

DEUNA

FUNCTIONAL DIAG
CZUABAO

AH-T366A-MC
FICHE 1 OF 2

MAY 1983
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The main body of the document is a large grid of approximately 15 columns and 25 rows of small, dense tables. Each individual table within the grid contains technical data, likely related to the functional diagnosis of the AH-T366A-MC component. The text within these tables is too small to be legible, but they appear to be organized into columns with headers and rows of data points.

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IDENTIFICATION

PRODUCT CODE: AC-T365A-MC
PRODUCT NAME: CZUABAO FUNCTIONAL DIAG
PRODUCT DATE: JANUARY 1983
MAINTAINER: DISTRIBUTED SYSTEMS DIAGNOST. ENGINEERING
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1.0 GENERAL INFORMATION

1.1 PROGRAM ABSTRACT

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

THIS DIAGNOSTIC WILL ONLY OPERATE IN A STAND ALONE, OFFLINE ENVIRONMENT USING THE DEUNA OPERATIONAL MICROCODE. FAILURE IDENTIFICATION WILL GENERALLY BE TO THE FAILING DEUNA 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, SLIDE 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 DEUNA FUNCTIONAL TESTING DIAGNOSTIC:

PDP-11 CPU
16K MEMORY
CONSOLE TERMINAL
DEUNA WITH EXTERNAL LOOPBACK CONNECTOR OR TRANSCEIVER CABLE CONNECTED TO COAXIAL CABLE.

1.3 RELATED DOCUMENTS AND STANDARDS

XXDP+ USER'S MANUAL - CHQUS

1.4 DIAGNOSTIC HIERARCHY PREREQUISITES

THE TESTS INCLUDED IN THIS DEUNA FUNCTIONAL TESTING 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.

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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
-------	------	-------	-----	-------

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-----
START      X      X      X      X      X
RESTART    X      X      X      X      X
CONTINUE   X      X      X      X
PROCEED    X
DROP
ADD
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)
PR!	DIRECT MESSAGES TO LINE PRINTER
PNT	PRINT TEST NUMBER A 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 - 177776 OCTAL.

WHAT IS THE VECTOR ADDRESS ?

THIS IS THE INTERRUPT VECTOR ADDRESS FOR THIS DEVICE.
THE ALLOWABLE RANGE IS 000 - 776 OCTAL.

SAMPLE DIALOGUE:

UNIT 0
WHAT IS THE PCSRC ADDRESS? (0) ? 170000
WHAT IS THE VECTOR ADDRESS? (0) ? 700

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 FOLLOWING IS THE ONLY SOFTWARE QUESTION FOR THIS DEVICE:

RUN TEST 20 IN EXTERNAL LOOPBACK MODE ?

THE DEFAULT IS N (NO).
NO, RUNS TEST 20 IN INTERNAL LOOPBACK MODE.
YES, DOES NOT SET INTERNAL LOOPBACK MODE AND THEREFORE
THE PACKET WILL BE LOOPED EXTERNAL.

SAMPLE DIALOGUE:

RUN TEST 20 IN EXTERNAL LOOPBACK MODE ? (L) N ? Y

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

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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) ? 160000<CR>
 SUB-DEVICE # (O) ? 0<CR>
 Q-FACTOR (O) 0 ? 1<CR>

UNIT 2
 CSR ADDRESS (O) ? 160000<CR>
 SUB-DEVICE # (O) ? 1<CR>
 Q-FACTOR (O) 1 ? 0<CR>

UNIT 3
 CSR ADDRESS (O) ? 160000<CR>
 SUB-DEVICE # (O) ? 2<CR>
 Q-FACTOR (O) 0 ? <CR>

UNIT 4
 CSR ADDRESS (O) ? 160000<CR>
 SUB-DEVICE # (O) ? 3<CR>
 Q-FACTOR (O) 0 ? <CR>

UNIT 5
 CSR ADDRESS (O) ? 160000<CR>
 SUB-DEVICE # (O) ? 4<CR>
 Q-FACTOR (O) 0 ? <CR>

UNIT 6
 CSR ADDRESS (O) ? 160000<CR>
 SUB-DEVICE # (O) ? 5<CR>
 Q-FACTOR (O) 0 ? <CR>

UNIT 7
 CSR ADDRESS (O) ? 160000<CR>
 SUB-DEVICE # (O) ? 6<CR>
 Q-FACTOR (O) 0 ? 1<CR>

UNIT 8
 CSR ADDRESS (O) 160000<CR>
 SUB-DEVICE # (O) ? 7<CR>
 Q-FACTOR (O) 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!

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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 (D) ? 8<CR>

UNIT 1
CSR ADDRESS (0) ? 160000<CR>
SUB-DEVICE # (0) ? 0,1<CR>
Q-FACTOR (0) 0 ? 1,0<CR>

UNIT 3
CSR ADDRESS (0) ? 160000<CR>
SUB-DEVICE # (0) ? 2-5<CR>
Q-FACTOR (0) 0 ? 0<CR>

UNIT 7
CSR ADDRESS (0) ? 160000<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 160000 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 160000 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 (0) ? 160000<CR>
SUB-DEVICE # (0) ? 0-7<CR>
Q-FACTOR (0) 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+)

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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 DEUNA FUNCTION.

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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
 DATA COMPARE ERROR IN MODE REGISTER
 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 - DENUA FAILED TO RELINQUISH OWNERSHIP OF RDRB
 TIMEOUT ERROR - DENUA 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
 WRITING ONE TO CLEAR RCBI BIT FAILED
 TIMEOUT ERROR - DENUA FAILED TO RELINQUISH OWNERSHIP OF FIRST TDRB
 TIMEOUT ERROR - DENUA FAILED TO RELINQUISH OWNERSHIP OF SECOND TDRB
 TIMEOUT ERROR - DENUA FAILED TO RELINQUISH OWNERSHIP OF THIRD TDRB
 TIMEOUT ERROR - DENUA FAILED TO RELINQUISH OWNERSHIP OF FIRST RDRB
 TIMEOUT ERROR - DENUA FAILED TO RELINQUISH OWNERSHIP OF SECOND RDRB
 TIMEOUT ERROR - DENUA FAILED TO RELINQUISH OWNERSHIP OF THIRD RDRB
 DATA COMPARE ERROR IN FIRST TRANSMIT DESCRIPTOR RING
 DATA COMPARE ERROR IN SECOND TRANSMIT DESCRIPTOR RING
 DATA COMPARE ERROR IN THIRD TRANSMIT DESCRIPTOR RING
 DATA COMPARE ERROR IN FIRST RECEIVE DESCRIPTOR RING
 DATA COMPARE ERROR IN SECOND RECEIVE DESCRIPTOR RING
 DATA COMPARE ERROR IN THIRD RECEIVE DESCRIPTOR RING
 ERROR - LOOPBACK SUCCESSFUL WITH INVALID DESTINATION ADDRESS
 BUFL BIT FAILED TO SET WHEN ATTEMPTING TO TRANSMIT A RUNT PACKET
 PAD RUNT PACKET FAILURE
 WCS MEMORY DATA COMPARE ERROR
 LINK MEMORY DATA COMPARE ERROR
 DNI BIT FAILED TO SET AFTER READ COUNTERS PORT COMMAND
 DNI BIT FAILED TO SET AFTER SELF TEST PORT COMMAND
 ERROR - LOOPBACK SUCCESSFUL WITH HALF DUPLEX MODE SET
 ERROR - DIAGNOSTIC TYPE PACKET RECEIVED FROM ANOTHER NODE

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.

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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 LOOP DISABLED

 REMOTE BOOT ENABLED

NOTE: THIS INFORMATION MAY BE PRINTED WITHOUT RUNNING THE ENTIRE DIAGNOSTIC IF TEST 28 IS RUN SEPARATELY VIA THE /TESTS:28 SUPERVISOR SWITCH.

6.0 TEST SUMMARIES

TEST 1: PCSRO READ ACCESS TEST

THIS TEST VERIFIES THAT A DEVICE IS PRESENT AT THE PCSRO UNIBUS ADDRESS SPECIFIED.

TEST SEQUENCE:

 1. READ PCSRO

TEST 2: PCSR1 READ ACCESS TEST

THIS TEST VERIFIES THAT A DEVICE IS PRESENT AT THE PCSR1 UNIBUS ADDRESS SPECIFIED.

TEST SEQUENCE:

 1. READ PCSR1

TEST 3: PCSR2 READ ACCESS TEST

THIS TEST VERIFIES THAT A DEVICE IS PRESENT AT THE PCSR2 UNIBUS ADDRESS SPECIFIED.

TEST SEQUENCE:

 1. READ PCSR2

TEST 4: PCSR3 READ ACCESS TEST

THIS TEST VERIFIES THAT A DEVICE IS PRESENT AT THE PCSR3 UNIBUS ADDRESS SPECIFIED.

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TEST SEQUENCE:

1. READ PCSR3

TEST 5: PCSR2 STATIC BIT TEST

THIS TEST CHECKS PCSR2 FOR ALL SA0 AND SA1 ERRORS.
 THE HOST WRITES PATTERNS TO PCSR2 AND READS THEM
 BACK TO VERIFY.

NOTE: PCSR2 BIT00 SHOULD ALWAYS BE A ZERO.
 THIS BIT IS 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

TEST 6: PCSR3 STATIC BIT TEST

THIS TEST CHECKS PCSR3 FOR ALL SA0 AND SA1 ERRORS.
 THE HOST WRITES PATTERNS TO PCSR3 AND READS THEM
 BACK TO VERIFY.

NOTE: PCSR3 BIT02 THRU BIT15 SHOULD ALWAYS BE A ZERO.
 THESE BITS ARE 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

TEST 7: SELF TEST

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

TEST SEQUENCE:

1. ISSUE THE SELF TEST PORT COMMAND
2. WAIT FOR DNI
3. CHECK LITE BITE REGISTER FOR SUCCESSFUL SELF TEST
4. WRITE ONE TO CLEAR DNI

TEST 8: PORT COMMAND TEST

THIS TEST VERIFIES THAT NO ERRORS OCCUR WHEN
 A DEUNA PORT COMMAND IS ISSUED.

