031010	JSR PC,CHKFTL		; 'FATL' BIT SET?		
11044	077716			ERRHRD 634.,ERR027		; NO, REPORT ERROR		
	077716	104456					TRAP	C\$ERHRD
	077720	001172					.WORD	634
	077722	026634					.WORD	ERR027
	077724	000000					.WORD	0
11045	077726			ESCAPE TST		; AND ABORT TEST		
	077726	104410					TRAP	C\$ESCAPE
	077730	000566					.WORD	L10057-.
11046								
11047	077732	012705	020266	160\$: MOV #TDR14A,R5		; POINT TO EXPECTED TDRB		
11048	077736	004737	034244	JSR PC,LDXTDR		; LOAD INTO XTDRBO TABLE		
11049	077742	012705	003016	MOV #TDRX,R5		; CHECK TDRB		
11050	077746	004737	031636	JSR PC,CHKTDR		; ERRORS ?		
11051	077752	103010		BCC 162\$; NO		
11052	077754			FTL				
	077754	004737	031010	JSR PC,CHKFTL		; 'FATL' BIT SET?		
11053	077760			ERRHRD 635.,ERR033,MSG005		; YES, REPORT ERROR		
	077760	104456					TRAP	C\$ERHRD
	077762	001173					.WORD	635
	077764	027262					.WORD	ERR033
	077766	024136					.WORD	MSG005
11054	077770			ESCAPE TST		; AND ABORT TEST		
	077770	104410					TRAP	C\$ESCAPE
	077772	000524					.WORD	L10057-.
11055								
11056				;CHECK LAST RING ENTRY				
11057								
11058	077774	012705	003322	162\$: MOV #TDRX+196.,R5		; CHECK TDRB OWNERSHIP		
11059	100000	004737	031162	JSR PC,CHKOWN		; OWN = PORT DRIVER ?		
11060	100004	103010		BCC 164\$; YES		
11061	100006			FTL				
	100006	004737	031010	JSR PC,CHKFTL		; 'FATL' BIT SET?		
11062	100012			ERRHRD 636.,ERR028		; NO, REPORT ERROR		
	100012	104456					TRAP	C\$ERHRD
	100014	001174					.WORD	636
	100016	026741					.WORD	ERR028
	100020	000000					.WORD	0
11063	100022			ESCAPE TST		; AND ABORT TEST		
	100022	104410					TRAP	C\$ESCAPE

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100024 000472                                .WORD  L10057-.
11064
11065 100026 012705 020266          164$:  MOV    #TDR14A,R5          ; POINT TO EXPECTED TDRB
11066 100032 004737 034244          JSR    PC,LDXTDR          ; LOAD INTO XTDRBO TABLE
11067 100036 012705 003316          MOV    #TDRX+192.,R5     ; CHECK TDRB
11068 100042 004737 031636          JSR    PC,CHKTDR         ; ERRORS ?
11069 100046 103010          BCC    190$              ; NO
11070 100050          FTL

100050 004737 031010          JSR    PC,CHKFTL         ; 'FATL' BIT SET?
11071 100054          ERRHRD 637.,ERR034,MSG005 ; YES, REPORT ERROR
100054 104456          TRAP  C$ERHRD
100056 001175          .WORD 637
100060 027351          .WORD ERR034
100062 024136          .WORD MSG005
11072 100064          ESCAPE TST              ; AND ABORT TEST
100064 104410          TRAP  C$ESCAPE
100066 000430          .WORD L10057-.

11073          ;CHECK 1ST RING ENTRY
11074
11075
11076 100070 012705 003626          190$:  MOV    #RDRX,R5          ; CHECK RDRB OWNERSHIP
11077 100074 004737 031162          JSR    PC,CHKOWN         ; OWN = PORT DRIVER ?
11078 100100 103010          BCC    200$              ; YES
11079 100102          FTL

100102 004737 031010          JSR    PC,CHKFTL         ; 'FATL' BIT SET?
11080 100106          ERRHRD 640.,ERR030     ; NO, REPORT ERROR
100106 104456          TRAP  C$ERHRD
100110 001200          .WORD 640
100112 027047          .WORD ERR030
100114 000000          .WORD 0
11081 100116          ESCAPE TST              ; AND ABORT TEST
100116 104410          TRAP  C$ESCAPE
100120 000376          .WORD L10057-.

11082          ;
11083 100122 012705 020456          200$:  MOV    #RDR20C,R5         ; POINT TO EXPECTED RDRB
11084 100126 004737 034214          JSR    PC,LDXRDR         ; LOAD INTO XRDRBO TABLE
11085 100132 012705 003626          MOV    #RDRX,R5          ; CHECK RDRB
11086 100136 004737 031344          JSR    PC,CHKRDR         ; ERRORS ?
11087 100142 103010          BCC    202$              ; NO
11088 100144          FTL

100144 004737 031010          JSR    PC,CHKFTL         ; 'FATL' BIT SET?
11089 100150          ERRHRD 641.,ERR036,MSG006 ; YES, REPORT ERROR
100150 104456          TRAP  C$ERHRD
100152 001201          .WORD 641
100154 027441          .WORD ERR036
100156 024300          .WORD MSG006
11090 100160          ESCAPE TST              ; AND ABORT TEST
100160 104410          TRAP  C$ESCAPE
100162 000334          .WORD L10057-.

11091
11092          ;CHECK LAST RING ENTRY

```

11093												
11094	100164	012705	004132	202\$:	MOV	#RDRX+196.,R5						
11095	100170	004737	031162		JSR	PC,CHKOWN						
11096	100174	103010			BCC	204\$						
11097	100176				FTL							
	100176	004737	031010		JSR	PC,CHKFTL						
11098	100202				ERRHRD	642.,ERR031						
	100202	104456								TRAP	C\$ERHRD	
	100204	001202								.WORD	642	
	100206	027154								.WORD	ERR031	
	100210	000000								.WORD	0	
11099	100212				ESCAPE	TST						
	100212	104410										
	100214	000302								TRAP	C\$ESCAPE	
										.WORD	L10057-.	
11100												
11101	100216	012705	020456	204\$:	MOV	#RDR20C,R5						
11102	100222	004737	034214		JSR	PC,LDXRDR						
11103	100226	012705	004126		MOV	#RDRX+192.,R5						
11104	100232	004737	031344		JSR	PC,CHKRDR						
11105	100236	103010			BCC	210\$						
11106	100240				FTL							
	100240	004737	031010		JSR	PC,CHKFTL						
11107	100244				ERRHRD	643.,ERR037,MSG006						
	100244	104456										
	100246	001203								TRAP	C\$ERHRD	
	100250	027527								.WORD	643	
	100252	024300								.WORD	ERR037	
11108	100254				ESCAPE	TST				.WORD	MSG006	
	100254	104410										
	100256	000240								TRAP	C\$ESCAPE	
										.WORD	L10057-.	
11109												
11110												
11111												
11112												
11113	100260	013705	020562	210\$:	MOV	BYTCNT,R5						
11114	100264	004737	032646		JSR	PC,CMPDAT						
11115	100270	103006			BCC	220\$						
11116	100272				ERRHRD	644.,ERR022,MSG007						
	100272	104456										
	100274	001204								TRAP	C\$ERHRD	
	100276	026444								.WORD	644	
	100300	024442								.WORD	ERR022	
11117	100302				ESCAPE	TST				.WORD	MSG007	
	100302	104410										
	100304	000212								TRAP	C\$ESCAPE	
										.WORD	L10057-.	
11118												
11119	100306											
11120	100306	012705	010474	220\$:	MOV	#RBUF+32,R5						
11121	100312	004737	032576		JSR	PC,CMPCRC						
11122	100316	103006			BCC	225\$						
11123	100320				ERRHRD	645.,ERR023,MSG008						
	100320	104456										
	100322	001205								TRAP	C\$ERHRD	
										.WORD	645	

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11204 100520
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11208 100520 005737 002222
11209 100524 001006
11210 100526

100526 012704 023070
100532 004737 034610

.SBTTL TEST 26: EXTERNAL LOOPBACK TEST (REQUIRES INSTALLED LOOPBACK CONN.)

THIS TEST VERIFIES THAT AN EXTERNAL LOOPBACK OPERATION
CAN BE PERFORMED SUCCESSFULLY.
SELECTION OF THIS TEST, AND THE DETERMINATION OF WETHER,
OR NOT, TEST WILL ISSUE A MESSAGE ASKING OPERATOR TO
INSTALL LOOPBACK CONNECTORS IS BASED ON OPERATOR RESPONSES
TO SOFTWARE P-TABLE QUESTIONS.

OPTIONS:

- 1) DEFAULT (DID NOT CHANGE SOFTWARE P-TABLE), OR
ANSWRED NO FOR "RUN EXTERNAL LOOPBACK TEST?".
ACTION: EXTERNAL LOOPBACK TEST WILL BE SKIPPED.
- 2) TEST SELECTED, BUT ANSWERED NO FOR "TO AVOID
MAN. INTERVENTION, INSTALL LOOPBACK NOW", IN
SOFTWARE P-TABLE.
ACTION: IF IN ATTENDED MODE, TEST WILL ASK, ON
FIRST PASS ONLY, TO HAVE LOOPBACK INSTALLED
BEFORE CONTINUING.
IF UAM, WILL ISSUE A MESSAGE, AND SKIP TEST.
- 3) TEST SELECTED, ANSWERED YES FOR "TO AVOID MAN.
INTERVENTION, INSTALL LOOPBACK NOW", IN
SOFTWARE P-TABLE.
ACTION: TEST ASSUMES THAT LOOPBACK HAS BEEN INSTALLED,
AND WILL RUN WITHOUT OPERATOR INTERVENTION
REGARDLESS OF UAM SELECTION.

NOTE: IF AN EXTERNAL LOOPBACK IS NOT INSTALLED, WHEN ATTEMPTING TO
LOOP EXTERNALLY, TEST WILL FAIL.

TEST SEQUENCE:

- 1. WRITE MODE REGISTER = EXTERNAL LOOPBACK, PROM MODE
- 2. WRITE RING FORMAT
- 3. WRITE PHYSICAL ADDRESS
- 4. SET UP RINGS AND BUFFERS
- 5. ISSUE START
- 6. CHECK FOR ERRORS
- 7. ISSUE STOP

BGNTST

T26::

;IS EXTERNAL LOOPBACK OPERATION DESIRED?

TST	EXLOOP	;SELECTED?
BNE	1\$;YES, CONTINUE WITH TEST
PNTMAC	SKIP	;PRINT TEST ID AND REASON FOR SKIP
MOV	#SKIP,R4	;GET POINTER TO TEST NAME MESSAGE
JSR	PC,PNTID	;PRINT TEST NUMBER AND NAME


```

;      END OF MACRO EXPANSION OF 'PNTMAC'
11211 100536      EXIT   TST      ; AND GET OUT OF TEST      TRAP   C$EXIT
      100536 104432      ;                                .WORD  L10060-
      100540 001636
11212
11213 ;*****
11214 ;
11215 ;PRINT TEST NAME
11216 ;IF LOOPBACK ALREADY INSTALLED, SKIP CHECK FOR UNATTENDED MODE
11217
11218 100542      1$:
11219 100542      PNTMAC  T26ID
      100542 012704 102344      MOV   #T26ID,R4      ;GET POINTER TO TEST NAME MESSAGE
      100546 004737 034610      JSR   PC,PNTID      ;PRINT TEST NUMBER AND NAME
;      END OF MACRO EXPANSION OF 'PNTMAC'
11220
11221 100552 005737 002224      TST   LOOPCN      ;LOOPBACK INSTALLED?
11222 100556 001036      BNE   10$      ;YES
11223 ;*****
11224 100560      MANUAL
      100560 104450      BCOMPLETE 5$      ;IF NOT UAM, CONTINUE TEST      TRAP   C$MANI
11225 100562      PNTMAC  SKIP26      ;PRINT TEST ID AND REASON FOR SKIP      BCS   5$
      100562 103406
11226 100564      MOV   #SKIP26,R4      ;GET POINTER TO TEST NAME MESSAGE
      100570 004737 023151      JSR   PC,PNTID      ;PRINT TEST NUMBER AND NAME
;      END OF MACRO EXPANSION OF 'PNTMAC'
11227 100574      EXIT   TST      ; AND GET OUT OF TEST      TRAP   C$EXIT
      100574 104432      ;                                .WORD  L10060-
      100576 001600
11228 100600      5$:
11229 ;NOTIFY OPERATOR TO INSTALL LOOPBACK UNIT, IF FIRST PASS      ;BO
11230
11231
11232 100600 005737 020614      TST   FRSTIM      ;FIRST PASS?      ;BO
11233 100604 001423      BEQ   10$      ;NO, SKIP MESSAGE      ;BO
11234
11235 100606      7$:
11236 100606      PRINTF #MSG1      ;PRINT OPERATOR MESSAGE, AND WAIT
      100606 012746 022572      MOV   #MSG1,-(SP)
      100612 012746 000001      MOV   #1,-(SP)
      100616 010600      MOV   SP,R0
      100620 104417      TRAP  C$PNTF
      100622 062706 000004      ADD   #4,SP
11237
11238 100626      GMANIL MNMSG1,REPLY,0,NO      ;FOR HIS RESPONSE
      100626 104443      ;                                TRAP   C$GMAN
      100630 000404      ;                                BR     10000$
      100632 020624      ;                                .WORD  REPLY
      100634 000120      ;                                .WORD  T$CODE

```

```

100636 022774                                .WORD MMSG1
100640 000000                                .WORD 0
100642
11239
11240
11241 100642                                BNCOMPLETE      7$
100642 103361
11242 100644 022737 000001 020624          CMP      #1,REPLY
11243 100652 001355                                BNE      7$
11244 100654                                10$:
11245 100654 004737 035310          JSR      PC,TINIT
11246 100660 103034                                BCC     30$
11247 100662 012777 004100 101336          MOV     #DNI!INTE,@PCSR0
11248 100670 112777 000140 101330          MOVB  #INTE!RSET,@PCSR0
11249 100676 004737 032034          JSR     PC,CKDNI
11250 100702 103010                                BCC     20$
11251 100704                                FTL
100704 004737 031010          JSR     PC,CHKFTL
11252 100710                                ERRHRD 651.,ERR042,MSG003
100710 104456                                ; 'FATL' BIT SET?
100712 001213                                ; NO, REPORT ERROR
100714 030105                                TRAP   C$ERHRD
100716 024032                                .WORD 651
11253 100720                                ESCAPE TST
100720 104410                                ; AND ABORT TEST
100722 001454                                TRAP   C$ESCAPE
11254
11255 100724 004737 032320          20$: JSR     PC,CLRDN1
11256
11257 100730 103010                                ; WRITE ONE TO CLEAR DNI
11258 100732                                ; ERROR ?
100732 004737 031010          JSR     PC,CHKFTL
100732 004737 031010          ERRHRD 652.,ERR006,MSG003
100736 104456                                ; 'FATL' BIT SET?
100740 001214                                ; YES, REPORT ERROR
100742 025124                                TRAP   C$ERHRD
100744 024032                                .WORD 652
11260 100746                                ESCAPE TST
100746 104410                                ; AND ABORT TEST
100750 001426                                TRAP   C$ESCAPE
11261
11262 100752          30$: JSR     PC,CLRBUF
11263 100752 004737 032246          JSR     PC,LDDFLT
11264 100756 004737 033606          JSR     PC,LDPCSR
11265 100762 004737 033706          MOV     #DNI!INTE,@PCSR0
11266 100766 012777 004100 101232          MOVB  #INTE!GETPCB,@PCSR0
11267 100774 112777 000101 101224          JSR     PC,CHKDNI
11268 101002 004737 030706          BCC     40$
11269 101006 103010                                ; CLEAR XMIT,RECV BUFFERS
11270 101010                                ; LOAD DEFAULT PHY.ADDRESS TABLES
101010 004737 031010          JSR     PC,CHKFTL
101010 004737 031010          ; ADDRESS OF PCBB -> PCSR2!3
101010 004737 031010          ; PRECONDITION INTR EN.
101010 004737 031010          ; ISSUE GET_PCBB PORT COMMAND
101010 004737 031010          ; DNI?
101010 004737 031010          ; YES
101010 004737 031010          ; 'FATL' BIT SET?

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 TEST 26: EXTERNAL LOOPBACK TEST (REQUIRES INSTALLED LOOPBACK C

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11271 101014          ERRHRD  653.,ERR009,MSG003      ; NO, REPORT ERROR
      101014 104456
      101016 001215
      101020 025341
      101022 024032
      11272 101024          ESCAPE  TST              ; AND ABORT TEST
      101024 104410
      101026 001350
      11273 101030 004737 032320          ;40$: JSR      PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
11274 101030 004737 032320          ; ERROR ?
11275 101034 103010          BCC      50$              ; NO
11276 101034 103010          FTL
11277 101036          JSR      PC,CHKFTL          ; 'FATL' BIT SET?
      101036 004737 031010
      11278 101042          ERRHRD  654.,ERR006,MSG003      ; YES, REPORT ERROR
      101042 104456
      101044 001216
      101046 025124
      101050 024032
      11279 101052          ESCAPE  TST              ; AND ABORT TEST
      101052 104410
      101054 001322
      11280 101110          ;WRITE MODE REGISTER = EXTERNAL LOOPBACK AND PROM MODE
11281 101110          ;WRITE MODE REGISTER = EXTERNAL LOOPBACK AND PROM MODE
11282 101110          ;WRITE MODE REGISTER = EXTERNAL LOOPBACK AND PROM MODE
11283 101056 012705 014632          50$: MOV      #WTMOD3,R5          ; DEFAULT WRITE MODE FUNCTION
11284 101062 004737 033656          JSR      PC,LDP CBB        ; LOAD FUNCTION -> PCBB
11285 101066 012777 004100 101132    MOV      #DNI!INTE,@PCSR0  ; PRECONDITION INTR EN.
11286 101074 112777 000102 101124    MOVB    #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
11287 101102 004737 030706          JSR      PC,CHKDNI        ; DNI ?
11288 101106 103010          BCC      60$              ; YES
11289 101110          FTL
      101110 004737 031010          JSR      PC,CHKFTL        ; 'FATL' BIT SET?
      11290 101114          ERRHRD  655.,ERR010,MSG003      ; NO, REPORT ERROR
      101114 104456
      101116 001217
      101120 025425
      101122 024032
      11291 101124          ESCAPE  TST              ; AND ABORT TEST
      101124 104410
      101126 001250
      11292 101130 004737 032320          ;60$: JSR      PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
11293 101130 004737 032320          ; ERROR ?
11294 101134 103010          BCC      70$              ; NO
11295 101134 103010          FTL
11296 101136          JSR      PC,CHKFTL        ; 'FATL' BIT SET?
      101136 004737 031010
      11297 101142          ERRHRD  656.,ERR006,MSG003      ; YES, REPORT ERROR
      101142 104456
      101144 001220
      101146 025124
  
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11298 101150 024032          ESCAPE TST          ; AND ABORT TEST          .WORD  MSG003
      101152          ;                               TRAP    C$ESCAPE
      101152 104410          ;                               .WORD  L10060-.
      101154 001222          ;

11299          ;WRITE RING FORMAT
11300
11301
11302 101156 012705 014542    70$:  MOV    #WTRNGS,R5          ; DEFAULT WRITE RING FORMAT FUNCTION
11303 101162 004737 033656    JSR    PC,LDPCCBB          ; LOAD FUNCTION -> PCBB
11304 101166 012705 014706    MOV    #RFRMT,R5          ; DEFAULT RING FORMAT
11305 101172 012700 000006    MOV    #6,R0              ; FORMAT = SIX WORDS
11306 101176 004737 034134    JSR    PC,LDUDBB          ; LOAD RING FORMAT -> UDBB
11307 101202 012777 004100    101016  MOV    #DNI!INTE,@PCSR0    ; PRECONDITION INTR EN.
11308 101210 112777 000102    101010  MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
11309 101216 004737 030706    JSR    PC,CHKDNI          ; DNI ?
11310 101222 103010          BCC    80$                ; YES
11311 101224          FTL

      101224 004737 031010    JSR    PC,CHKFTL          ; 'FATL' BIT SET?

11312 101230          ERRHRD 657.,ERR010,MSG003    ; NO, REPORT ERROR
      101230 104456          TRAP   C$ERHRD
      101232 001221          .WORD 657
      101234 025425          .WORD ERR010
      101236 024032          .WORD MSG003

11313 101240          ESCAPE TST          ; AND ABORT TEST
      101240 104410          TRAP   C$ESCAPE
      101242 001134          .WORD L10060-.

11314          ;
11315 101244 004737 032320    80$:  JSR    PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
11316          ; ERROR ?
11317 101250 103010          BCC    90$                ; NO
11318 101252          FTL

      101252 004737 031010    JSR    PC,CHKFTL          ; 'FATL' BIT SET?