TEST SEQUENCE:

1. ISSUE A NOP PORT COMMAND
2. WAIT FOR DNI
3. WRITE ONE TO CLEAR DNI
4. MOVE NOP FUNCTION INTO PCBB
5. ISSUE A GETPCBB PORT COMMAND

6. WAIT FOR DNI
7. WRITE ONE TO CLEAR DNI
8. ISSUE A GETCMD PORT COMMAND
9. WAIT FOR DNI
10. WRITE ONE TO CLEAR DNI

TEST 9: INTERRUPT LOGIC TEST

THIS TEST VERIFIES THAT A DEUNA INTERRUPT CAN BE GENERATED.
TEST SEQUENCE:

1. SET UP THE INTERRUPT VECTOR
2. ISSUE A GET PCBB PORT COMMAND
3. WAIT FOR A DNI INTERRUPT
4. WRITE ONE TO CLEAR DNI

TEST 10: 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

TEST 11: READ/WRITE INTERNAL WCS TEST

THIS TEST READS AND WRITES THE INTERNAL WCS MEMORY.
THE DUMP/LOAD INTERNAL MEMORY FUNCTIONS ARE USED TO
READ/WRITE THE RESERVED DOWNLINE LOAD PORTION OF THE WCS MEMORY.
THE TOP 1K OF WCS.
TEST SEQUENCE:

1. LOAD TBUF WITH DATA = ADDRESS
2. LOAD TOP 1K OF INTERNAL WCS MEMORY WITH TBUF
3. RESETUP TBUF FOR DATA COMPARE
4. CLEAR RBUF
5. DUMP INTERNAL WCS MEMORY -> RBUF
6. COMPARE RBUF WITH TBUF
7. REPEAT STEPS 1 THRU 6 WITH COMPLIMENT DATA

TEST 12: READ/WRITE MODE FUNCTION TEST

THIS TEST VERIFIES THE READ/WRITE MODE FUNCTIONS.
TEST SEQUENCE:

1. WRITE MODE REGISTER WITH ALL ONES
2. READ AND COMPARE MODE REGISTER
3. WRITE MODE REGISTER WITH ALL ZEROS

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4. READ AND COMPARE MODE REGISTER

TEST 13: READ/WRITE LINK MEMORY TEST

THIS TEST READS AND WRITES THE INTERNAL LINK MEMORY.
 THE DUMP/LOAD INTERNAL MEMORY FUNCTIONS ARE USED TO
 READ/WRITE THE ENTIRE 16K LINK MEMORY.
 TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK MODE
 TO REMOVE LINK MEMORY FROM THE WIRE
2. LOAD TBUF WITH DATA = ADDRESS
3. LOAD 1K OF INTERNAL LINK MEMORY WITH TBUF
4. REPEAT STEPS 1 AND 2 FOR
 EACH 1K BLOCK OF LINK MEMORY (16 TIMES)
5. RESETUP TBUF FOR DATA COMPARE
6. CLEAR RBUF
7. DUMP INTERNAL LINK 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

TEST 14: INTERNAL LOOPBACK TEST

PART 1 OF THIS TEST VERIFIES THAT AN INTERNAL LOOPBACK OPERATION
 CAN BE PERFORMED SUCCESSFULLY.
 PART 2 OF THIS TEST VERIFIES THAT THE HEARTBEAT DETECTION CIRCUITRY
 IS OPERATING CORRECTLY.

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
8. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM MODE, ENABLE
 COLLISION TEST CIRCUITRY
9. SET UP RINGS AND BUFFERS
10. ISSUE START
11. CHECK FOR ERRORS
12. ISSUE STOP
13. ISSUE READ PORT STATUS
14. VERIFY 'CERR' BIT SET IN PORT CONTROL WORD 2

TEST 15: CRC CHECKING TEST

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:

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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

TEST 16: 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. ISSJE STOP

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

TEST 18: TRANSMIT CHAINING ERROR TEST

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

TEST 19: NO RECEIVE BUFFER TEST

THIS TEST VERIFIES THAT A RCBI ERROR CAN BE DETECTED.
AN INTERNAL LOOPBACK IS ATTEMPTED WITH
NO RECEIVE BUFFERS OWNED BY THE DEUNA.
A RCBI (RECEIVE BUFFER UNAVAILABLE) ERROR IS EXPECTED IN PCRRO.
TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
2. WRITE RING FORMAT (16 TRANSMIT ENTRIES)
3. WRITE PHYSICAL ADDRESS
4. SET UP RINGS AND BUFFERS
WITH 16 TRANSMIT PACKETS
AND NO RECEIVE BUFFERS OWNED BY THE DEUNA
5. ISSUE START
6. CHECK FOR RCBI ERROR IN PCSRO
7. ISSUE STOP

TEST 20: DATA CHAINING TEST

THIS TEST VERIFIES TRANSMIT AND RECEIVE DATA CHAINING.
AN INTERNAL OR EXTERNAL LOOPBACK IS PERFORMED
WITH THREE TRANSMIT AND THREE RECEIVE BUFFERS CHAINED.
INTERNAL LOOPBACK IS DEFAULT WITH EXTERNAL LOOPBACK BEING
SELECTED VIA A SOFTWARE QUESTION.
TEST SEQUENCE:

1. WRITE MODE REGISTER = PROM MODE AND EITHER
INTERNAL(D) OR EXTERNAL LOOPBACK MODE
2. WRITE RING FORMAT
3. WRITE PHYSICAL ADDRESS
4. SET UP RINGS AND BUFFERS
THREE TRANSMIT AND RECEIVE BUFFERS
5. ISSUE START
6. CHECK FOR ERRORS
7. ISSUE STOP

TEST 21: PHYSICAL ADDRESS TEST

THIS TEST VERIFIES THAT PHYSICAL ADDRESS DETECTION
IS OPERATIONAL.
A WRITE PHYSICAL ADDRESS FUNCTION IS USED TO SET
THE DEUNA'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.

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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

TEST 22: MULTICAST ADDRESS TEST

THIS TEST VERIFIES THAT MULTICAST ADDRESSING IS OPERATIONAL.

A WRITE MULTICAST ADDRESS LIST FUNCTION IS USED TO SET THE DEUNA'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

TEST 23: PROMISCUOUS ADDRESS MODE TEST

THIS TEST VERIFIES THAT PROMISCUOUS ADDRESSING MODE IS OPERATIONAL.

A WRITE PHYSICAL ADDRESS FUNCTION IS USED TO SET THE DEUNA'S PHYSICAL ADDRESS.

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A WRITE MULTICAST ADDRESS LIST FUNCTION IS USED TO SET THE DEUNA'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

TEST 24: 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 DEUNA'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

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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

TEST 25: PAD RUNT PACKETS TEST

THIS TEST VERIFIES THAT PAD RUNT PACKET MODE IS OPERATIONAL.

THIS TEST WILL

FIRST, ATTEMPT TO TRANSMIT A RUNT PACKET
 WHEN NOT IN PAD RUNT PACKET MODE AND VERIFY THAT A
 BUFL ERROR IN TDRB+6 OCCURS.

SECOND, TRANSMIT A RUNT PACKET
 WHEN IN PAD RUNT PACKET MODE AND VERIFY
 SUCCESSFUL TRANSMISSION AS WELL AS PADDING OCCURS.

TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM MODE
2. WRITE RING FORMAT
3. WRITE PHYSICAL ADDRESS
4. SET UP RINGS AND BUFFERS
 WITH THE TRANSMIT BUFFER = RUNT PACKET
5. ISSUE START
6. CHECK FOR BUFL ERROR IN TDRB+6
7. ISSUE STOP
8. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM
 AND PAD RUNT PACKET MODE
9. SET UP RINGS AND BUFFERS
 WITH THE TRANSMIT BUFFER = RUNT PACKET
10. ISSUE START
11. CHECK FOR ERRORS
12. VERIFY PACKET HAS BEEN PADDED
13. ISSUE STOP

TEST 26: HALF DUPLEX TEST

THIS TEST VERIFIES THAT HALF DUPLEX MODE IS OPERATIONAL.

WHILE IN HALF DUPLEX MODE,

A WRITE PHYSICAL ADDRESS FUNCTION IS USED TO SET
 THE DEUNA'S PHYSICAL ADDRESS.

INTERNAL LOOPBACKS ARE THEN PERFORMED WITH A
 CURRENTLY ENABLED AND THEN A CURRENTLY DISABLED
 DESTINATION ADDRESS.

TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK AND
 HALF DUPLEX MODES
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 (MATCH BIT SHOULD BE SET)
7. CHECK FOR NO RXI

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8. ISSUE STOP
9. SET UP RINGS AND BUFFERS
WITH DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
10. ISSUE START
11. CHECK FOR ERRORS (MATCH BIT SHOULD NOT BE SET)
12. CHECK FOR NO RXI
13. ISSUE STOP

TEST 27: SIMULTANEOUS OPERATIONS TEST

THIS TEST VERIFIES THAT SIMULTANEOUS OPERATIONS CAN BE PERFORMED.
A CHAINED 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
THREE TRANSMIT AND RECEIVE BUFFERS
5. SET UP READ COUNTERS FUNCTION
6. ISSUE START
7. ISSUE GET COMMAND PORT COMMAND
8. CHECK FOR ERRORS
9. ISSUE STOP

TEST 28: 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

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```

1066 .TITLE PROGRAM HEADER AND TABLES
1067 .SBTTL PROGRAM HEADER
1068
1069 : .ENABL ABS,AMA
1070 : .ENABL AMA
1071 : = 2000
1072
1073 000000' BGNMOD
1074
1075 :++
1076 : THE PROGRAM HEADER IS THE INTERFACE BETWEEN
1077 : THE DIAGNOSTIC PROGRAM AND THE SUPERVISOR.
1078 :--
1079
1080 000000' POINTER BGNRPT,BGNSW,BGNSFT,BGNAU,BGNDU,ERRTBL
1081
1082
1083 000000' HEADER UNAFUNC,A,0,0,0,340
1084 000000'
1085 000000' 125
1086 000001' 116
1087 000002' 101
1088 000003' 106
1089 000004' 125
1090 000005' 116
1091 000006' 103
1092 000007' 000
1093 000010'
1094 000010' 101
1095 000011'
1096 000011' 060
1097 000012'
1098 000012' 000000
1099 000014'
1100 000014' 000000
1101 000016'
1102 000016' 070774'
1103 000020'
1104 000020' 071106'
1105 000022'
1106 000022' 000216'
1107 000024'
1108 000024' 000224'
1109 000026'
1110 000026' 071210'
1111 000030'
1112 000030' 000000
1113 000032'
1114 000032' 000000
1115 000034'
1116 000034' 000000
1117 000036'
1118 000036' 000000
1119 000040'
1120 000040' 000124'
1121 000042'

```