11319 101256          ERRHRD 658.,ERR006,MSG003    ; YES, REPORT ERROR
      101256 104456          TRAP   C$ERHRD
      101260 001222          .WORD 658
      101262 025124          .WORD ERR006
      101264 024032          .WORD MSG003

11320 101266          ESCAPE TST          ; AND ABORT TEST
      101266 104410          TRAP   C$ESCAPE
      101270 001106          .WORD L10060-.

11321          ;WRITE PHYSICAL ADDRESS
11322
11323
11324 101272          90$:  MOV    #DFALT,R5          ; GET DEFAULT PHYSICAL ADDRESS
11325 101272 012705 002274    JSR    PC,LDPHYA          ; PLACE IT IN DATA TABLE
11326 101276 004737 033724    MOV    #WTPHYA,R5          ; DEFAULT WRITE PHYSICAL ADDR FUNC
11327 101302 012705 014502    JSR    PC,LDPCCBB          ; LOAD FUNCTION -> PCBB
11328 101306 004737 033656    MOV    #DNI!INTE,@PCSR0    ; PRECONDITION INTR EN.
11329 101312 012777 004100    100706  MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
11330 101320 112777 000102    100700  JSR    PC,CHKDNI          ; DNI ?
11331 101326 004737 030706    BCC    100$               ; YES
11332 101332 103010          FTL
11333 101334          FTL

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101334 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
11334 101340          ERRHRD  660.,ERR010,MSG003 ; NO, REPORT ERROR
101340 104456          TRAP   C$ERHRD
101342 001224          .WORD  660
101344 025425          .WORD  ERR010
101346 024032          .WORD  MSG003
11335 101350          ESCAPE  TST              ; AND ABORT TEST
101350 104410          TRAP   C$ESCAPE
101352 001024          .WORD  L10060-.
11336 101354 004737 032320    ;100$: JSR    PC,CLRDNI    ; WRITE ONE TO CLEAR DNI
11337 101354 004737 032320    ;100$:          ; ERROR ?
11338 101354 004737 032320    ;100$:          ; NO
11339 101360 103010          BCC    110$
11340 101362          FTL
101362 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
11341 101366          ERRHRD  661.,ERR006,MSG003 ; YES, REPORT ERROR
101366 104456          TRAP   C$ERHRD
101370 001225          .WORD  661
101372 025124          .WORD  ERR006
101374 024032          .WORD  MSG003
11342 101376          ESCAPE  TST              ; AND ABORT TEST
101376 104410          TRAP   C$ESCAPE
101400 000776          .WORD  L10060-.
11343 101400 000776          ;
11344 101400 000776          ;SET UP RINGS FOR ONE BUFFER LOOPBACK
11345 101400 000776          ;
11346 101402 012705 016412    ;110$: MOV    #TDRB1A,R5    ; DEFAULT ONE BUFFER TRANSMIT RING
11347 101406 004737 034040    ;110$: JSR    PC,LDTDRB    ; LOAD TDRB
11348 101412 012705 014752    ;110$: MOV    #RDRB1A,R5    ; DEFAULT ONE BUFFER RECEIVE RING
11349 101416 004737 033744    ;110$: JSR    PC,LDRDRB    ; LOAD RDRB
11350 101416 004737 033744    ;
11351 101416 004737 033744    ;SET UP BUFFERS AND START
11352 101416 004737 033744    ;
11353 101422 005037 020564    CLR    D0CRC              ; NO APPEND CRC
11354 101426 012737 000006    MOV    #6,BYTCNT          ; DATA BYTE COUNT
11355 101434 004737 034662    JSR    PC,SETBUF          ; SET UP BUFFERS
11356 101434 004737 034662    ;
11357 101434 004737 034662    ;INSURE SOURCE AND DESTINATION ADDRESSES = DEFAULT PHYSICAL ADDRESS
11358 101434 004737 034662    ;
11359 101440 012737 000004    MOV    #4,PCBB            ; READ DEFAULT PHYSICAL ADDRESS
11360 101446 012777 004100    MOV    #DNI!INTE,@PCSRO   ; PRECONDITION INTR ENABLE
11361 101454 112777 000102    MOVB   #INTE!GETCMD,@PCSRO ; ISSUE GET_CMD PORT COMMAND
11362 101462 004737 030706    JSR    PC,CHKDNI          ; DNI?
11363 101466 103010          BCC    112$               ; YES
11364 101470          FTL
101470 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
11365 101474          ERRHRD  662.,ERR012,MSG003 ; NO, REPORT ERROR
101474 104456          TRAP   C$ERHRD
101476 001226          .WORD  662
101500 025543          .WORD  ERR012
101502 024032          .WORD  MSG003

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11366 101504          ESCAPE TST
      101504 104410
      101506 000670
11367 101510          112$:
11368 101510 004737 032320 JSR    PC,CLRDNI      ; CLEAR DNI
11369 101514 103010      BCC    114$
11370 101516 004737 031010 JSR    PC,CHKFTL     ; CHECK FOR FATL BIT SET
11371 101522          ERRHRD 663.,ERR006,MSG003
      101522 104456
      101524 001227
      101526 025124
      101530 024032
11372 101532          ESCAPE TST      ; EXIT TEST
      101532 104410
      101534 000642
11373 101536          114$:
11374
11375          ;LOAD DEFAULT PHYSICAL ADDRESS INTO SOURCE AND DESTINATION ADDRESS
11376
11377 101536 012700 000002      MOV    #2,R0          ; INIT COUNTER
11378 101542 012701 004440      MOV    #TBUF,R1      ; BASE ADDRESS OF XMIT BUFFER
11379 101546          116$:
11380 101546 013721 002304      MOV    PCBB+2,(R1)+  ; READ OUT
11381 101552 013721 002306      MOV    PCBB+4,(R1)+  ;   PHYSICAL
11382 101556 013721 002310      MOV    PCBB+6,(R1)+  ;   ADDRESS
11383 101562 077007          SOB    R0,116$      ; DO TWICE
11384
11385          ;SEND PACKET
11386
11387 101564 012777 004100 100434      MOV    #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
11388 101572 112777 000104 100426      MOVB  #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
11389 101600 004737 030706      JSR    PC,CHKDNI     ; DNI?
11390 101604 103010      BCC    120$          ; YES
11391 101606          FTL
      101606 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?
11392 101612          ERRHRD 664.,ERR012,MSG003 ; NO, REPORT ERROR
      101612 104456
      101614 001230
      101616 025543
      101620 024032
11393 101622          ESCAPE TST      ; AND ABORT TEST
      101622 104410
      101624 000552
11394
11395 101626 004737 032320          120$: JSR    PC,CLRDNI     ; WRITE ONE TO CLEAR DNI
11396
11397 101632 103010      BCC    130$          ; ERROR ?
11398 101634          FTL
      101634 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?
11399 101640          ERRHRD 665.,ERR006,MSG003 ; YES, REPORT ERROR
      101640 104456
      101642 001231
      101644 025124
  
```

```

TRAP .WORD C$ESCAPE L10060-.
TRAP .WORD C$ERHRD 663
      .WORD ERR006
      .WORD MSG003
TRAP .WORD C$ESCAPE L10060-.
TRAP .WORD C$ERHRD 664
      .WORD ERR012
      .WORD MSG003
TRAP .WORD C$ESCAPE L10060-.
TRAP .WORD C$ERHRD 665
      .WORD ERR006
  
```

11400	101646	024032							.WORD	MSG003
	101650			ESCAPE	TST			; AND ABORT TEST	TRAP	C\$ESCAPE
	101650	104410							.WORD	L10060--
	101652	000524								
11401										
11402	101654	004737	031724	i30\$:	JSR	PC,CHKTXI		; TXI ?		
11403	101660	103010			BCC	140\$; YES		
11404	101662				FTL					
	101662	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
11405	101666				ERRHRD	666.,ERR013,MSG003		; NO, REPORT ERROR	TRAP	C\$ERHRD
	101666	104456							.WORD	666
	101670	001232							.WORD	ERR013
	101672	025624							.WORD	MSG003
	101674	024032								
11406	101676				ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	101676	104410							.WORD	L10060--
	101700	000476								
11407										
11408	101702	004737	032502	i40\$:	JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI		
11409								; ERROR ?		
11410	101706	103010			BCC	150\$; NO		
11411	101710				FTL					
	101710	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
11412	101714				ERRHRD	667.,ERR014,MSG003		; YES, REPORT ERROR	TRAP	C\$ERHRD
	101714	104456							.WORD	667
	101716	001233							.WORD	ERR014
	101720	025655							.WORD	MSG003
	101722	024032								
11413	101724				ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	101724	104410							.WORD	L10060--
	101726	000450								
11414										
11415	101730	012705	002622	i50\$:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP		
11416	101734	004737	031162		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?		
11417	101740	103010			BCC	160\$; YES		
11418	101742				FTL					
	101742	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
11419	101746				ERRHRD	668.,ERR018		; NO, REPORT ERROR	TRAP	C\$ERHRD
	101746	104456							.WORD	668
	101750	001234							.WORD	ERR018
	101752	026122							.WORD	0
	101754	000000								
11420	101756				ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	101756	104410							.WORD	L10060--
	101760	000416								
11421										
11422	101762	012705	020266	i60\$:	MOV	#TDR14A,R5		; POINT TO EXPECTED TDRB		
11423	101766	004737	034244		JSR	PC,LDXTDR		; LOAD INTO XTDRBO TABLE		
11424	101772	012705	002622		MOV	#TDRB,R5		; CHECK TDRB		
11425	101776	004737	031636		JSR	PC,CHKTDR		; ERRORS ?		
11426	102002	103010			BCC	170\$; NO		

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11427 102004          FTL
      102004 004737 031010      JSR   PC,CHKFTL          ; 'FATL' BIT SET?
11428 102010          ERRHRD 670.,ERR020,MSG005      ; YES, REPORT ERROR
      102010 104456          TRAP  C$ERHRD
      102012 001236          .WORD 670
      102014 026302          .WORD ERR020
      102016 024136          .WORD MSG005
11429 102020          ESCAPE TST          ; AND ABORT TEST
      102020 104410          TRAP  C$ESCAPE
      102022 000354          .WORD L10060-.
11430
11431 102024 004737 031454      i170$: JSR   PC,CHKRXI          ; RXI ?
11432 102030 103010          BCC   180$              ; YES
11433 102032          FTL
      102032 004737 031010      JSR   PC,CHKFTL          ; 'FATL' BIT SET?
11434 102036          ERRHRD 671.,ERR015,MSG003      ; NO, REPORT ERROR
      102036 104456          TRAP  C$ERHRD
      102040 001237          .WORD 671
      102042 025723          .WORD ERR015
      102044 024032          .WORD MSG003
11435 102046          ESCAPE TST          ; AND ABORT TEST
      102046 104410          TRAP  C$ESCAPE
      102050 000326          .WORD L10060-.
11436
11437 102052 004737 032434      i180$: JSR   PC,CLRRXI          ; WRITE ONE TO CLEAR RXI
11438          BCC   190$              ; ERROR ?
11439 102056 103010          FTL          ; NO
11440 102060          FTL
      102060 004737 031010      JSR   PC,CHKFTL          ; 'FATL' BIT SET?
11441 102064          ERRHRD 672.,ERR016,MSG003      ; YES, REPORT ERROR
      102064 104456          TRAP  C$ERHRD
      102066 001240          .WORD 672
      102070 025754          .WORD ERR016
      102072 024032          .WORD MSG003
11442 102074          ESCAPE TST          ; AND ABORT TEST
      102074 104410          TRAP  C$ESCAPE
      102076 000300          .WORD L10060-.
11443
11444 102100 012705 002662      i190$: MOV   #RDRB,R5          ; CHECK RDRB OWNERSHIP
11445 102104 004737 031162      JSR   PC,CHKOWN          ; OMN = PORT DRIVER ?
11446 102110 103010          BCC   200$              ; YES
11447 102112          FTL
      102112 004737 031010      JSR   PC,CHKFTL          ; 'FATL' BIT SET?
11448 102116          ERRHRD 673.,ERR017      ; NO, REPORT ERROR
      102116 104456          TRAP  C$ERHRD
      102120 001241          .WORD 673
      102122 026022          .WORD ERR017
      102124 000000          .WORD 0
11449 102126          ESCAPE TST          ; AND ABORT TEST
  
```


	102126	104410						TRAP	C\$ESCAPE
	102130	000246						.WORD	L10060-
11450									
11451	102132	012705	020456	200\$:	MOV	#RDR20C,R5			; POINT TO EXPECTED RDRB
11452	102136	004737	034214		JSR	PC,LDXRDR			; LOAD INTO XRDRBO TABLE
11453	102142	012705	002662		MOV	#RDRB,R5			; CHECK RDRB
11454	102146	004737	031344		JSR	PC,CHKRDR			; ERRORS ?
11455	102152	103010			BCC	210\$; NO
11456	102154				FTL				
	102154	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
11457	102160				ERRHRD	674.,ERR021,MSG006			; YES, REPORT ERROR
	102160	104456						TRAP	C\$ERHRD
	102162	001242						.WORD	674
	102164	026363						.WORD	ERR021
	102166	024300						.WORD	MSG006
11458	102170				ESCAPE	TST			; AND ABORT TEST
	102170	104410						TRAP	C\$ESCAPE
	102172	000204						.WORD	L10060-
11459									
11460									
11461									
11462	102174	013705	020562	210\$:	MOV	BYTCNT,R5			; NUMBER OF DATA COMPARES
11463	102200	004737	032646		JSR	PC,CMPDAT			; DATA COMPARE ERROR ?
11464	102204	103006			BCC	220\$; NO
11465	102206				ERRHRD	675.,ERR022,MSG007			; YES, REPORT ERROR
	102206	104456						TRAP	C\$ERHRD
	102210	001243						.WORD	675
	102212	026444						.WORD	ERR022
	102214	024442						.WORD	MSG007
11466	102216				ESCAPE	TST			; AND ABORT TEST
	102216	104410						TRAP	C\$ESCAPE
	102220	000156						.WORD	L10060-
11467									
11468	102222			220\$:					
11469	102222	012705	010474		MOV	#RBUF+32,R5			; BASE ADDRESS
11470									; OFFSET TO CRC
11471	102226	004737	032576		JSR	PC,CMPCRC			; ERRORS ?
11472	102232	103006			BCC	230\$; NO
11473	102234				ERRHRD	676.,ERR023,MSG008			; YES, REPORT ERROR
	102234	104456						TRAP	C\$ERHRD
	102236	001244						.WORD	676
	102240	026513						.WORD	ERR023
	102242	024474						.WORD	MSG008
11474	102244				ESCAPE	TST			; AND ABORT TEST
	102244	104410						TRAP	C\$ESCAPE
	102246	000130						.WORD	L10060-
11475									
11476	102250	012777	004100	077750	230\$:	MOV	#DNI!INTE,@PCSR0		; PRECONDITION INTR EN.
11477	102256	112777	000117	077742	MOVB	#INTE!STOP,@PCSR0			; ISSUE STOP PORT COMMAND
11478	102264	004737	030706		JSR	PC,CHKDNI			; DNI ?
11479	102270	103010			BCC	240\$; YES
11480	102272				FTL				
	102272	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?

```

11481 102276          ERRHRD  677.,ERR019,MSG003      ; NO, REPORT ERROR
      102276 104456
      102300 001245
      102302 026222
      102304 024032
11482 102306          ESCAPE  TST                    ; AND ABORT TEST
      102306 104410
      102310 000066
11483
11484 102312 004737 032320      ;240$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
11485
11486 102316 103010          BCC    250$                ; ERROR ?
11487 102320          FTL
      102320 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
11488 102324          ERRHRD  680.,ERR006,MSG003      ; YES, REPORT ERROR
      102324 104456
      102326 001250
      102330 025124
      102332 024032
11489 102334          ESCAPE  TST                    ; AND ABORT TEST
      102334 104410
      102336 000040
11490 102340          ;250$:
11491
11492 102340          EXIT    TST
      102340 104432
      102342 000034
11493
11494          ;LOCAL TEST MESSAGE
11495
11496 102344          104      105      114      T26ID:..ASCIZ 'DELUA EXTERNAL LOOPBACK '
      102347          125      101      040
      102352          105      130      124
      102355          105      122      116
      102360          101      114      040
      102363          114      117      117
      102366          120      102      101
      102371          103      113      040
      102374          000
11497          .EVEN
11498
11499 102376          ENDTST
      102376
      102376 104401
      L10060: TRAP    C$ETST
  
```

11501
11502
11503
11504
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11507
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11516

.SBTTL TEST 27: PRINT DEVICE PARAMETERS TEST

: THIS TEST PRINTS THE DEFAULT PHYSICAL ADDRESS, THE MICROCODE
: REVISION AND THE SWITCH PACK SETTINGS.
: TEST SEQUENCE:
: 1. READ DEFAULT PHYSICAL ADDRESS
: 2. READ MICROCODE REVISION
: 3. READ SWITCH PACK SETTINGS
: 4. PRINT

11517 102400
102400
11518 102400 005737 020614
11519 102404 001006
11520 102406

BGNTST
TST FRSTIM ; RUN THIS TEST ? T27::
BNE 5\$; YES
PNTMAC T27SKP

102406 012704 103512
102412 004737 034610

MOV #T27SKP,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

: END OF MACRO EXPANSION OF 'PNTMAC'

11521 102416
102416 104432
102420 001136

EXIT TST ; NO, EXIT

TRAP C\$EXIT
.WORD L10061-

11522
11523 102422
11524 102422

5\$:

PNTMAC T27ID

102422 012704 103454
102426 004737 034610

MOV #T27ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

: END OF MACRO EXPANSION OF 'PNTMAC'

11525 102432 004737 035310
11526 102436 103034
11527 102440 012777 004100 077560
11528 102446 112777 000140 077552
11529 102454 004737 032034
11530 102460 103010
11531 102462

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

102462 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

11532 102466
102466 104456
102470 001251
102472 030105
102474 024032

ERRHRD 681.,ERR042,MSG003 ; NO, REPORT ERROR

:B0
TRAP C\$ERHRD
.WORD 681
.WORD ERR042
.WORD MSG003

11533 102476
102476 104410
102500 001056

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10061-

```

11534
11535 102502 004737 032320      ;20$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
11536                               ; ERROR ?
11537 102506 103010             BCC    30$                ; NO
11538 102510                               FTL
                                     JSR    PC,CHKFTL          ; 'FATL' BIT SET?
                                     ERRHRD 682.,ERR006,MSG003 ; YES, REPORT ERROR
11539 102514                               TRAP  C$ERHRD
102514 104456                               .WORD 682
102516 001252                               .WORD ERR006
102520 025124                               .WORD MSG003
102522 024032
11540 102524             ESCAPE TST          ; AND ABORT TEST
102524 104410                               TRAP  C$ESCAPE
102526 001030                               .WORD L10061-.
11541
11542 102530 004737 033706      ;30$: JSR    PC,LDPCSR      ; ADDRESS OF PCBB -> PCSR2!3
11543 102534 012777 004100 077464 MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
11544 102542 112777 000101 077456 MOVB   #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
11545 102550 004737 030706 JSR    PC,CHKDNI          ; DNI?
11546 102554 103010             BCC    40$                ; YES
11547 102556                               FTL
                                     JSR    PC,CHKFTL          ; 'FATL' BIT SET?
                                     ERRHRD 683.,ERR009,MSG003 ; NO, REPORT ERROR
11548 102562                               TRAP  C$ERHRD
102562 104456                               .WORD 683
102564 001253                               .WORD ERR009
102566 025341                               .WORD MSG003
102570 024032
11549 102572             ESCAPE TST          ; AND ABORT TEST
102572 104410                               TRAP  C$ESCAPE
102574 000762                               .WORD L10061-.
11550
11551 102576 004737 032320      ;40$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
11552                               ; ERROR ?
11553 102602 103010             BCC    50$                ; NO
11554 102604                               FTL
                                     JSR    PC,CHKFTL          ; 'FATL' BIT SET?
                                     ERRHRD 684.,ERR006,MSG003 ; YES, REPORT ERROR
11555 102610                               TRAP  C$ERHRD
102610 104456                               .WORD 684
102612 001254                               .WORD ERR006
102614 025124                               .WORD MSG003
102616 024032
11556 102620             ESCAPE TST          ; AND ABORT TEST
102620 104410                               TRAP  C$ESCAPE
102622 000734                               .WORD L10061-.
11557
11558                               ;READ DEFAULT PHYSICAL ADDRESS
11559
11560 102624 012705 014462      50$: MOV    #RDDEFA,R5      ; READ DEFAULT PHYA FUNCTION
11561 102630 004737 033656 JSR    PC,LDPCBB          ; LOAD FUNCTION -> PCBB
11562 102634 012777 004100 077364 MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
11563 102642 112777 000102 077356 MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
    
```