```

LSNAME::
        .ASCII /U/
        .ASCII /N/
        .ASCII /A/
        .ASCII /F/
        .ASCII /U/
        .ASCII /N/
        .ASCII /C/
        .BYTE 0
LSREV::
        .ASCII /A/
LSDEPO::
        .ASCII /O/
LSUNIT::
        .WORD 0
LSTIML::
        .WORD 0
LSHPCP::
        .WORD LSHARD
LSSPCP::
        .WORD LSSOFT
LSHPTP::
        .WORD LSHW
LSSPTP::
        .WORD LSSW
LSLADP::
        .WORD LSLAST
LSSSTA::
        .WORD 0
LSCO::
        .WORD 0
LSDTYP::
        .WORD 0
LSAPT::
        .WORD 0
LSDTP::
        .WORD LSDISPATCH
LSPRIO::

```

PROGRAM HEADER AND TABLES
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PROGRAM HEADER

1122 000042' 000340
 1123 000044'
 1124 000044' 000000
 1125 000046'
 1126 000046' 000000
 1127 000050'
 1128 000050' 003
 1129 000051' 003
 1130 000052'
 1131 000052' 000000
 1132 000054' 000000
 1133 000056'
 1134 000056' 000000
 1135 000060'
 1136 000060' 013236'
 1137 000062'
 1138 000062' 025402'
 1139 000064'
 1140 000064' 000000
 1141 000066'
 1142 000066' 000000
 1143 000070'
 1144 000070' 025634'
 1145 000072'
 1146 000072' 025626'
 1147 000074'
 1148 000074' 000000
 1149 000076'
 1150 000076' 013244'
 1151 000100'
 1152 000100' 104035
 1153 000102'
 1154 000102' 013226'
 1155 000104'
 1156 000104' 025416'
 1157 000106'
 1158 000106' 025620'
 1159 000110'
 1160 000110' 025616'
 1161 000112'
 1162 000112' 025410'
 1163 000114'
 1164 000114' 000000
 1165 000116'
 1166 000116' 000000
 1167 000120'
 1168 000120' 000000
 1169

L\$ENVI:: .WORD 340
 L\$EXP1:: .WORD 0
 L\$MREV:: .WORD 0
 .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

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DISPATCH TABLE

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.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 28

000122'
000122' 000034
000124'
000124' 025700'
000126' 025776'
000130' 026076'
000132' 026176'
000134' 026276'
000136' 026352'
000140' 026426'
000142' 032206'
000144' 032502'
000146' 032766'
000150' 033316'
000152' 034272'
000154' 035036'
000156' 036244'
000160' 040142'
000162' 041254'
000164' 042366'
000166' 043474'
000170' 044472'
000172' 045364'
000174' 047160'
000176' 052042'
000200' 055116'
000202' 060516'
000204' 062554'
000206' 064274'
000210' 065606'
000212' 067336'

.WORD 28
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
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.WORD T25
.WORD T26
.WORD T27
.WORD T28

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SOFTWARE P-TABLE

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.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.
:--

000222'
000222' 000001
000224'
000224'

BGNSW SFPTBL

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

000224' 000000

EXLOOP: .WORD 0 ; TEST20 EXTERNAL LOOPBACK FLAG

000226'
000226'

.EVEN
ENDSW

L10001:

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.TITLE GLOBAL AREAS
.SBTTL GLOBAL EQUATES SECTION

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

EQUALS

: BIT DEFINITIONS

1260	000226'	
1264	100000	BIT15== 100000
1265	040000	BIT14== 40000
1266	020000	BIT13== 20000
1267	010000	BIT12== 10000
1268	004000	BIT11== 4000
1269	002000	BIT10== 2000
1270	001000	BIT09== 1000
1271	000400	BIT08== 400
1272	000200	BIT07== 200
1273	000100	BIT06== 100
1274	000040	BIT05== 40
1275	000020	BIT04== 20
1276	000010	BIT03== 10
1277	000004	BIT02== 4
1278	000002	BIT01== 2
1279	000001	BIT00== 1
1281	001000	BIT9== BIT09
1282	000400	BIT8== BIT08
1283	000200	BIT7== BIT07
1284	000100	BIT6== BIT06
1285	000040	BIT5== BIT05
1286	000020	BIT4== BIT04
1287	000010	BIT3== BIT03
1288	000004	BIT2== BIT02
1289	000002	BIT1== BIT01
1290	000001	BIT0== BIT00

: EVENT FLAG DEFINITIONS

: EF32:EF17 RESERVED FOR SUPERVISOR TO PROGRAM COMMUNICATION

1295	000040	EF.START== 32.	: START COMMAND WAS ISSUED
1296	000037	EF.RESTART== 31.	: RESTART COMMAND WAS ISSUED
1297	000036	EF.CONTINUE== 30.	: CONTINUE COMMAND WAS ISSUED
1298	000035	EF.NEW== 29.	: A NEW PASS HAS BEEN STARTED
1299	000034	EF.PWR== 23.	: A POWER-FAIL/POWER-UP OCCURRED

: PRIORITY LEVEL DEFINITIONS

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```

1304      000340      PRI07== 340
1305      000300      PRI06== 300
1306      000240      PRI05== 240
1307      000200      PRI04== 200
1308      000140      PRI03== 140
1309      000100      PRI02== 100
1310      000040      PRI01== 40
1311      000000      PRI00== 0
1312
1313      ; OPERATOR FLAG BITS
1314
1315      000004      EVL==      4
1316      000010      LOT==      10
1317      000020      ADR==      20
1318      000040      IDU==      40
1319      000100      ISR==     100
1320      000200      UAM==     200
1321      000400      BOE==     400
1322      001000      PNT==    1000
1323      002000      PRI==    2000
1324      004000      IXE==    4000
1325      010000      IBE==   10000
1326      020000      IER==   20000
1327      040000      LOE==   40000
1328      100000      HOE==  100000
1329
1330      ; PCSR0 - PORT CONTROL AND STATUS REGISTER 0
1331      100000      SERI ==     BIT15      ; STATUS ERROR INTERRUPT
1332      040000      PLEI ==     BIT14      ; PORT COMMAND ERROR INTERRUPT
1333      020000      RXI  ==     BIT13      ; RECEIVE RING INTERRUPT
1334      010000      TXI  ==     BIT12      ; TRANSMIT RING INTERRUPT
1335      004000      DNI  ==     BIT11      ; DONE INTERRUPT
1336      002000      RCBI ==     BIT10      ; RECEIVE BUFFER UNAVAILABLE
1337
1338      000400      FATI ==     BIT08      ; FATAL ERROR INTERERUPT
1339      000200      INTR ==     BIT07      ; INTERRUPT SUMMARY <15:08>
1340      000100      INTE ==     BIT06      ; INTERRUPT ENABLE
1341      000040      RSET ==     BIT05      ; UNA RESET
1342
1343      ; PORT COMMANDS <03:00>
1344      000001      GETPCB ==     BIT00
1345      000002      GETCMD ==     BIT01
1346      000003      SLFT  ==     BIT00!BIT01
1347      000004      START ==     BIT02
1348      000006      PNOP  ==     BIT01!BIT02
1349      000010      PDMD  ==     BIT03
1350      000017      STOP  ==     BIT03!BIT02!BIT01!BIT00
1351
1352      ; PCSR1 - PORT CONTROL AND STATUS REGISTER 1
1353      100000      XPWR  ==     BIT15      ; TRANSCIEVER POWER OK
1354      040000      ICAB  ==     BIT14      ; PORT/LINK CABLING OK
1355
1356      ; SELF TEST ERROR CODE <13:08>
1357      140377      STMASK ==    140377      ; SELF TEST MASK
1358
1359      000200      PCTO  ==     BIT07      ; PORT COMMAND TIMEOUT

```

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```

1360
1361      000010      ;RMTC      ==      BIT03      ; REMOTE CONSOLE RESERVED
1362
1363      ;PORT STATE <G2.00>
1364      177770      ;SMASK      ==      177770      ; STATE MASK
1365
1366      000000      ;RESET      ==      0
1367      000001      ;PRILD      ==      BIT00      ; PRIMARY LOAD STATE
1368      000002      ;READY      ==      BIT01
1369      000003      ;RUN        ==      BIT00:BIT01
1370      000005      ;UNIHLT     ==      BIT00!BIT02
1371      000006      ;NIHLT     ==      BIT01!BIT02
1372      000007      ;NIUNI     ==      BIT00!BIT01!BIT02
1373
1374      ;DESCRIPTOR RING DEFINITIONS
1375      100000      ;OWN        ==      BIT15
1376      040000      ;ERRS      ==      BIT14
1377      001000      ;STP       ==      BIT09
1378      000400      ;ENP       ==      BIT08
1379
1380      100000      ;BUFL      ==      BIT15
1381      ;GLOBAL EQUATES
1382      000000      ;ZERO      ==      0
1383      177777      ;ONES      ==      177777
1384      177400      ;TIMASK    ==      177400      ; UPPER BYTE = ONES
1385      000000      ;GOODST    ==      0          ; SUCCESSFUL SELF TEST CODE
1386      175015      ;CMODE1    ==      175015     ; ALL SETABLE MODE BITS = ONES
1387      007777      ;TDRMSK    ==      7777      ; TDR MASK
1388      002540      ;DTYPE     ==      2540      ; DIAGNOSTIC TYPE FIELD
1389
1390      000000      ;INITH     ==      0          ; INITIAL CRC VALUE
1391      120001      ;POLYH     ==      120001     ; CRC POLYNOMIAL
1392
1393      020000      ;SIZ4K     ==      20000      ; 4K WORDS
1394      040000      ;SIZ8K     ==      SIZ4K*2     ; 8K WORDS
    
```

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```

1395      .SBTTL  GLOBAL DATA SECTION
1396
1397      :++
1398      : THE GLOBAL DATA SECTION CONTAINS DATA THAT ARE USED
1399      : IN MORE THAN ONE TEST.
1400
1401      :--
1402      : ADDRESSES FOR DEUNA UNDER TEST
1403      PCSRO::      .WORD  0      ; ADDRESS OF PCSRO
1404      PCSR1::      .WORD  0      ; ADDRESS OF PCSR1
1405      PCSR2::      .WORD  0      ; ADDRESS OF PCSR2
1406      PCSR3::      .WORD  0      ; ADDRESS OF PCSR3
1407
1408      INTVEC::      .WORD  0      ; ADDRESS OF DEUNA INTERRUPT VECTOR
1409      UNAPRI::      .WORD 240     ; UNA PRIORITY = 5
1410      UNIT::        .WORD  0      ; UNIT NUMBER
1411
1412      DEST::        .WORD  0      ; DESTINATION ADDRESS
1413
1414
1415
1416      :
1417      : DATA STRUCTURES
1418      PCB8::        .BLKW  4      ; PORT CONTROL BLOCK
1419      UDB8::        .BLKW 100.    ; UNIBUS DATA BLOCK
1420      TDRB::        .BLKW 16.    ; TRANSMIT DESCRIPTOR RING
1421      RDRB::        .BLKW 16.    ; RECEIVE DESCRIPTOR RING
1422      TDRX::        .BLKW 64.    ; EXTENDED TDRB FOR TEST19
1423      TBUF::        .BLKW 128.   ; TRANSMIT BUFFER
1424      TBUF2::       .BLKW 128.
1425      TBUF3::       .BLKW 128.
1426      TBUF4::       .BLKW 128.
1427      TBUF5::       .BLKW 128.
1428      TBUF6::       .BLKW 128.
1429      TBUF7::       .BLKW 128.
1430      TBUF8::       .BLKW 128.
1431      RBUF::        .BLKW 128.   ; RECEIVE BUFFER
1432      RBUF2::       .BLKW 128.
1433      RBUF3::       .BLKW 128.
1434      RBUF4::       .BLKW 128.
1435      RBUF5::       .BLKW 128.
1436      RBUF6::       .BLKW 128.
1437      RBUF7::       .BLKW 128.
1438      RBUF8::       .BLKW 128.
1439
1440      : DEFAULT PORT FUNCTIONS
1441      NOPF::        .WORD  0      ; NOP FUNCTION
1442
1443
1444
1445      LSMA::        .WORD  1      ; LOAD AND START MICROADDRESS FUNCTION
1446      : STARTING INTERNAL ADDRESS OF SELFTEST
1447
1448
1449
1450      RDDEFA::      .WORD  2      ; READ DEFAULT PHYSICAL ADDRESS FUNCTION

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1451	011114'	000000	.WORD	0	
1452	011116'	000000	.WORD	0	
1453	011120'	000000	.WORD	0	
1454					
1455	011122'	000004	.WORD	4	; READ PHYSICAL ADDRESS FUNCTION
1456	011124'	000000	.WORD	0	
1457	011126'	000000	.WORD	0	
1458	011130'	000000	.WORD	0	
1459					
1460	011132'	000005	.WORD	5	; WRITE PHYSICAL ADDRESS
1461	011134'	000000	.WORD	0	; PHYADR
1462	011136'	000010	.WORD	10	; PHYADR
1463	011140'	000000	.WORD	0	; PHYADR
1464					
1465	011142'	000006	.WORD	6	; READ MULTICAST ADDRESS LIST FUNCTION
1466	011144'	000262'	.WORD	UDBB	; ADDRESS OF UNIBUS DATA BLOCK BASE
1467	011146'	005000	.WORD	5000	; MULTICAST ADDR TABLE LENGTH= 10(10)
1468	011150'	000000	.WORD	0	
1469					
1470	011152'	000007	.WORD	7	; WRITE MULTICAST ADDRESS LIST FUNCTION
1471	011154'	000262'	.WORD	UDBB	; ADDRESS OF UNIBUS DATA BLOCK BASE
1472	011156'	005000	.WORD	5000	; MULTICAST ADDR TABLE LENGTH= 10(10)
1473	011160'	000000	.WORD	0	
1474					
1475	011162'	000010	.WORD	10	; READ RING FORMAT FUNCTION
1476	011164'	000262'	.WORD	UDBB	; ADDRESS OF UNIBUS DATA BLOCK BASE
1477	011166'	000000	.WORD	0	
1478	011170'	000000	.WORD	0	
1479					
1480	011172'	000011	.WORD	11	; WRITE RING FORMAT FUNCTION
1481	011174'	000262'	.WORD	UDBB	; ADDRESS OF UNIBUS DATA BLOCK BASE
1482	011176'	000000	.WORD	0	
1483	011200'	000000	.WORD	0	
1484					
1485	011202'	000012	.WORD	12	; READ COUNTERS FUNCTION
1486	011204'	000262'	.WORD	UDBB	; ADDRESS OF UNIBUS DATA BLOCK BASE
1487	011206'	000000	.WORD	0	
1488	011210'	000040	.WORD	40	; COUNTERS LIST LENGTH= 32(10)
1489					
1490	011212'	000013	.WORD	13	; READ AND CLEAR COUNTERS FUNCTION
1491	011214'	000262'	.WORD	UDBB	; ADDRESS OF UNIBUS DATA BLOCK BASE
1492	011216'	000000	.WORD	0	
1493	011220'	000040	.WORD	40	; COUNTERS LIST LENGTH= 32(10)
1494					
1495	011222'	000014	.WORD	14	; READ MODE FUNCTION
1496	011224'	000000	.WORD	0	
1497	011226'	000000	.WORD	0	
1498	011230'	000000	.WORD	0	
1499					
1500	011232'	000015	.WORD	15	; WRITE MODE FUNCTION
1501	011234'	100004	.WORD	100004	; PROM AND INTERNAL LOOPBACK MODE
1502	011236'	000000	.WORD	0	
1503	011240'	000000	.WORD	0	
1504	011242'	000015	.WORD	15	; WRITE MODE FUNCTION
1505	011244'	104004	.WORD	104004	; PROM AND INTERN LOOPBACK AND ENABL COLL TEST
1506	011246'	000000	.WORD	0	

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1507 011250' 000000          .WORD 0
1508
1509 011252' 000016          RDSTA:: .WORD 16      ; READ STATUS FUNCTION
1510 011254' 000000          .WORD 0
1511 011256' 000000          .WORD 0
1512 011260' 000000          .WORD 0
1513
1514 011262' 000017          CLRSTA:: .WORD 17      ; READ AND CLEAR STATUS FUNCTION
1515 011264' 000000          .WORD 0
1516 011266' 000000          .WORD 0
1517 011270' 000000          .WORD 0
1518
1519 011272' 000020          DMPMEM:: .WORD 20      ; DUMP INTERNAL MEMORY FUNCTION
1520 011274' 000262'          .WORD UDBB    ; ADDRESS OF UNIBUS DATA BLOCK BASE
1521 011276' 000000          .WORD 0
1522 011300' 000000          .WORD 0
1523
1524 011302' 000021          LDMEM:: .WORD 21      ; LOAD INTERNAL MEMORY FUNCTION
1525 011304' 000262'          .WORD UDBB    ; ADDRESS OF UNIBUS DATA BLOCK BASE
1526 011306' 000000          .WORD 0
1527 011310' 000000          .WORD 0
1528
1529          ;: DEFAULT RING FORMATS
1530
1531 011312' 000572'          RFRMT:: .WORD TDRB    ; TRANSMIT DESCRIPTOR RING ADDRESS
1532 011314' 002000          .WORD 2000   ; TELEN = 4
1533 011316' 000004          .WORD 4       ; TRLEN = 4
1534 011320' 000632'          .WORD RDRB    ; RECEIVE DESCRIPTOR RING ADDRESS
1535 011322' 002000          .WORD 2000   ; RELEN = 4
1536 011324' 000004          .WORD 4       ; RRLEN = 4
1537
1538 011326' 000672'          RFRMTX:: .WORD TDRX    ; TRANSMIT DESCRIPTOR RING ADDRESS
1539 011330' 002000          .WORD 2000   ; TELEN = 4
1540 011332' 000020          .WORD 16     ; TRLEN = 16
1541 011334' 000632'          .WORD RDRB    ; RECEIVE DESCRIPTOR RING ADDRESS
1542 011336' 002000          .WORD 2000   ; RELEN = 4
1543 011340' 000004          .WORD 4       ; RRLEN = 4
1544
1545          ;: DEFAULT RECEIVE DESCRIPTOR RINGS
1546
1547 011342' 000200          RDRB1A:: .WORD 128.   ; SLEN = 128 BYTES
1548 011344' 005072'          .WORD RBUF    ; SEGB = RBUF
1549 011346' 100000          .WORD 100000 ; OWN = UNA
1550 011350' 000000          .WORD 0
1551
1552 011352' 000200          .WORD 128.   ; SLEN = 128 BYTES
1553 011354' 005072'          .WORD RBUF    ; SEGB = RBUF
1554 011356' 000000          .WORD 0       ; OWN = PORT DRIVER
1555 011360' 000000          .WORD 0
1556
1557 011362' 000200          .WORD 128.   ; SLEN = 128 BYTES
1558 011364' 005072'          .WORD RBUF    ; SEGB = RBUF
1559 011366' 000000          .WORD 0       ; OWN = PORT DRIVER
1560 011370' 000000          .WORD 0
1561
1562 011372' 000200          .WORD 128.   ; SLEN = 128 BYTES

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1563	011374'	005072'	.WORD	RBUF	: SEGB = RBUF
1564	011376'	000000	.WORD	0	: OWN = PORT DRIVER
1565	011400'	000000	.WORD	0	
1566					
1567	011402'	000200			
1568	011404'	005072'	.WORD	128.	: SLEN = 128 BYTES
1569	011406'	000000	.WORD	RBUF	: SEGB = RBUF
1570	011410'	000000	.WORD	0	: OWN = PORT DRIVER
1571					
1572	011412'	000200	.WORD	128.	: SLEN = 128 BYTES
1573	011414'	005072'	.WORD	RBUF	: SEGB = RBUF
1574	011416'	000000	.WORD	0	: OWN = PORT DRIVER
1575	011420'	000000	.WORD	0	
1576					
1577	011422'	000200	.WORD	128.	: SLEN = 128 BYTES
1578	011424'	005072'	.WORD	RBUF	: SEGB = RBUF
1579	011426'	000000	.WORD	0	: OWN = PORT DRIVER
1580	011430'	000000	.WORD	0	
1581					
1582	011432'	000200	.WORD	128.	: SLEN = 128 BYTES
1583	011434'	005072'	.WORD	RBUF	: SEGB = RBUF
1584	011436'	000000	.WORD	0	: OWN = PORT DRIVER
1585	011440'	000000	.WORD	0	
1586					
1587	011442'	000100	.WORD	64.	: SLEN = 64 BYTES
1588	011444'	005072'	.WORD	RBUF	: SEGB = RBUF
1589	011446'	100000	.WORD	100000	: OWN = UNA
1590	011450'	000000	.WORD	0	
1591					
1592	011452'	000100	.WORD	64.	: SLEN = 64 BYTES
1593	011454'	005472'	.WORD	RBUF2	: SEGB = RBUF2
1594	011456'	100000	.WORD	100000	: OWN = UNA
1595	011460'	000000	.WORD	0	
1596					
1597	011462'	000200	.WORD	128.	: SLEN = 128 BYTES
1598	011464'	005072'	.WORD	RBUF	: SEGB = RBUF
1599	011466'	000000	.WORD	0	: OWN = PORT DRIVER
1600	011470'	000000	.WORD	0	
1601					
1602	011472'	000200	.WORD	128.	: SLEN = 128 BYTES
1603	011474'	005072'	.WORD	RBUF	: SEGB = RBUF
1604	011476'	000000	.WORD	0	: OWN = PORT DRIVER
1605	011500'	000000	.WORD	0	
1606					
1607	011502'	000400	.WORD	256.	: SLEN = 256 BYTES
1608	011504'	005072'	.WORD	RBUF	: SEGB = RBUF
1609	011506'	100000	.WORD	100000	: OWN = UNA
1610	011510'	000000	.WORD	0	
1611					
1612	011512'	000400	.WORD	256.	: SLEN = 256 BYTES
1613	011514'	005472'	.WORD	RBUF2	: SEGB = RBUF2
1614	011516'	100000	.WORD	100000	: OWN = UNA
1615	011520'	000000	.WORD	0	
1616					
1617	011522'	000400	.WORD	256.	: SLEN = 256 BYTES
1618	011524'	006072'	.WORD	RBUF3	: SEGB = RBUF3

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1619 011526' 100000      -      .WORD 100000 ; OWN = UNA
1620 011530' 000000      .WORD 0
1621      ;
1622 011532' 000200      .WORD 128. ; SLEN = 128 BYTES
1623 011534' 005072'     .WORD RBUF ; SEGB = RBUF
1624 011536' 000000      .WORD 0 ; OWN = PORT DRIVER
1625 011540' 000000      .WORD 0
1626      ;
1627      ;:DEFAULT TRANSMIT DESCRIPTOR RINGS
1628      ;
1629 011542' 000174      ;TDRB1A:: .WORD 124. ; SLEN = 124 BYTES
1630 011544' 001072'     .WORD TBUF ; SEGB = TBUF
1631 011546' 101400      .WORD 101400 ; OWN = UNA ;STP,ENP
1632 011550' 000000      .WORD 0
1633      ;
1634 011552' 000174      .WORD 124. ; SLEN = 124 BYTES
1635 011554' 001072'     .WORD TBUF ; SEGB = TBUF
1636 011556' 000000      .WORD 0 ; OWN = PORT DRIVER
1637 011560' 000000      .WORD 0
1638      ;
1639 011562' 000174      .WORD 124. ; SLEN = 124 BYTES
1640 011564' 001072'     .WORD TBUF ; SEGB = TBUF
1641 011566' 000000      .WORD 0 ; OWN = PORT DRIVER
1642 011570' 000000      .WORD 0
1643      ;
1644 011572' 000174      .WORD 124. ; SLEN = 124 BYTES