B13

```

11564 102650 004737 030706      JSR    PC,CHKDNI      ; DNI ?
11565 102654 103010              BCC    60$            ; YES
11566 102656              FTL

      102656 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?
11567 102662              ERRHRD 685.,ERR010,MSG003 ; NO, REPORT ERROR
      102662 104456              TRAP  C$ERHRD
      102664 001255              .WORD 685
      102666 025425              .WORD ERR010
      102670 024032              .WORD MSG003
11568 102672              ESCAPE TST           ; AND ABORT TEST
      102672 104410              TRAP  C$ESCAPE
      102674 000662              .WORD L10061-.
11569
11570 102676 004737 032320      ; 60$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
11571              BCC    70$            ; ERROR ?
11572 102702 103010              FTL           ; NO
11573 102704              FTL

      102704 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?
11574 102710              ERRHRD 686.,ERR006,MSG003 ; YES, REPORT ERROR
      102710 104456              TRAP  C$ERHRD
      102712 001256              .WORD 686
      102714 025124              .WORD ERR006
      102716 024032              .WORD MSG003
11575 102720              ESCAPE TST           ; AND ABORT TEST
      102720 104410              TRAP  C$ESCAPE
      102722 000634              .WORD L10061-.
11576
11577              ;MOVE DEFAULT PHYSICAL ADDRESS FROM PCBB -> DPA
11578
11579 102724 013737 002304 103560 70$:  MOV    PCBB+2,DPA
11580 102732 013737 002306 103562      MOV    PCBB+4,DPA+2
11581 102740 013737 002310 103564      MOV    PCBB+6,DPA+4
11582
11583              ;LOAD ASCII MESSAGE (DEFADR)
11584
11585 102746 004737 033112      JSR    PC,HEXDPA      ; CONVERT TO ASCII HEX
11586
11587              ;READ MICROCODE REVISION
11588
11589 102752 012705 014646      100$: MOV    #RDSTA,R5      ; READ PORT STATUS FUNCTION
11590 102756 004737 033656      JSR    PC,LDPCCBB     ; LOAD FUNCTION -> PCBB
11591 102762 012777 004100 077236  MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
11592 102770 112777 000102 077230  MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
11593 102776 004737 030706      JSR    PC,CHKDNI      ; DNI ?
11594 103002 103010              BCC    110$          ; YES
11595 103004              FTL

      103004 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?
11596 103010              ERRHRD 687.,ERR010,MSG003 ; NO, REPORT ERROR
      103010 104456              TRAP  C$ERHRD
      103012 001257              .WORD 587
      103014 025425              .WORD ERR010

```

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 HARDWARE TESTS MACRO V05.03 Friday 28-Mar-86 15:36 Page 114-3
 TEST 27: PRINT DEVICE PARAMETERS TEST

SEQ 365

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11597 103016 024032
      103020          ESCAPE TST          ; AND ABORT TEST          .WORD  MSG003
      103020 104410          ;                               TRAP    C$ESCAPE
      103022 000534          ;                               .WORD  L10061-.

11598
11599 103024 004737 032320  ;110$: JSR    PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
11600          ;                               ; ERROR ?
11601 103030 103010          BCC    120$          ; NO
11602 103032          FTL

      103032 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?

11603 103036          ERRHRD 690.,ERR006,MSG003 ; YES, REPORT ERROR
      103036 104456          ;                               TRAP    C$ERHRD
      103040 001262          ;                               .WORD  690
      103042 025124          ;                               .WORD  ERR006
      103044 024032          ;                               .WORD  MSG003

11604 103046          ESCAPE TST          ; AND ABORT TEST          TRAP    C$ESCAPE
      103046 104410          ;                               .WORD  L10061-.
      103050 000506

11605          ;
11606          ;MOVE MICROCODE REVISION FROM PCBB -> RREV
11607          ;
11608 103052 013737 002304 103566 120$: MOV    PCBB+2,RREV
11609 103060 042737 177700 103566          BIC    #177700,RREV          ; MASK RREV
11610          ;
11611          ;READ SWITCH PACK
11612          ;
11613 103066 012705 014666          130$: MOV    #DMPMEM,R5          ; DEFAULT DUMP INTERNAL MEMORY
11614 103072 004737 033656          JSR    PC,LDPCBB          ; LOAD FUNCTION -> PCBB
11615 103076 012705 020502          MOV    #UDB28A,R5          ; DEFAULT UDBB
11616 103102 012700 000005          MOV    #5,R0              ; FIVE WORDS
11617 103106 004737 034134          JSR    PC,LDUDBB          ; LOAD INTO UDBB
11618 103112 012737 103570 002314          MOV    #SWPACK,UDBB+2     ; LOAD ADDRESS
11619 103120 012737 000002 002320          MOV    #2,UDBB+6         ; LOAD INTERNAL
11620 103126 012737 000030 002322          MOV    #30,UDBB+10       ; ADDRESS (6000002 OCTAL)
11621 103134 012777 004100 077064          MOV    #DNI!INTE,@PCSRO  ; ENABLE INTERRUPTS
11622 103142 112777 000102 077056          MOV    #INTE!GETCMD,@PCSRO ; ISSUE GET COMMAND PORT COMMAND
11623 103150 004737 030706          JSR    PC,CHKDNI          ; DNI ?
11624 103154 103010          BCC    140$          ; YES
11625 103156          FTL

      103156 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?

11626 103162          ERRHRD 691.,ERR010,MSG003 ; NO, REPORT ERROR
      103162 104456          ;                               TRAP    C$ERHRD
      103164 001263          ;                               .WORD  691
      103166 025425          ;                               .WORD  ERR010
      103170 024032          ;                               .WORD  MSG003

11627 103172          ESCAPE TST          ; AND ABORT TEST          TRAP    C$ESCAPE
      103172 104410          ;                               .WORD  L10061-.
      103174 000362

11628
11629 103176 004737 032320  ;140$: JSR    PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
11630          ;                               ; ERROR ?
11631 103202 103010          BCC    150$          ; NO
11632 103204          FTL

```

```

103204 004737 031010          JSR      PC,CHKFTL          ; 'FATL' BIT SET?
11633 103210          ERRHRD  692.,ERR006,MSG003 ; YES, REPORT ERROR
103210 104456          TRAP      C$ERHRD
103212 001264          .WORD    692
103214 025124          .WORD    ERR006
103216 024032          .WORD    MSG003
11634 103220          ESCAPE  TST          ; AND ABORT TEST
103220 104410          TRAP      C$ESCAPE
103222 000334          .WORD    L10061-.
11635
11636          ;GET SWITCH PACK INFO READY TO PRINT
11637
11638 103224 013704 103570 150$:  MOV      SWPACK,R4          ; SWITCH PACK -> R4
11639 103230 005704          TST      R4              ; MFG MODE ENABLED?
11640 103232 100404          BMI     160$            ; YES
11641 103234 012737 103756 103572  MOV     #LPMSG0,LPMMSG ; POINT TO MFG MODE DISABLED MSG ;B0
11642 103242 000403          BR       170$            ; SKIP DISABLED MSG
11643 103244 012737 104033 103572 160$:  MOV     #LPMSG1,LPMMSG ; POINT TO MFG MODE ENABLED MSG ;B0
11644 103252 013704 103570 170$:  MOV     SWPACK,R4          ; SWITCH PACK -> R4
11645 103256 042704 117777          BIC     #117777,R4       ; MASK BITS 14 AND 13
11646 103262 012700 000014          MOV     #12.,R0          ; SHIFT BITS FOR INDEX
11647 103266 006204          180$:  ASR     R4
11648 103270 005300          DEC     R0
11649 103272 001375          BNE     180$
11650 103274 062704 103714          ADD     #BTTBL,R4        ; INDEX INTO BOOT TABLE
11651 103300 011437 103574          MOV     (R4),BTMSG      ; LOAD INTO BOOT MESSAGE
11652
11653          ; PRINT
11654
11655          PRINTB #FRM015,#DEFHDR ; PRINT DEFAULT PHYSICAL ADDRESS
103304 012746 103600          MOV     #DEFHDR,-(SP)
103310 012746 022201          MOV     #FRM015,-(SP)
103314 012746 000002          MOV     #2,-(SP)
103320 010600          MOV     SP,R0
103322 104414          TRAP    C$PNTB
103324 062706 000006          ADD     #6,SP
11656 103330          PRINTB #FRM016,RREV    ; PRINT MICROCODE REV
103330 013746 103566          MOV     RREV,-(SP)
103334 012746 022206          MOV     #FRM016,-(SP)
103340 012746 000002          MOV     #2,-(SP)
103344 010600          MOV     SP,R0
103346 104414          TRAP    C$PNTB
103350 062706 000006          ADD     #6,SP
11657 103354          PRINTB #FRM015,#SWHDR  ; PRINT SWITCH PACK HEADER
103354 012746 103724          MOV     #SWHDR,-(SP)
103360 012746 022201          MOV     #FRM015,-(SP)
103364 012746 000002          MOV     #2,-(SP)
103370 010600          MOV     SP,R0
103372 104414          TRAP    C$PNTB
103374 062706 000006          ADD     #6,SP
11658 103400          PRINTB #FRM015,LPMMSG ; PRINT LOOPBACK MESSAGE
103400 013746 103572          MOV     LPMMSG,-(SP)
103404 012746 022201          MOV     #FRM015,-(SP)
103410 012746 000002          MOV     #2,-(SP)
103414 010600          MOV     SP,R0
    
```

E13

11659	103416	104414							TRAP	C#PNTB
	103420	062706	000006						ADD	#6,SP
	103424			PRINTB	#FRM015,BTMSG					
	103424	013746	103574						MOV	BTMSG,-(SP)
	103430	012746	022201						MOV	#FRM015,-(SP)
	103434	012746	000002						MOV	#2,-(SP)
	103440	010600							MOV	SP,R0
	103442	104414							TRAP	C#PNTB
	103444	062706	000006						ADD	#6,SP
11660										
11661	103450									
11662	103450			EXIT	TST					
	103450	104432							TRAP	C#EXIT
	103452	000104							.WORD	L10061-
11663										
11664										
11665										
11666	103454	104	105	114	T27ID:.ASCIZ 'DELUA PRINT DEVICE PARAMETER '					
	103457	125	101	040						
	103462	120	122	111						
	103465	116	124	040						
	103470	104	105	126						
	103473	111	103	105						
	103476	040	120	101						
	103501	122	101	115						
	103504	105	124	105						
	103507	122	040	000						
11667										
11668	103512	124	110	111	.EVEN	T27SKP:.ASCIZ 'THIS TEST PERFORMED 1ST PASS ONLY '				
	103515	123	040	124						
	103520	105	123	124						
	103523	040	120	105						
	103526	122	106	117						
	103531	122	115	105						
	103534	104	040	061						
	103537	123	124	040						
	103542	120	101	123						
	103545	123	040	117						
	103550	116	114	131						
	103553	040	000							
11669										
11670	103556				.EVEN	ENDTST				
	103556									
	103556	104401							L10061:	TRAP C#ETST