1645 011574' 001072'     .WORD TBUF ; SEGB = TBUF
1646 011576' 000000      .WORD 0 ; OWN = PORT DRIVER
1647 011600' 000000      .WORD 0
1648      ;
1649 011602' 000200      ;TDRB1B:: .WORD 128. ; SLEN = 128 BYTES
1650 011604' 001072'     .WORD TBUF ; SEGB = TBUF
1651 011606' 101400      .WORD 101400 ; OWN = UNA ;STP,ENP
1652 011610' 000000      .WORD 0
1653      ;
1654 011612' 000200      .WORD 128. ; SLEN = 128 BYTES
1655 011614' 001072'     .WORD TBUF ; SEGB = TBUF
1656 011616' 000000      .WORD 0 ; OWN = PORT DRIVER
1657 011620' 000000      .WORD 0
1658      ;
1659 011622' 000200      .WORD 128. ; SLEN = 128 BYTES
1660 011624' 001072'     .WORD TBUF ; SEGB = TBUF
1661 011626' 000000      .WORD 0 ; OWN = PORT DRIVER
1662 011630' 000000      .WORD 0
1663      ;
1664 011632' 000200      .WORD 128. ; SLEN = 128 BYTES
1665 011634' 001072'     .WORD TBUF ; SEGB = TBUF
1666 011636' 000000      .WORD 0 ; OWN = PORT DRIVER
1667 011640' 000000      .WORD 0
1668      ;
1669 011642' 000072      ;TDRB1C:: .WORD 58. ; SLEN = 58 BYTES (RUNT PACKET)
1670 011644' 001072'     .WORD TBUF ; SEGB = TBUF
1671 011646' 101400      .WORD 101400 ; OWN = UNA ;STP,ENP
1672 011650' 000000      .WORD 0
1673      ;
1674 011652' 000174      .WORD 124. ; SLEN = 124 BYTES

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1675	011654	001072	.WORD	TBUF	: SEGB = TBUF
1676	011656	000000	.WORD	0	: OWN = PORT DRIVER
1677	011660	000000	.WORD	0	
1678			:		
1679	011662	000174	.WORD	124.	: SLEN = 124 BYTES
1680	011664	001072	.WORD	TBUF	: SEGB = TBUF
1681	011666	000000	.WORD	0	: OWN = PORT DRIVER
1682	011670	000000	.WORD	0	
1683			:		
1684	011672	000174	.WORD	124.	: SLEN = 124 BYTES
1685	011674	001072	.WORD	TBUF	: SEGB = TBUF
1686	011676	000000	.WORD	0	: OWN = PORT DRIVER
1687	011700	000000	.WORD	0	
1688			:		
1689	011702	000174	.WORD	124.	: SLEN = 124 BYTES
1690	011704	001072	.WORD	TBUF	: SEGB = TBUF
1691	011706	101000	.WORD	101000	: OWN = UNA ;STP
1692	011710	000000	.WORD	0	
1693			:		
1694	011712	000174	.WORD	124.	: SLEN = 124 BYTES
1695	011714	001072	.WORD	TBUF	: SEGB = TBUF
1696	011716	101400	.WORD	101400	: OWN = UNA ;STP ;ENP
1697	011720	000000	.WORD	0	
1698			:		
1699	011722	000174	.WORD	124.	: SLEN = 124 BYTES
1700	011724	001072	.WORD	TBUF	: SEGB = TBUF
1701	011726	000000	.WORD	0	: OWN = PORT DRIVER
1702	011730	000000	.WORD	0	
1703			:		
1704	011732	000174	.WORD	124.	: SLEN = 124 BYTES
1705	011734	001072	.WORD	TBUF	: SEGB = TBUF
1706	011736	000000	.WORD	0	: OWN = PORT DRIVER
1707	011740	000000	.WORD	0	
1708			:		
1709	011742	000400	.WORD	256.	: SLEN = 256 BYTES
1710	011744	001072	.WORD	TBUF	: SEGB = TBUF
1711	011746	101000	.WORD	101000	: OWN = UNA ;STP
1712	011750	000000	.WORD	0	
1713			:		
1714	011752	000400	.WORD	256.	: SLEN = 256 BYTES
1715	011754	001472	.WORD	TBUF2	: SEGB = TBUF2
1716	011756	100000	.WORD	100000	: OWN = UNA
1717	011760	000000	.WORD	0	
1718			:		
1719	011762	000374	.WORD	252.	: SLEN = 252 BYTES
1720	011764	002072	.WORD	TBUF3	: SEGB = TBUF3
1721	011766	100400	.WORD	100400	: OWN = UNA ;ENP
1722	011770	000000	.WORD	0	
1723			:		
1724	011772	000174	.WORD	124.	: SLEN = 124 BYTES
1725	011774	001072	.WORD	TBUF	: SEGB = TBUF
1726	011776	000000	.WORD	0	: OWN = PORT DRIVER
1727	012000	000000	.WORD	0	
1728			:		
1729	012002	000174	.WORD	124.	: SLEN = 124 BYTES
1730	012004	001072	.WORD	TBUF	: SEGB = TBUF

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1731	012006	101400	.WORD	101400	; OWN = UNA ;STP ;ENP
1732	012010	000000	.WORD	0	
1733			:		
1734	012012	000174	.WORD	124.	; SLEN = 124 BYTES
1735	012014	001072	.WORD	TBUF	; SEGB = TBUF
1736	012016	101400	.WORD	101400	; OWN = UNA ;STP ;ENP
1737	012020	000000	.WORD	0	
1738			:		
1739	012022	000174	.WORD	124.	; SLEN = 124 BYTES
1740	012024	001072	.WORD	TBUF	; SEGB = TBUF
1741	012026	101400	.WORD	101400	; OWN = UNA ;STP ;ENP
1742	012030	000000	.WORD	0	
1743			:		
1744	012032	000174	.WORD	124.	; SLEN = 124 BYTES
1745	012034	001072	.WORD	TBUF	; SEGB = TBUF
1746	012036	101400	.WORD	101400	; OWN = UNA ;STP ;ENP
1747	012040	000000	.WORD	0	
1748			:		
1749	012042	000174	.WORD	124.	; SLEN = 124 BYTES
1750	012044	001072	.WORD	TBUF	; SEGB = TBUF
1751	012046	101400	.WORD	101400	; OWN = UNA ;STP ;ENP
1752	012050	000000	.WORD	0	
1753			:		
1754	012052	000174	.WORD	124.	; SLEN = 124 BYTES
1755	012054	001072	.WORD	TBUF	; SEGB = TBUF
1756	012056	101400	.WORD	101400	; OWN = UNA ;STP ;ENP
1757	012060	000000	.WORD	0	
1758			:		
1759	012062	000174	.WORD	124.	; SLEN = 124 BYTES
1760	012064	001072	.WORD	TBUF	; SEGB = TBUF
1761	012066	101400	.WORD	101400	; OWN = UNA ;STP ;ENP
1762	012070	000000	.WORD	0	
1763			:		
1764	012072	000174	.WORD	124.	; SLEN = 124 BYTES
1765	012074	001072	.WORD	TBUF	; SEGB = TBUF
1766	012076	101400	.WORD	101400	; OWN = UNA ;STP ;ENP
1767	012100	000000	.WORD	0	
1768			:		
1769	012102	000174	.WORD	124.	; SLEN = 124 BYTES
1770	012104	001072	.WORD	TBUF	; SEGB = TBUF
1771	012106	101400	.WORD	101400	; OWN = UNA ;STP ;ENP
1772	012110	000000	.WORD	0	
1773			:		
1774	012112	000174	.WORD	124.	; SLEN = 124 BYTES
1775	012114	001072	.WORD	TBUF	; SEGB = TBUF
1776	012116	101400	.WORD	101400	; OWN = UNA ;STP ;ENP
1777	012120	000000	.WORD	0	
1778			:		
1779	012122	000174	.WORD	124.	; SLEN = 124 BYTES
1780	012124	001072	.WORD	TBUF	; SEGB = TBUF
1781	012126	101400	.WORD	101400	; OWN = UNA ;STP ;ENP
1782	012130	000000	.WORD	0	
1783			:		
1784	012132	000174	.WORD	124.	; SLEN = 124 BYTES
1785	012134	001072	.WORD	TBUF	; SEGB = TBUF
1786	012136	101400	.WORD	101400	; OWN = UNA ;STP ;ENP

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1787 012140' 000000          .WORD 0
1788
1789 012142' 000174          .WORD 124.      ; SLEN = 124 BYTES
1790 012144' 001072'        .WORD TBUF      ; SEGB = TBUF
1791 012146' 101400        .WORD 101400    ; OWN = UNA ;STP ;ENP
1792 012150' 000000          .WORD 0
1793
1794 012152' 000174          .WORD 124.      ; SLEN = 124 BYTES
1795 012154' 001072'        .WORD TBUF      ; SEGB = TBUF
1796 012156' 101400        .WORD 101400    ; OWN = UNA ;STP ;ENP
1797 012160' 000000          .WORD 0
1798
1799 012162' 000174          .WORD 124.      ; SLEN = 124 BYTES
1800 012164' 001072'        .WORD TBUF      ; SEGB = TBUF
1801 012166' 101400        .WORD 101400    ; OWN = UNA ;STP ;ENP
1802 012170' 000000          .WORD 0
1803
1804 012172' 000174          .WORD 124.      ; SLEN = 124 BYTES
1805 012174' 001072'        .WORD TBUF      ; SEGB = TBUF
1806 012176' 101400        .WORD 101400    ; OWN = UNA ;STP ;ENP
1807 012200' 000000          .WORD 0
1808
1809          ;DEFAULT DATA FOR TEST10
1810 012202' 000000          CRCH::          .WORD 0          ; CRC STORAGE
1811          ;DEFAULT UDBB FOR TEST10
1812 012204' 004000          UDB10A::        .WORD 4000      ; FLEN = 1024 WORDS
1813 012206' 005072'        .WORD RBUF      ; HDBB = RBUF
1814 012210' 000000          .WORD 0
1815 012212' 000000          .WORD 0
1816          ;ROM ADDRESS TABLE FOR TEST10
1817 012214' 040000          MEM10A::        .WORD 40000     ; ADDRESS OF ROM FIRST 1K
1818 012216' 044000          .WORD 44000     ; SECOND 1K
1819 012220' 050000          .WORD 50000     ; ETC
1820 012222' 054000          .WORD 54000
1821 012224' 060000          .WORD 60000
1822 012226' 064000          .WORD 64000
1823 012230' 070000          .WORD 70000
1824 012232' 074000          .WORD 74000
1825          ;DEFAULT UDBB FOR TEST11 AND TST12
1826 012234' 004000          UDB11A::        .WORD 4000      ; FLEN = 1024. WORDS
1827 012236' 000000          .WORD 0          ; HDBB = RBUF OR TBUF (LOADED BY TEST)
1828 012240' 000000          .WORD 0
1829 012242' 000000          .WORD 0          ; IDBB (LOADED BY TEST)
1830          ;WCS DOWNLINE LOAD ADDRESS TABLE FOR TEST11
1831 012244' 014000          MEM11A::        .WORD 14000     ; TOP 1K SECTION OF WCS
1832          ;LINK MEMORY ADDRESS TABLE FOR TEST13
1833 012246' 100000          MEM13A::        .WORD 100000    ; FIRST 1K BLOCK OF LINK MEMORY
1834 012250' 104000          .WORD 104000
1835 012252' 110000          .WORD 110000
1836 012254' 114000          .WORD 114000
1837 012256' 120000          .WORD 120000
1838 012260' 124000          .WORD 124000
1839 012262' 130000          .WORD 130000
1840 012264' 134000          .WORD 134000
1841 012266' 140000          .WORD 140000
1842 012270' 144000          .WORD 144000

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1843	012272*	150000	.WORD	150000	
1844	012274*	154000	.WORD	154000	
1845	012276*	160000	.WORD	160000	
1846	012300*	164000	.WORD	164000	
1847	012302*	170000	.WORD	170000	
1848	012304*	174000	.WORD	174000	
1849					
1850	012306*	125252			:PHYSICAL ADDRESSES FOR TEST 21
1851	012310*	125252	ADR21::	.WORD 125252	: DEFAULT PHYSICAL ADDRESS
1852	012312*	125252		.WORD 125252	
1853	012314*	052524	ADR21C::	.WORD 52524	: COMPLEMENTED PHYSICAL ADDRESS
1854	012316*	052525		.WORD 52525	
1855	012320*	052525		.WORD 52525	
1856					:MULTICAST ADDRESS LIST FOR TEST 22
1857	012322*	125253	MULTL::	.WORD 125253	: MULTICAST ADDRESS LIST
1858	012324*	125252		.WORD 125252	
1859	012326*	125252		.WORD 125252	
1860	012330*	125253		.WORD 125253	
1861	012332*	052525		.WORD 052525	
1862	012334*	125252		.WORD 125252	
1863	012336*	125253		.WORD 125253	
1864	012340*	125252		.WORD 125252	
1865	012342*	052525		.WORD 052525	
1866	012344*	125253		.WORD 125253	
1867	012346*	177777		.WORD 177777	
1868	012350*	052525		.WORD 052525	
1869	012352*	125253		.WORD 125253	
1870	012354*	000000		.WORD 000000	
1871	012356*	125252		.WORD 125252	
1872	012360*	177777		.WORD 177777	
1873	012362*	000000		.WORD 000000	
1874	012364*	177777		.WORD 177777	
1875	012366*	177777		.WORD 177777	
1876	012370*	052525		.WORD 052525	
1877	012372*	125252		.WORD 125252	
1878	012374*	177777		.WORD 177777	
1879	012376*	125252		.WORD 125252	
1880	012400*	052525		.WORD 052525	
1881	012402*	177777		.WORD 177777	
1882	012404*	000000		.WORD 000000	
1883	012406*	052525		.WORD 052525	
1884	012410*	177777		.WORD 177777	
1885	012412*	177777		.WORD 177777	
1886	012414*	125252		.WORD 125252	
1887	012416*	052525	MULTLC::	.WORD 052525	: COMPLIMENTED ADDRESS LIST
1888	012420*	052525		.WORD 052525	
1889	012422*	052525		.WORD 052525	