```

11672          ;LOCAL STORAGE FOR TEST 27
11673 103560 000000 DPA:          .WORD 0          ; DEFAULT PHYSICAL ADDRESS (15:00)
11674 103562 000000          .WORD 0          ; DEFAULT PHYSICAL ADDRESS (31:16)
11675 103564 000000          .WORD 0          ; DEFAULT PHYSICAL ADDRESS (47:32)
11676          ;
11677 103566 000000 RREV:          .WORD 0          ; MICROCODE REVISION
11678          ;
11679 103570 000000 SWPACK: .WORD 0          ; SWITCH PACK CONTENTS
11680 103572 000000 LPMSG:  .WORD 0          ; LOOPBACK MESSAGE ADDRESS
11681 103574 000000 BTMSG:  .WORD 0          ; BOOT MESSAGE ADDRESS
11682          ;
11683 103576 000      HEXDAT: .BYTE 0          ; HEX DATA FOR CONVERSION
11684 103577 000      HEXVAL: .BYTE 0          ; ASCII HEX VALUE
11685          ;
11686 103600 015 012 105 DEFHDR: .ASCII <15><12>/ETHERNET DEFAULT ADDRESS (HEX): /
      103603 124 110 105
      103606 122 116 105
      103611 124 040 104
      103614 105 106 101
      103617 125 114 124
      103622 040 101 104
      103625 104 122 105
      103630 123 123 040
      103633 050 110 105
      103636 130 051 072
      103641 040 040
11687 103643 040 040 DEFADR: .ASCII / /
11688 103645 055          .ASCII /-/
11689 103646 040 040          .ASCII / /
11690 103650 055          .ASCII /-/
11691 103651 040 040          .ASCII / /
11692 103653 055          .ASCII /-/
11693 103654 040 040          .ASCII / /
11694 103656 055          .ASCII /-/
11695 103657 040 040          .ASCII / /
11696 103661 055          .ASCII /-/
11697 103662 040 040          .ASCII / /
11698 103664 015 012 000          .ASCIZ <15><12>
11699          ;
11700 103667 060          HEXTBL: .ASCII /0/
11701 103670 061          .ASCII /1/
11702 103671 062          .ASCII /2/
11703 103672 063          .ASCII /3/
11704 103673 064          .ASCII /4/
11705 103674 065          .ASCII /5/
11706 103675 066          .ASCII /6/
11707 103676 067          .ASCII /7/
11708 103677 070          .ASCII /8/
11709 103700 071          .ASCII /9/
11710 103701 101          .ASCII /A/
11711 103702 102          .ASCII /B/
11712 103703 103          .ASCII /C/
11713 103704 104          .ASCII /D/
11714 103705 105          .ASCII /E/
11715 103706 106          .ASCII /F/
11716          .EVEN
11717          ;
    
```

```

11718 ;LOOP MESSAGE TABLE
11719 103710 103756 LPTBL: .WORD LPMSG0
11720 103712 104033 .WORD LPMSG1
11721 ;BOOT MESSAGE TABLE
11722 103714 104107 BTTBL: .WORD BTMSG0
11723 103716 104223 .WORD BTMSG2
11724 103720 104145 .WORD BTMSG1
11725 103722 104107 .WORD BTMSG0
11726 ;ASCII MESSAGES
11727 103724 015 012 123 SWHDR: .ASCII <15><12>/SWITCH PACK SET FOR :/
      103727 127 111 124
      103732 103 110 040
      103735 120 101 103
      103740 113 040 123
      103743 105 124 040
      103746 106 117 122
      103751 040 072
11728 103753 015 012 000 LPMSG0: .ASCII .ASCIZ <15><12>
11729 103756 040 040 040 / SELF TEST MANUFACTURING MODE DISABLED/
      103761 040 040 123
      103764 105 114 106
      103767 040 124 105
      103772 123 124 040
      103775 115 101 116
      104000 125 106 101
      104003 103 124 125
      104006 122 111 116
      104011 107 040 115
      104014 117 104 105
      104017 040 104 111
      104022 123 101 102
      104025 114 105 104
11730 104030 015 012 000 LPMSG1: .ASCII .ASCIZ <15><12>
11731 104033 040 040 040 / SELF TEST MANUFACTURING MODE ENABLED/
      104036 040 040 123
      104041 105 114 106
      104044 040 124 105
      104047 123 124 040
      104052 115 101 116
      104055 125 106 101
      104060 103 124 125
      104063 122 111 116
      104066 107 040 115
      104071 117 104 105
      104074 040 105 116
      104077 101 102 114
      104102 105 104
11732 104104 015 012 000 BTMSG0: .ASCII .ASCIZ <15><12>
11733 104107 040 040 040 / NO REMOTE BOOT ENABLED/
      104112 040 040 116
      104115 117 040 122
      104120 105 115 117
      104123 124 105 040
      104126 102 117 117
      104131 124 040 105
      104134 116 101 102
      104137 114 105 104
    
```

H13

11734	104142	015	012	000	
11735	104145	040	040	040	BTMSG1: .ASCII / .ASCIZ <15><12>
	104150	040	040	122	REMOTE BOOT, WITH SYSTEM LOAD, ENABLED/
	104153	105	115	117	
	104156	124	105	040	
	104161	102	117	117	
	104164	124	054	040	
	104167	127	111	124	
	104172	110	040	123	
	104175	131	123	124	
	104200	105	115	040	
	104203	114	117	101	
	104206	104	054	040	
	104211	105	116	101	
	104214	102	114	105	
	104217	104			
11736	104220	015	012	000	
11737	104223	040	040	040	BTMSG2: .ASCII / .ASCIZ <15><12>
	104226	040	040	122	REMOTE BOOT ENABLED WITH ROM/
	104231	105	115	117	
	104234	124	105	040	
	104237	102	117	117	
	104242	124	040	105	
	104245	116	101	102	
	104250	114	105	104	
	104253	040	127	111	
	104256	124	110	040	
11738	104261	122	117	115	
11739	104264	015	012	000	.ASCIZ <15><12>
					.EVEN

```

11742 .TITLE PARAMETER CODING
11753
11754 .SBTTL HARDWARE PARAMETER CODING SECTION
11773
11774
11775 ;++
11776 ; THE HARDWARE PARAMETER CODING SECTION CONTAINS MACROS
11777 ; THAT ARE USED BY THE SUPERVISOR TO BUILD P-TABLES. THE
11778 ; MACROS ARE NOT EXECUTED AS MACHINE INSTRUCTIONS BUT ARE
11779 ; INTERPRETED BY THE SUPERVISOR AS DATA STRUCTURES. THE
11780 ; MACROS ALLOW THE SUPERVISOR TO ESTABLISH COMMUNICATIONS
11781 ; WITH THE OPERATOR.
11782 ;--
11783
11784 104270 BGNHRD
104270 000010
104272 .WORD L10062-L$HARD/2
L$HARD::
11785
11786 104272 GPRMA ASKCSR,0,0,160000,174610,NO ;FIRST P-TABLE QUESTION ;BO
104272 000021 .WORD T$CODE
104274 104312 .WORD ASKCSR
104276 160000 .WORD T$LOLIM
104300 174610 .WORD T$HILIM
11787
11788
11789 104302 GPRMA ASKVEC,2,0,120,770,NO ;SECOND P-TABLE QUESTION ;BO
104302 001021 .WORD T$CODE
104304 104345 .WORD ASKVEC
104306 000120 .WORD T$LOLIM
104310 000770 .WORD T$HILIM
11790
11791 104312 ENDHRD
L10062: .EVEN
104312
11792
11793 104312 127 110 101 ASKCSR: .ASCIZ /WHAT IS THE PCSRO ADDRESS?/
104315 124 040 111
104320 123 040 124
104323 110 105 040
104326 120 103 123
104331 122 060 040
104334 101 104 104
104337 122 105 123
104342 123 077 000
11794 104345 127 110 101 ASKVEC: .ASCIZ /WHAT IS THE VECTOR ADDRESS?/
104350 124 040 111
104353 123 040 124
104356 110 105 040
104361 126 105 103
104364 124 117 122
104367 040 101 104
104372 104 122 105
104375 123 123 077
104400 000
11795 .EVEN
  
```

J13

```

11797          .SBTTL  SOFTWARE PARAMETER CODING SECTION
11798
11799
11800          ;**
11801          ; THE SOFTWARE PARAMETER CODING SECTION CONTAINS MACROS
11802          ; THAT ARE USED BY THE SUPERVISOR TO BUILD P-TABLES.  THE
11803          ; MACROS ARE NOT EXECUTED AS MACHINE INSTRUCTIONS BUT ARE
11804          ; INTERPRETED BY THE SUPERVISOR AS DATA STRUCTURES.  THE
11805          ; MACROS ALLOW THE SUPERVISOR TO ESTABLISH COMMUNICATIONS
11806          ; WITH THE OPERATOR.
11807          ;
11808          ;NOTE: SEE 'EXTERNAL LOOPBACK TEST' DESCRIPTION FOR OPTIONS.
11809          ;--
11810          104402          BGNSFT
11811          104402          000006
11812          104404          GPRML  ASKEXT,0,1,YES
11813          104404          000130
11814          104406          104420
11815          104410          000001
11816
11817          104412          GPRML  CNLOOP,2,1,YES
11818          104412          001130
11819          104414          104526
11820          104416          000001
11821
11822          .EVEN
11823          ENDSFT
11824
11825          L10063:
11826          L10063: .WORD L10063-L$SOFT/2
11827          L$SOFT::
11828
11829          .WORD  T$CODE
11830          .WORD  ASKEXT
11831          .WORD  1
11832
11833          .WORD  T$CODE
11834          .WORD  CNLOOP
11835          .WORD  1
11836
11837          ASKEXT: .ASCIZ  *RUN EXTERNAL LOOPBACK MODE TEST (REQ. H4080 OR EQUIV. LOOPBACK ? Y/N *
11838
11839          122          125          116
11840          040          105          130
11841          124          105          122
11842          116          101          114
11843          040          114          117
11844          117          120          102
11845          101          103          113
11846          040          115          117
11847          104          105          040
11848          124          105          123
11849          124          040          050
11850          122          105          121
11851          056          040          110
11852          064          060          070
11853          060          040          117
11854          122          040          105
11855          121          125          111
11856          126          056          040
11857          114          117          117
11858          120          102          101
11859          103          113          040
11860          077          040          131
11861          057          116          040

```