1890	012424*	052525		.WORD 052525	
1891	012426*	125252		.WORD 125252	
1892	012430*	052525		.WORD 052525	
1893	012432*	052525		.WORD 052525	
1894	012434*	052525		.WORD 052525	
1895	012436*	125252		.WORD 125252	
1896	012440*	052525		.WORD 052525	
1897	012442*	000000		.WORD 000000	
1898	012444*	125252		.WORD 125252	

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1899	012446	052525	.WORD	052525
1900	012450	177777	.WORD	177777
1901	012452	052525	.WORD	052525
1902	012454	000001	.WORD	000001
1903	012456	000000	.WORD	000000
1904	012460	000000	.WORD	000000
1905	012462	000001	.WORD	000001
1906	012464	125252	.WORD	125252
1907	012466	052525	.WORD	052525
1908	012470	000001	.WORD	000001
1909	012472	052525	.WORD	052525
1910	012474	125252	.WORD	125252
1911	012476	000001	.WORD	000001
1912	012500	177777	.WORD	177777
1913	012502	125252	.WORD	125252
1914	012504	000001	.WORD	000001
1915	012506	000000	.WORD	000000
1916	012510	052525	.WORD	052525

:DEFAULT EXPECTED DATA

1917					
1918	012512	000174	TDR14A::	.WORD 124.	: EXPECTED TDRB FOR
1919	012514	001072		.WORD TBUF	: TESTS 14
1920	012516	021400		.WORD 021400	: MTCH,STP,ENP
1921	012520	000000		.WORD 0	
1922	012522	000200	TDR15A::	.WORD 128.	: EXPECTED TDRB FOR
1923	012524	001072		.WORD TBUF	: TESTS 15,16
1924	012526	021400		.WORD 021400	: MTCH,STP,ENP
1925	012530	000000		.WORD 0	
1926	012532	000174	TDR18A::	.WORD 124.	: FIRST TDRB FOR TEST18
1927	012534	001072		.WORD TBUF	: :
1928	012536	001000		.WORD 001000	: STP
1929	012540	000000		.WORD 0	
1930	012542	000174	TDR18B::	.WORD 124.	: SECOND TDRB FOR TEST18
1931	012544	001072		.WORD TBUF	: :
1932	012546	041400		.WORD 041400	: ERRS,STP,ENP
1933	012550	100000		.WORD 100000	: BU L
1934	012552	000400	TDR20A::	.WORD 256.	: FIRST TDRB FOR TEST20
1935	012554	001072		.WORD TBUF	
1936	012556	001000		.WORD 001000	: STP
1937	012560	000000		.WORD 0	
1938	012562	000400	TDR20B::	.WORD 256.	: SECOND TDRB FOR TEST20
1939	012564	001472		.WORD TBUF 2	
1940	012566	000000		.WORD 0	
1941	012570	000000		.WORD 0	
1942	012572	000374	TDR20C::	.WORD 252.	: THIRD TDRB FOR TEST20
1943	012574	002072		.WORD TBUF 3	
1944	012576	020400		.WORD 020400	: MTCH,ENP
1945	012600	000000		.WORD 0	
1946	012602	000174	TDR21X::	.WORD 124.	: EXPECTED TDRB FOR
1947	012604	001072		.WORD TBUF	: TESTS 21,22
1948	012606	001400		.WORD 001400	: STP,ENP
1949	012610	000000		.WORD 0	
1950	012612	000072	TDR25A::	.WORD 58.	: EXPECTED TDRB FOR
1951	012614	001072		.WORD TBUF	: TEST 25
1952	012616	021400		.WORD 021400	: MTCH,STP,ENP
1953	012620	000000		.WORD 0	
1954	012622	000200	RDR14A::	.WORD 128.	: EXPECTED RDRB FOR

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1955	012624	005072	.WORD	RBUF	: TESTS 14,16
1956	012626	045400	.WORD	045400	: ERRS,CRC,STP,ENP
1957	012630	000000	.WORD	0	
1958	012632	000200	.WORD	128.	: EXPECTED RDRB FOR
1959	012634	005072	.WORD	RBUF	: TESTS 15
1960	012636	001400	.WORD	001400	: STP,ENP
1961	012640	000000	.WORD	0	
1962	012642	000100	.WORD	64.	: FIRST RDRB FOR TEST17
1963	012644	005072	.WORD	RBUF	:
1964	012646	041400	.WORD	041400	: ERRS,STP,ENP
1965	012650	120000	.WORD	120000	: BUFL,NCHN
1966	012652	000100	.WORD	64.	: SECOND RDRB FOR TEST17
1967	012654	005472	.WORD	RBUF2	
1968	012656	100000	.WORD	100000	: OWN = DEUNA
1969	012660	000000	.WORD	0	
1970	012662	000400	.WORD	256.	: FIRST RDRB FOR TEST20
1971	012664	005072	.WORD	RBUF	
1972	012666	001000	.WORD	001000	: STP
1973	012670	000000	.WORD	0	
1974	012672	000400	.WORD	256.	: SECOND RDRE FOR TEST20
1975	012674	005472	.WORD	RBUF2	
1976	012676	000000	.WORD	0	
1977	012700	000000	.WORD	0	
1978	012702	000400	.WORD	256.	: THIRD RDRB FOR TEST20
1979	012704	006072	.WORD	RBUF3	
1980	012706	044400	.WORD	044400	: ERRS, CRC, ENP
1981	012710	000000	.WORD	0	
1982	012712	006474	.WORD	6474	: EXPECTED CRC FOR TEST 14
1983	012714	131527	.WORD	131527	
1984	012716	006474	.WORD	6474	: GOOD CRC VALUE FOR TEST15
1985	012720	131527	.WORD	131527	
1986	012722	000000	.WORD	0	: BAD CRC VALUE FOR TEST16
1987	012724	000000	.WORD	0	
1988	012726	106101	.WORD	106101	: EXPECTED CRC FOR TEST20
1989	012730	101153	.WORD	101153	
1990	012732	065161	.WORD	65161	: EXPECTED CRC'S FOR TEST 21
1991	012734	050063	.WORD	50063	
1992	012736	065223	.WORD	65223	
1993	012740	025351	.WORD	25351	
1994	012742	056142	.WORD	056142	: CRC TABLE FOR TEST 22
1995	012744	171072	.WORD	171072	
1996	012746	111710	.WORD	111710	
1997	012750	043441	.WORD	043441	
1998	012752	066722	.WORD	066722	
1999	012754	111422	.WORD	111422	
2000	012756	025213	.WORD	025213	
2001	012760	044464	.WORD	044464	
2002	012762	152221	.WORD	152221	
2003	012764	116407	.WORD	116407	
2004	012766	152243	.WORD	152243	
2005	012770	176367	.WORD	176367	
2006	012772	100525	.WORD	100525	
2007	012774	130346	.WORD	130346	
2008	012776	077517	.WORD	077517	
2009	013000	062325	.WORD	062325	
2010	013002	173674	.WORD	173674	

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2011	013004	005750		.WORD	005750	
2012	013006	004646		.WORD	004646	
2013	013010	157733		.WORD	157733	
2014	013012	063264	CRC22B::	.WORD	063264	
2015	013014	006474		.WORD	006474	
2016	013016	124436		.WORD	124436	
2017	013020	134047		.WORD	134047	
2018	013022	053404		.WORD	053404	
2019	013024	066024		.WORD	066024	
2020	013026	010135		.WORD	010135	
2021	013030	133062		.WORD	133062	
2022	013032	167107		.WORD	167107	
2023	013034	061001		.WORD	061001	
2024	013036	020737		.WORD	020737	
2025	013040	133352		.WORD	133352	
2026	013042	135603		.WORD	135603	
2027	013044	047740		.WORD	047740	
2028	013046	042631		.WORD	042631	
2029	013050	115723		.WORD	115723	
2030	013052	146552		.WORD	146552	
2031	013054	172356		.WORD	172356	
2032	013056	031560		.WORD	031560	
2033	013060	020335		.WORD	020335	
2034	013062	050247	CRC23B::	.WORD	050247	
2035	013064	127465		.WORD	127465	
2036	013066	072767	CRC25B::	.WORD	072767	: EXPECTED CRC FOR TEST25
2037	013070	162562		.WORD	162562	
2038	013072	005116	CRC27A::	.WORD	005116	: EXPECTFD CRC FOR TEST27
2039	013074	171012		.WORD	171012	
2040	013076	100014	MODE15::	.WORD	100014	: MODE = PROM,DTCR,INTL
2041	013100	120004	MODE17::	.WORD	120004	: MODE = PROM,DRDC,INTL
2042	013102	100000	MODE20::	.WORD	100000	: MODE = PROM
2043	013104	000004	MODE21::	.WORD	4	: INTL LOOPBACK ONLY
2044	013106	040004	MODE24::	.WORD	040004	: MODE = ENAL,INTL
2045	013110	110004	MODE25::	.WORD	110004	: MODE = PROM,TPAD,INTL
2046	013112	000005	MODE26::	.WORD	5	: MODE = INTL,HDUP
2047	013114	000002	UDB28A::	.WORD	2	: UDBB FOR TEST28
2048	013116	000000		.WORD	0	
2049	013120	000000		.WORD	0	
2050	013122	000000		.WORD	0	
2051	013124	021040	SWADDR::	.WORD	21040	: SWITCH PACK ADDRESS
2052			:GLOBAL DATA AND FLAGS			
2053			.			
2054	013126	000000	EPCSR0::	.WORD	0	: PCSR0 AT TIME OF ERROR
2055	013130	000000	EPCSR1::	.WORD	0	: PCSR1 AT TIME OF ERROR
2056	013132	000000	ERDRB0::	.WORD	0	: RDRB+0 AT TIME OF ERROR
2057	013134	000000	ERDRB2::	.WORD	0	: RDRB+2 AT TIME OF ERROR
2058	013136	000000	ERDRB4::	.WORD	0	: RDRB+4 AT TIME OF ERROR
2059	013140	000000	ERDRB6::	.WORD	0	: RDRB+6 AT TIME OF ERROR
2060	013142	000000	XRDRB0::	.WORD	0	: EXPECTED RDRB+0 AT TIME OF ERROR
2061	013144	000000	XRDRB2::	.WORD	0	: EXPECTED RDRB+2 AT TIME OF ERROR
2062	013146	000000	XRDRB4::	.WORD	0	: EXPECTED RDRB+4 AT TIME OF ERROR
2063	013150	000000	XRDRB6::	.WORD	0	: EXPECTED RDRB+6 AT TIME OF ERROR
2064	013152	000000	ETDRB0::	.WORD	0	: TDRB+0 AT TIME OF ERROR
2065	013154	000000	ETDRB2::	.WORD	0	: TDRB+2 AT TIME OF ERROR
2066	013156	000000	ETDRB4::	.WORD	0	: TDRB+4 AT TIME OF ERROR

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2067	013160'	000000	ETDRB6::	.WORD	0	; TDRB+6 AT TIME OF ERROR
2068	013162'	000000	XTDRB0::	.WORD	0	; EXPECTED TDRB+0 AT TIME OF ERROR
2069	013164'	000000	XTDRB2::	.WORD	0	; EXPECTED TDRB+2 AT TIME OF ERROR
2070	013166'	000000	XTDRB4::	.WORD	0	; EXPECTED TDRB+4 AT TIME OF ERROR
2071	013170'	000000	XTDRB6::	.WORD	0	; EXPECTED TDRB+6 AT TIME OF ERROR
2072	013172'	000000	EDAT::	.WORD	0	; ACTUAL DATA AT TIME OF ERROR
2073	013174'	000000	XDAT::	.WORD	0	; EXPECTED DATA AT TIME OF ERROR
2074	013176'	000000	ECRC::	.WORD	0	; ACTUAL CRC VALUE AT TIME OF ERROR
2075	013200'	000000	ECRCB::	.WORD	0	
2076	013202'	000000	XCRC::	.WORD	0	; EXPECTED CRC VALUE AT TIME OF ERROR
2077	013204'	000000	XCRCB::	.WORD	0	
2078			.			
2079	013206'	000000	ECODE::	.WORD	0	; SELF TEST ERROR CODE SHIFTED RIGHT
2080			.			
2081	013210'	000000	NEXMEM::	.WORD	0	; NXM TIMEOUT FLAG
2082	013212'	000000	DNIFLG::	.WORD	0	; DNI INTERRUPT FLAG
2083	013214'	000000	FRSTIM::	.WORD	0	; FIRST TIME FLAG
2084			.			
2085	013216'	177777	PATRN1::	.WORD	177777	; SA0_SA1 TEST PATTERN
2086	013220'	000000		.WORD	0	
2087	013222'	052525		.WORD	52525	
2088	013224'	125252		.WORD	125252	
2089						
2090	013226'		ERRTBL			
2091	013226'					LSERRTBL::
2092	013226'	000000	ERRTYP::	.WORD	0	
2093	013230'	000000	ERRNBR::	.WORD	0	
2094	013232'	000000	ERRMSG::	.WORD	0	
2095	013234'	000000	ERRBLK::	.WORD	0	

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2096      .SBTTL GLOBAL TEXT SECTION
2097
2098      :++
2099      : THE GLOBAL TEXT SECTION CONTAINS FORMAT STATEMENTS,
2100      : MESSAGES, AND ASCII INFORMATION THAT ARE USED IN
2101      : MORE THAN ONE TEST.
2102      :--
2103
2104      :
2105      : NAMES OF DEVICES SUPPORTED BY PROGRAM
2106      :
2107      :     DEVTYP <DEUNA>
2108
2109      :     LSDVTYP::
2110      :             .ASCIZ /DEUNA/
2111      :             .EVEN
2112
2113      : TEST DESCRIPTION
2114      :
2115      :     DESCRIPT      <DEUNA - PDP11 FUNCTIONAL DIAGNOSTIC BASE LEVEL 5.1>
2116      :
2117      :     LSDDESC::
2118      :             .ASCIZ /DEUNA - PDP11 F
2119
2120      :
2121      :
2122      :
2123      :
2124      :
2125      :
2126      :
2127      :     .EVEN
2128
2129
2130      :
2131      : FORMAT STATEMENTS USED IN PRINT CALLS
2132      :
2133      :
2134      :
2135      :
2136      :
2137      : FRM001::      .ASCIZ /%N%APCSR%D1% DOES NOT EXIST/
2138
2139      :
2140      :
2141      :
2142      : FRM002::      .ASCIZ /%N% EXPECTED DATA = %06%N% A TUAL DATA = %06/
2143
2144      :
2145      :
2146      :
2147      :
2148      :
2149      :
2150      :
2151      : FRM003::      .ASCIZ /%N% PCSRO = %06%N% PCSR1 = %06/