```

11822 104525 000
11823 104526 124 117 040 CNLOOP: .ASCIZ *TO AVOID MAN. INTERVENTION INSTALL H4080 OR EQUIV. LOOPBACK NOW? Y/N *
      104531 101 126 117
      104534 111 104 040
      104537 115 101 116
      104542 056 040 111
      104545 116 124 105
      104550 122 126 105
      104553 116 124 111
      104556 117 116 040
      104561 111 116 123
      104564 124 101 114
      104567 114 040 110
      104572 064 060 070
      104575 060 040 117
      104600 122 040 105
      104603 121 125 111
      104606 126 056 040
      104611 114 117 117
      104614 120 102 101
      104617 103 113 040
      104622 116 117 127
      104625 077 040 131
      104630 057 116 040
      104633 000

11824
11825 .EVEN
11826
11827 104634 $PATCH:
11828 104634 .BLKW 20
11829
11830 104674 LASTAD
                                     .EVEN
                                     .WORD 0
                                     .WORD 0

      104674 000000
      104676 000000
      104700
11831 104700 L$LAST:: ENDMOD
11832
11833 000001 .END

```

ADR = 000020 G	CLKFRE 002256	C\$MMU = 000103	ERRBLK 020660 G	EXLOOP 002222
ADR21 020062	CLKSRV 036422 G	C\$MESSG = 000023	ERRMSG 020656 G	E\$END = 002100
ADR21C 020070	CLKTAB 002250	C\$OPNR= 000034	ERRNBR 020654 G	E\$LOAD= 000035
ASKCSR 104312	CLKVEC 002254	C\$OPNW= 000104	ERRS = 040000 G	FATL = 001000 G
ASKEXT 104420	CLRBUF 032246	C\$PNTB= 000014	ERRTYP 020652 G	FATLIB= 000002 G
ASKVEC 104345	CLRCNT 014562	C\$PNTF= 000017	ERR001 024754	FRM001 020754
ASSEMB= 000010	CLRCV 032272	C\$PNTS= 000016	ERR002 025004	FRM002 021011
BIT0 = 000001 G	CLRDNI 032320	C\$PNTX= 000015	ERR003 025042	FRM003 021072
BIT00 = 000001 G	CLRRXI 032434	C\$PUTB= 000072	ERR005 025100	FRM004 021133
BIT01 = 000002 G	CLRSTA 014656	C\$PUTW= 000073	ERR006 025124	FRM005 021173
BIT02 = 000004 G	CLRTXI 032502	C\$QIO = 000377	ERR007 025172	FRM006 021260
BIT03 = 000010 G	CLRXMT 032550	C\$RDBU= 000007	ERR008 025262	FRM007 021345
BIT04 = 000020 G	CMODE1= 175015 G	C\$REFG= 000047	ERR009 025341	FRM008 021432
BIT05 = 000040 G	CMPCRC 032576	C\$REL = 000077	ERR010 025425	FRM009 021517
BIT06 = 000100 G	CMPDAT 032646	C\$RESE= 000033	ERR011 025510	FRM010 021604
BIT07 = 000200 G	CMPMEM 032726	C\$REVI= 000004	ERR012 025543	FRM011 021671
BIT08 = 000400 G	CNLOOP 104526	C\$RFLA= 000021	ERR013 025624	FRM012 021756
BIT09 = 001000 G	CRCH 017622	C\$RPT = 000025	ERR014 025655	FRM013 022043
BIT1 = 000002 G	C\$AU = 000052	C\$SEFG= 000046	ERR015 025723	FRM014 022122
BIT10 = 002000 G	C\$AUTO= 000061	C\$SPRI= 000041	ERR016 025754	FRM015 022201
BIT11 = 004000 G	C\$BRK = 000022	C\$SVEC= 000037	ERR017 026022	FRM016 022206
BIT12 = 010000 G	C\$BSEG= 000004	C\$TOME= 000076	ERR018 026122	FRM017 022257
BIT13 = 020000 G	C\$BSUB= 000002	DEFADR 103643	ERR019 026222	FRM018 022305
BIT14 = 040000 G	C\$CLCK= 000062	DEFHDR 103600	ERR020 026302	FRM019 022341
BIT15 = 100000 G	C\$CLEA= 000012	DELAY 033006	ERR021 026363	FRM020 022375
BIT2 = 000004 G	C\$CLOS= 000035	DELUIA= 000020 G	ERR022 026444	FRM021 022431
BIT3 = 000010 G	C\$CLP1= 000006	DEST 002260	ERR023 026513	FRM022 022465
BIT4 = 000020 G	C\$CPBF= 000074	DEVUNI 023404	ERR024 026540	FRM023 022551
BIT5 = 000040 G	C\$CPME= 000075	DFALT 002274	ERR025 026602	FRSTIM 020614
BIT6 = 000100 G	C\$CVEC= 000036	DFPTBL 002214 G	ERR026 026634	FTLSET 031064
BIT7 = 000200 G	C\$DCLN= 000044	DIAGMC= 000000	ERR027 026634	F\$AU = 000015
BIT8 = 000400 G	C\$DODU= 000051	DMPMEM 014666	ERR028 026741	F\$AUTO= 000020
BIT9 = 001000 G	C\$DRPT= 000024	DNI = 004000 G	ERR029 027047	F\$BGN = 000040
BLKCRC 030644	C\$DU = 000053	DNIB = 000010 G	ERR030 027047	F\$CLEA= 000007
BOE = 000400 G	C\$EDIT= 000000	DNICLR 023671	ERR031 027154	F\$DU = 000016
BTMSG 103574	C\$ERDF= 000055	DNIFLG 020612	ERR032 027262	F\$END = 000041
BTMSG0 104107	C\$ERHR= 000056	DOCRC 020564	ERR033 027262	F\$HARD= 000004
BTMSG1 104145	C\$ERRO= 000060	DPA 103560	ERR034 027351	F\$HW = 000013
BTMSG2 104223	C\$ERSF= 000054	DTYPE = 002540 G	ERR035 027441	F\$INIT= 000006
BTTBL 103714	C\$ERSO= 000057	EAFLAG 020610	ERR036 027441	F\$JMP = 000050
BUFL = 100000 G	C\$ESCA= 000010	ECODE 020602	ERR037 027527	F\$MOD = 000000
BYTCNT 020562	C\$ESEG= 000005	ECRC 020572	ERR038 027616	F\$MESSG = 000011
CHKDNI 030706	C\$ESUB= 000003	ECRCB 020574	ERR039 027671	F\$PROT= 000021
CHKFTL 031010	C\$ETST= 000001	EDAT 020566	ERR040 027772	F\$PWR = 000017
CHKOWN 031162	C\$EXIT= 000032	EF.CON= 000036 G	ERR041 030037	F\$RPT = 000012
CHKRCE 031240	C\$FREQ= 000101	EF.NEW= 000035 G	ERR042 030105	F\$SEG = 000003
CHKRDR 031344	C\$FRME= 000100	EF.PWR= 000034 G	ERR043 030157	F\$SOFT= 000005
CHKRXI 031454	C\$GETB= 000026	EF.RES= 000037 G	ERR044 030256	F\$SRV = 000010
CHKSTR 031556	C\$GETW= 000027	EF.STA= 000040 G	ERR045 030355	F\$SUB = 000002
CHKTDR 031636	C\$GMAN= 000043	END13A= 020062	ERR046 030420	F\$SW = 000014
CHKTXI 031724	C\$GPHR= 000042	ENP = 000400 G	ERR047 030476	F\$TEST= 000001
CKDNI 032034	C\$GPRI= 000040	EPCSR0 020516	ERR048 030565	GETCMD= 000002 G
CLBYTE 032260	C\$INIT= 000011	EPCSR1 020520	ETDRB0 020542	GETCRC 033034
CLINTB= 175400 G	C\$INLP= 000020	ERDRB0 020522	ETDRB2 020544	GETPCB= 000001 G
CLINTR 032402	C\$MANI= 000050	ERDRB2 020524	ETDRB4 020546	GOODST= 000000 G
CLKBR 002252	C\$MAP = 000102	ERDRB4 020526	ETDRB6 020550	G\$CNT0= 000200
CLKCSR 002250	C\$MEM = 000031	ERDRB6 020530	EVL = 000004 G	G\$DELM= 000372

G\$DISP=	000003	J\$JMP =	000167	L\$ICP	002104 G	L10043	046232	O\$BGNS=	000001
G\$EXCP=	000400	LDBUF	033260	L\$INIT	035404 G	L10044	047610	O\$DU =	000001
G\$HILI=	000002	LDBUFC	033322	L\$LADP	002026 G	L10045	051224	O\$ERRT=	000001
G\$LOLI=	000001	LDBUFR	033374	L\$LAST	104700 G	L10046	052326	O\$GNSW=	000001
G\$NO =	000000	LDDEST	033560	L\$LOAD	002100 G	L10047	053740	O\$POIN=	000001
G\$OFFS=	000400	LDDFLT	033606	L\$LUN	002074 G	L10050	055226	O\$SETU=	000000
G\$OFSI=	000376	LDMEM	014676	L\$MREV	002050 G	L10051	057032	PATRN1	020630
G\$PRMA=	000001	LDPCBB	033656	L\$NAME	002000 G	L10052	062510	PCBB	002302
G\$PRMD=	000002	LDPCSR	033706	L\$PRIO	002042 G	L10053	066444	PCEI =	040000 G
G\$PRML=	000000	LDPHYA	033724	L\$PROT	035376 G	L10054	072700	PCEIB =	000100 G
G\$RADA=	000140	LDRDRB	033744	L\$PRT	002112 G	L10055	075172	PCSR0	002226
G\$RADB=	000000	LDRDRX	034002	L\$REPP	002062 G	L10056	076632	PCSR0C	002240
G\$RADD=	000040	LDTDRB	034040	L\$REV	002010 G	L10057	100516	PCSR0U	002236
G\$RADL=	000120	LDTDRX	034076	L\$RPT	035370 G	L10060	102376	PCSR1	002230
G\$RADO=	000020	LDUDBB	034134	L\$SOFT	104404 G	L10061	103556	PCSR2	002232
G\$XFER=	000004	LDXCRC	034170	L\$SPC	002056 G	L10062	104312	PCSR3	002234
G\$YES =	000010	LDXRDR	034214	L\$SPCP	002020 G	L10063	104420	PCTO =	000200 G
HALT =	000016 G	LDXTRD	034244	L\$SPTP	002024 G	MEM10A	017636	PDMD =	000010 G
HELP =	000000	LOE =	040000 G	L\$STA	002030 G	MEM11A	017710	PNOP =	000006 G
HEXDAT	103576	LOPCN	002224	L\$SW	002222 G	MEM13A	017714	PNT =	001000 G
HEXDPA	033112	LOT =	000010 G	L\$TEST	002114 G	METER	020604	PNTID	034610
HEXH	033174	LPMSG	103572	L\$TIML	002014 G	MNMSG1	022774	POLYH	020616
HEXL	033232	LPMSG0	103756	L\$UNIT	002012 G	MODE15	020466	POLYHI=	120001 G
HEXTBL	103667	LPMSG1	104033	L10000	002220	MODE17	020470	POLYL	020620
HEXVAL	103577	LPTBL	103710	L10001	002226	MODE20	020472	PRI =	002000 G
HOE =	100000 G	LSMA	014452	L10002	024002	MODE21	020474	PRILD =	000001 G
IBE =	010000 G	L\$ACP	002110 G	L10003	024030	MODE24	020476	PRI00 =	000000 G
IDU =	000040 G	L\$APT	002036 G	L10004	024062	MODE25	020500	PRI01 =	000040 G
IE =	000100 G	L\$AU	036350 G	L10005	024134	MSG001	023760 G	PRI02 =	000100 G
IER =	020000 G	L\$AUT	002070 G	L10006	024276	MSG002	024004 G	PRI03 =	000140 G
INITH =	000000 G	L\$AUTO	036170 G	L10007	024440	MSG003	024032 G	PRI04 =	000200 G
INTE =	000100 G	L\$CCP	002106 G	L10010	024472	MSG004	024064 G	PRI05 =	000240 G
INTMG1	032156	L\$CLEA	036172 G	L10011	024554	MSG005	024136 G	PRI06 =	000300 G
INTR =	000200 G	L\$CO	002032 G	L10012	024676	MSG006	024300 G	PRI07 =	000340 G
INTVEC	002242	L\$DEPO	002011 G	L10013	024724	MSG007	024442 G	PRNTIT	020622
ISR =	000100 G	L\$DESC	020670 G	L10014	024752	MSG008	024474 G	RBUF	010442
ISRDN1	036366 G	L\$DESP	002076 G	L10015	035374	MSG009	024556 G	RBUF2	011042
ISRNXM	036356 G	L\$DEVP	002060 G	L10017	036166	MSG010	024700 G	RBUF3	011442
IXE =	004000 G	L\$DISP	002124 G	L10020	036170	MSG011	024726 G	RBUF4	012042
I\$AU =	000041	L\$DLY	002116 G	L10021	036340	MSG1	022572	RBUF5	012442
I\$AUTO=	000041	L\$DTP	002040 G	L10022	036346	MSG2	022666	RBUF6	013042
I\$CLN =	000041	L\$DTYP	002034 G	L10023	036354	MULTL	020076	RBUF7	013442
I\$DU =	000041	L\$DU	036342 G	L10024	036364	MULTLC	020172	RBUF8	014042
I\$HRD =	000041	L\$DUT	002072 G	L10025	036420	M68FLD	023276	RCBI =	002000 G
I\$INIT=	000041	L\$DVTY	020662 G	L10026	036434	NEXMEM	020606	RCBIB =	000004 G
I\$MOD =	000041	L\$EF	002052 G	L10027	036612	NIHLT =	000006 G	RDCNT	014552
I\$MSG =	000041	L\$ENVI	002044 G	L10030	036776	NIUNI =	000007 G	RDDEFA	014462
I\$PROT=	000040	L\$ERRT	020652 G	L10031	037222	NIUNIB	023502	RDMODE	014572
I\$PTAB=	000041	L\$ETP	002102 G	L10032	037406	NOCLK	023234	RDMLA	014512
I\$PWR =	000041	L\$EXP1	002046 G	L10033	037572	NOPF	014442	RDPHYA	014472
I\$RPT =	000041	L\$EXP4	002064 G	L10034	040004	NORXI	034276	RDRB	002662
I\$SEG =	000041	L\$EXP5	002066 G	L10035	040216	ONEFIL=	000001	RDRBE	002722
I\$SETU=	000041	L\$HARD	104272 G	L10036	040600	ONES =	177777 G	RDRBXX	015572
I\$SFT =	000041	L\$HIME	002120 G	L10037	042274	OWN =	100000 G	RDRB1A	014752
I\$SRV =	000041	L\$HPCP	002016 G	L10040	042642	O\$APTS=	000000	RDRB1B	015012
I\$SUB =	000041	L\$HPTP	002022 G	L10041	043366	O\$AU =	000001	RDRB2A	015052
I\$TST =	000041	L\$HW	002214 G	L10042	044622	O\$BGNR=	000001	RDRB3A	015112

RDRB4A	015542	SMSG24	041406	TDR18B	020316	T\$\$SOF=	010063	T26ID	102344
RDRB4B	015152	SMSG25	041445	TDR20A	020326	T\$\$SRV=	010026	T27	102400 G
RDRB5A	015412	SMSG26	041504	TDR20B	020336	T\$\$SW =	010001	T27ID	103454
RDRNGS	014532	SMSG27	041551	TDR21X	020346	T\$\$TES=	010061	T27SKP	103512
RDRX	003626	SMSG60	041610	TDR24A	020356	T01ID	036560	T3	037000 G
RDR14B	020376	SRC	002266	TDR24B	020366	T02ID	036744	T4	037224 G
RDR15A	020406	SRC DST	035062	TEND =	010440	T03ID	037176	T5	037410 G
RDR17A	020416	SRWRAM	035132	TIMASK=	000377 G	T04ID	037354	T6	037574 G
RDR17B	020426	START =	000004 G	TIMOFF	035256	T05ID	037540	T7	040006 G
RDR20A	020436	STATEM=	172377 G	TIMON	035272	T06ID	037754	T8	040220 G
RDR20B	020446	STMASK=	140377 G	TINIT	035310	T07ID	040166	T9	041652 G
RDR20C	020456	STMSG	040602	TSTFMT	034644	T08ID	040560	UAM =	000200 G
RDSTA	014646	STOP =	000017 G	TXI =	010000 G	T09ID	042250	UDBB	002312
READY =	000002 G	STP =	001000 G	TXIB =	000020 G	T1	036436 G	UDB10A	017624
REND =	014442	STTBL	040604	T\$ARGC=	000002	T10	042276 G	UDB11A	017676
REPLY	020624	SVCGBL=	000000	T\$CODE=	001130	T10ID	042612	UDB28A	020502
RESET =	000000 G	SVCINS=	000001	T\$ERRN=	001264	T11	042644 G	UNAPRI	002244
RFRMT	014706	SVCSUB=	000001	T\$EXCP=	000000	T11ID	043334	UNDFND	023575
RFRMTE	014736	SVCTAG=	000001	T\$FLAG=	000040	T12	043370 G	UNIHLT=	000005 G
RFRMTX	014722	SVCTST=	000001	T\$GMAN=	000000	T12ID	044560	UNIT	002246
RMTC =	000010 G	SWADDR	020514	T\$HILI=	000770	T13	044624 G	USCI =	000400 G
ROMCRC	034336	SWHDR	103724	T\$LAST=	000001	T13ID	046200	USCIB =	000001 G
RREV	103566	SWPACK	103570	T\$LOLI=	000120	T14	046234 G	WTMODE	014602
RSET =	000040 G	S\$LSYM=	010000	T\$LSYM=	010000	T14ID	047564	WTMOD1	014612
RUN =	000003 G	TBUF	004440	T\$LTND=	000033	T15	047612 G	WTMOD2	014622
RXI =	020000 G	TBUF2	005040	T\$NEST=	177777	T15ID	051174	WTMOD3	014632
RXIB =	000040 G	TBUF3	005440	T\$NSO =	000000	T16	051226 G	WTMOD4	014642
SECOND=	000077 G	TBUF4	006040	T\$NS1 =	000005	T16ID	052274	WTMULA	014522
SERI =	100000 G	TBUF5	006440	T\$PTNU=	000000	T17	052330 G	WTPHYA	014502
SERIB =	000200 G	TBUF6	007040	T\$SAVL=	177777	T17ID	053700	WTRNGS	014542
SETBF	034420	TBUF7	007440	T\$SEGL=	177777	T18	053742 G	XCRC	020576
SETBUF	034662	TBUF8	010040	T\$SEGL=	177777	T18ID	055166	XCRCB	020600
SFPTBL	002222 G	TDRB	002622	T\$SUBN=	000000	T19	055230 G	XDAT	020570
SIZ4K =	020000 G	TDRBXX	016742	T\$TAGL=	177777	T19ID	057004	XRDRB0	020532
SIZ8K =	040000 G	TDRB1A	016412	T\$TAGN=	010064	T2	036614 G	XRDRB2	020534
SKIP	023070	TDRB1B	016452	T\$TEMP=	000000	T20	057034 G	XRDRB4	020536
SKIP26	023151	TDRB1C	016512	T\$TEST=	000033	T20ID	062460	XRDRB6	020540
SLFT =	000003 G	TDRB1D	016532	T\$TSTM=	177777	T21	062512 G	XTDRB0	020552
SMASK =	177770 G	TDRB1E	016552	T\$TSTS=	000001	T21ID	066412	XTDRB2	020554
SMSG00	040746	TDRB2A	016602	T\$\$AU =	010023	T22	066446 G	XTDRB4	020556
SMSG01	040771	TDRB2B	016642	T\$\$AUT=	010020	T22ID	072650	XTDRB6	020560
SMSG10	041061	TDRB3A	016702	T\$\$CLE=	010021	T23	072702 G	X\$ALWA=	000000
SMSG11	041115	TDRB4A	017572	T\$\$DU =	010022	T23ID	075130	X\$FALS=	000040
SMSG13	041144	TDR84A	017572	T\$\$HAR=	010062	T24	075174 G	X\$OFFS=	000400
SMSG20	041223	TDRMSK=	007777 G	T\$\$HW =	010000	T24ID	076552	X\$TRUE=	000020
SMSG21	041262	TDRX	003016	T\$\$INI=	010017	T25	076634 G	ZERO =	000000 G
SMSG22	041321	TDR14A	020266	T\$\$MSG=	010014	T25ID	100456	\$PATCH	104634
SMSG23	041350	TDR15A	020276	T\$\$PRO=	010016	T26	100520 G		
		TDR18A	020306	T\$\$RPT=	010015				

. ABS. 104700 000 (RW,I,GBL,ABS,OVR)
000000 001 (RW,I,LCL,REL,CON)

Errors detected: 0

*** Assembler statistics

Work file reads: 319

B14

PARAMETER CODING
Symbol table

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SEQ 377

Work file writes: 326
Size of work file: 36765 Words (144 Pages)
Size of core pool: 19684 Words (75 Pages)
Operating system: RSX-11M/PLUS (Under VAX/VMS)

Elapsed time: 00:12:08.62
CZUADB,CZUADB/-SP/NL:TOC=SVC40/ML,CZUADB