```

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2152	013454'	051503	030122	36440		
2153	013462'	022440	033117	047045		
2154	013470'	040445	050040	051503		
2155	013476'	030522	036440	022440		
2156	013504'	033117	000			
2157	013507'	045	022516	020101	FRM004::	.ASCIZ /%N% SELF TEST ERROR CODE = %02/
2158	013514'	042523	043114	052040		
2159	013522'	051505	020124	051105		
2160	013530'	047522	020122	047503		
2161	013536'	042504	036440	022440		
2162	013544'	031117	000			
2163	013547'	045	022516	020101	FRM005::	.ASCIZ /%N% EXPECTED TDRB+0 = %06%N% ACTUAL TDRB+0 = %06/
2164	013554'	054105	042520	052103		
2165	013562'	042105	052040	051104		
2166	013570'	025502	020060	020075		
2167	013576'	047445	022466	022516		
2168	013604'	020101	041501	052524		
2169	013612'	046101	052040	051104		
2170	013620'	025502	020060	020075		
2171	013626'	020040	047445	000066		
2172	013634'	047045	040445	042440	FRM006::	.ASCIZ /%N% EXPECTED TDRB+2 = %06%N% ACTUAL TDRB+2 = %06/
2173	013642'	050130	041505	042524		
2174	013650'	020104	042124	041122		
2175	013656'	031053	036440	022440		
2176	013664'	033117	047045	040445		
2177	013672'	040440	052103	040525		
2178	013700'	020114	042124	041122		
2179	013706'	031053	036440	020040		
2180	013714'	022440	033117	000		
2181	013721'	045	022516	020101	FRM007::	.ASCIZ /%N% EXPECTED TDRB+4 = %06%N% ACTUAL TDRB+4 = %06/
2182	013726'	054105	042520	052103		
2183	013734'	042105	052040	051104		
2184	013742'	025502	020064	020075		
2185	013750'	047445	022466	022516		
2186	013756'	020101	041501	052524		
2187	013764'	046101	052040	051104		
2188	013772'	025502	020064	020075		
2189	014000'	020040	047445	000066		
2190	014006'	047045	040445	042440	FRM008::	.ASCIZ /%N% EXPECTED TDRB+6 = %06%N% ACTUAL TDRB+6 = %06/
2191	014014'	050130	041505	042524		
2192	014022'	020104	042124	041122		
2193	014030'	033053	036440	022440		
2194	014036'	033117	047045	040445		
2195	014044'	040440	052103	040525		
2196	014052'	020114	042124	041122		
2197	014060'	033053	036440	020040		
2198	014066'	022440	033117	000		
2199	014073'	045	022516	020101	FRM009::	.ASCIZ /%N% EXPECTED RDRB+0 = %06%N% ACTUAL RDRB+0 = %06/
2200	014100'	054105	042520	052103		
2201	014106'	042105	051040	051104		
2202	014114'	025502	020060	020075		
2203	014122'	047445	022466	022516		
2204	014130'	020101	041501	052524		
2205	014136'	046101	051040	051104		
2206	014144'	025502	020060	020075		
2207	014152'	020040	047445	000066		

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2208	014160*	047045	040445	042440	FRM010::	.ASCIZ	/NZA EXPECTED RDRB+2 = %06%NZA	ACTUAL RDRB+2 =	%06/
2209	014166*	050130	041505	042524					
2210	014174*	020104	042122	041122					
2211	014202*	031053	036440	022440					
2212	014210*	033117	047045	040445					
2213	014216*	040440	052103	040525					
2214	014224*	020114	042122	041122					
2215	014232*	031053	036440	020040					
2216	014240*	022440	033117	000					
2217	014245*	045	022516	020101	FRM011::	.ASCIZ	/NZA EXPECTED RDRB+4 = %06%NZA	ACTUAL RDRB+4 =	%06/
2218	014252*	054105	042520	052103					
2219	014260*	042105	051040	051104					
2220	014266*	025502	020064	020075					
2221	014274*	047445	022466	022516					
2222	014302*	020101	041501	052524					
2223	014310*	046101	051040	051104					
2224	014316*	025502	020064	020075					
2225	014324*	020040	047445	000066					
2226	014332*	047045	040445	042440	FRM012::	.ASCIZ	/NZA EXPECTED RDRB+6 = %06%NZA	ACTUAL RDRB+6 =	%06/
2227	014340*	050130	041505	042524					
2228	014346*	020104	042122	041122					
2229	014354*	033053	036440	022440					
2230	014362*	033117	047045	040445					
2231	014370*	040440	052103	040525					
2232	014376*	020114	042122	041122					
2233	014404*	033053	036440	020040					
2234	014412*	022440	033117	000					
2235	014417*	045	022516	020101	FRM013::	.ASCIZ	/NZA EXPECTED CRC = %06%NZA		%06/
2236	014424*	054105	042520	052103					
2237	014432*	042105	041440	041522					
2238	014440*	036440	022440	033117					
2239	014446*	047045	040445	020040					
2240	014454*	020040	020040	020040					
2241	014462*	020040	020040	020040					
2242	014470*	020040	047445	000066					
2243	014476*	047045	040445	040440	FRM014::	.ASCIZ	/NZA ACTUAL CRC = %06%NZA		%06/
2244	014504*	052103	040525	020114					
2245	014512*	051103	020103	020040					
2246	014520*	020075	047445	022466					
2247	014526*	022516	020101	020040					
2248	014534*	020040	020040	020040					
2249	014542*	020040	020040	020040					
2250	014550*	022440	033117	000					
2251	014555*	045	022516	000124	FRM015::	.ASCIZ	/N%T/		
2252	014562*	047045	040445	047522	FRM016::	.ASCIZ	/N%AROM MICROCODE VERSION (DECIMAL): %D2/		
2253	014570*	020115	044515	051103					
2254	014576*	041517	042117	020105					
2255	014604*	042526	051522	047511					
2256	014612*	020116	042050	041505					
2257	014620*	046511	046101	035051					
2258	014626*	022440	031104	000					
2259	014633*	045	022516	051501	FRM017::	.ASCIZ	/N%ASWITCH PACK = %06/		
2260	014640*	044527	041524	020110					
2261	014646*	040520	045503	036440					
2262	014654*	022440	033117	000					
2263	014661*	045	022516	050101	FRM018::	.ASCIZ	/N%APORT STATUS WORD 1: %06/		

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2264	014666'	051117	020124	052123			
2265	014674'	052101	051525	053440			
2266	014702'	051117	020104	035061			
2267	014710'	022440	033117	000			
2268	014715'	045	022516	020101	FRM019::	.ASCIZ /%N% WORD 2: %06/	
2269	014722'	020040	020040	020040			
2270	014730'	020040	020040	053440			
2271	014736'	051117	020104	035062			
2272	014744'	022440	033117	000			
2273	014751'	045	022516	020101	FRM020::	.ASCIZ /%N% WORD 3: %06/	
2274	014756'	020040	020040	020040			
2275	014764'	020040	020040	053440			
2276	014772'	051117	020104	035063			
2277	015000'	022440	033117	000			
2278	015005'	045	022516	020101	FRM021::	.ASCIZ /%N% WORD 4: %06/	
2279	015012'	020040	020040	020040			
2280	015020'	020040	020040	053440			
2281	015026'	051117	020104	035064			
2282	015034'	022440	033117	000			
2283	015042'				.EVEN		

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GLOBAL ERROR REPORT SECTION

.SBTTL GLOBAL ERROR REPORT SECTION

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: THE GLOBAL ERROR REPORT SECTION CONTAINS MESSAGE PRINTING AREAS
: USED BY MORE THAN TEST TO OUTPUT ADDITIONAL ERROR INFORMATION. PRINTB
: (BASIC) AND PRINTX (EXTENDED) CALLS ARE USED TO CALL PRINT SERVICES.
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2284
2285
2286
2287
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2291
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2293
2294 015042'          BGNMSG MSG001
2295 015042'          PRINTB #FRM001,R2          MSG001::
2296 015042'
2297 015042' 010246
2298 015044' 012746 013330'
2299 015050' 012746 000002
2300 015054' 010600
2301 015056' 104414
2302 015060' 062706 000006
2303 015064'          ENDMSG
2304 015064'
2305 015064' 104423          L10002: TRAP C$MSG
2306
2307 015066'          BGNMSG MSG002
2308 015066'          PRINTB #FRM002,R3,R4          MSG002::
2309 015066'
2310 015066' 010446
2311 015070' 010346
2312 015072' 012746 013365'
2313 015076' 012746 000003
2314 015102' 010600
2315 015104' 104414
2316 015106' 062706 000010
2317 015112'          ENDMSG
2318 015112'
2319 015112' 104423          L10003: TRAP C$MSG
2320
2321 015114'          BGNMSG MSG003
2322 015114'          PRINTB #FRM003,EPCSR0,EPCSR1          MSG003::
2323 015114'
2324 015114' 013746 013130'
2325 015120' 013746 013126'
2326 015124' 012746 013446'
2327 015130' 012746 000003
2328 015134' 010600
2329 015136' 104414
2330 015140' 062706 000010
2331 015144'          ENDMSG
2332 015144'
2333 015144' 104423          L10004: TRAP C$MSG
2334
2335 015146'          BGNMSG MSG004
2336 015146'          PRINTB #FRM004,ECODE          MSG004::
2337 015146'
2338 015146' 013746 013206'
2339 015152' 012746 013507'

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2340 015156' 012746 000002
 2341 015162' 010600
 2342 015164' 104414
 2343 015166' 062706 000006
 2344 015172'
 2345 015172' 013746 026656'
 2346 015176' 012746 014555'
 2347 015202' 012746 000002
 2348 015206' 010600
 2349 015210' 104414
 2350 015212' 062706 000006
 2351 015216'
 2352 015216'
 2353 015216' 104423
 2354
 2355 015220'
 2356 015220'
 2357 015220'
 2358 015220' 013746 013152'
 2359 015224' 013746 013162'
 2360 015230' 012746 013547'
 2361 015234' 012746 000003
 2362 015240' 010600
 2363 015242' 104414
 2364 015244' 062706 000010
 2365 015250'
 2366 015250' 013746 013154'
 2367 015254' 013746 013164'
 2368 015260' 012746 013634'
 2369 015264' 012746 000003
 2370 015270' 010600
 2371 015272' 104414
 2372 015274' 062706 000010
 2373 015300'
 2374 015300' 013746 013156'
 2375 015304' 013746 013166'
 2376 015310' 012746 013721'
 2377 015314' 012746 000003
 2378 015320' 010600
 2379 015322' 104414
 2380 015324' 062706 000010
 2381 015330'
 2382 015330' 013746 013166'
 2383 015334' 013746 013170'
 2384 015340' 012746 014006'
 2385 015344' 012746 000003
 2386 015350' 010600
 2387 015352' 104414
 2388 015354' 062706 000010
 2389 015360'
 2390 015360'
 2391 015360' 104423
 2392
 2393 015362'
 2394 015362'
 2395 015362'

PRINTB #FRM015,STMSG
 ENDMSG
 BGNMSG MSG005
 PRINTB #FRM005,XTDRB0,ETDRB0
 PRINTB #FRM006,XTDRB2,ETDRB2
 PRINTB #FRM007,XTDRB4,ETDRB4
 PRINTB #FRM008,XTDRB6,ETDRB6
 ENDMSG
 BGNMSG MSG006
 PRINTB #FRM009,XRDRB0,ERDRB0

MOV #2,-(SP)
 MOV SP,RO
 TRAP C\$PNTB
 ADD #6,SP
 MOV STMSG,-(SP)
 MOV #FRM015,-(SP)
 MOV #2,-(SP)
 MOV SP,RO
 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,RO
 TRAP C\$PNTB
 ADD #10,SP
 MOV ETDRB2,-(SP)
 MOV XTDRB2,-(SP)
 MOV #FRM006,-(SP)
 MOV #3,-(SP)
 MOV SP,RO
 TRAP C\$PNTB
 ADD #10,SP
 MOV ETDRB4,-(SP)
 MOV XTDRB4,-(SP)
 MOV #FRM007,-(SP)
 MOV #3,-(SP)
 MOV SP,RO
 TRAP C\$PNTB
 ADD #10,SP
 MOV ETDRB6,-(SP)
 MOV XTDRB6,-(SP)
 MOV #FRM008,-(SP)
 MOV #3,-(SP)
 MOV SP,RO
 TRAP C\$PNTB
 ADD #10,SP
 L10006:
 TRAP C\$MSG

MSG006::

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2396 015362' 013746 013132'
 2397 015366' 013746 013142'
 2398 015372' 012746 014073'
 2399 015376' 012746 00J003
 2400 015402' 010600
 2401 015404' 104414
 2402 015406' 062706 000010
 2403 015412'
 2404 015412' 013746 013134'
 2405 015416' 013746 013144'
 2406 015422' 012746 014160'
 2407 015426' 012746 000003
 2408 015432' 010600
 2409 015434' 104414
 2410 015436' 062706 000010
 2411 015442'
 2412 015442' 013746 013136'
 2413 015446' 013746 013146'
 2414 015452' 012746 014245'
 2415 015456' 012746 000003
 2416 015462' 010600
 2417 015464' 104414
 2418 015466' 062706 000010
 2419 015472'
 2420 015472' 013746 013140'
 2421 015476' 013746 013150'
 2422 015502' 012746 014332'
 2423 015506' 012746 000003
 2424 015512' 010600
 2425 015514' 104414
 2426 015516' 062706 000010
 2427 015522'
 2428 015522'
 2429 015522' 104423
 2430
 2431 015524'
 2432 015524'
 2433 015524'
 2434 015524' 013746 013172'
 2435 015530' 013746 013174'
 2436 015534' 012746 013365'
 2437 015540' 012746 000003
 2438 015544' 010600
 2439 015546' 104414
 2440 015550' 062706 000010
 2441 015554'
 2442 015554'
 2443 015554' 104423
 2444
 2445 015556'
 2446 015556'
 2447 015556'
 2448 015556' 013746 013204'
 2449 015562' 013746 013202'
 2450 015566' 012746 014417'
 2451 015572' 012746 00J003

PRINTB #FRM010,XRDRB2,ERDRB2

PRINTB #FRM011,XRDRB4,ERDRB4

PRINTB #FRM012,XRDRB6,ERDRB6

ENDMSG

BGNMSG MSG007

PRINTB #FRM002,XDAT,EDAT

ENDMSG

BGNMSG MSG008

PRINTB #FRM013,XCRC,XRCB

MOV ERDRB0,-(SP)
 MOV XRDRB0,-(SP)
 MOV #FRM009,-(SP)
 MOV #3,-(SP)
 MOV SP,R0
 TRAP C\$PNTB
 ADD #10,SP

MOV ERDRB2,-(SP)
 MOV XRDRB2,-(SP)
 MOV #FRM010,-(SP)
 MOV #3,-(SP)
 MOV SP,R0
 TRAP C\$PNTB
 ADD #10,SP

MOV ERDRB4,-(SP)
 MOV XRDRB4,-(SP)
 MOV #FRM011,-(SP)
 MOV #3,-(SP)
 MOV SP,R0
 TRAP C\$PNTB
 ADD #10,SP

MOV ERDRB6,-(SP)
 MOV XRDRB6,-(SP)
 MOV #FRM012,-(SP)
 MOV #3,-(SP)
 MOV SP,R0
 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,R0
 TRAP C\$PNTB
 ADD #10,SP

L10010: TRAP C\$MSG

MSG008::

MOV XCRCB,-(SP)
 MOV XCRC,-(SP)
 MOV #FRM013,-(SP)
 MOV #3,-(SP)

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2508	016034*	051117	044440	020116		
2509	016042*	041520	051123	000062		
2510	016050*	005015	040504	040524	ERR003::	.ASCIZ <15><12>/DATA COMPARE ERROR IN PCSR3/
2511	016056*	041440	046517	040520		
2512	016064*	042522	042440	051122		
2513	016072*	051117	044440	020116		
2514	016100*	041520	051123	000063		
2515	016106*	005015	047104	020111	ERR004::	.ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
2516	016114*	044502	020124	040506		
2517	016122*	046111	042105	052040		
2518	016130*	020117	042523	020124		
2519	016136*	043101	042524	020122		
2520	016144*	042504	044526	042503		.ASCIZ /DEVICE RESET /
2521	016152*	051040	051505	052105		
2522	016160*	000040				
2523	016162*	005015	042523	043114	ERR005::	.ASCIZ <15><12>/SELF TEST FAILURE/
2524	016170*	052040	051505	020124		
2525	016176*	040506	046111	051125		
2526	016204*	000105				
2527	016206*	005015	051127	052111	ERR006::	.ASCIZ <15><12>/WRITING ONE TO CLEAR DNI BIT FAILED/
2528	016214*	047111	020107	047117		
2529	016222*	020105	047524	041440		
2530	016230*	042514	051101	042040		
2531	016236*	044516	041040	052111		
2532	016244*	043040	044501	042514		
2533	016252*	000104				
2534	016254*	005015	047516	042040	ERR007::	.ASCII <15><12>/NO DNI INTERRUPT OCCURED /
2535	016262*	044516	044440	052116		
2536	016270*	051105	052522	052120		
2537	016276*	047440	041503	051125		
2538	016304*	042105	040			
2539	016307*	101	052106	051105		.ASCIZ /AFTER GET PCBB PORT COMMAND/
2540	016314*	043440	052105	050040		
2541	016322*	041103	020102	047520		
2542	016330*	052122	041440	046517		
2543	016336*	040515	042116	000		
2544	016343*	015	042012	044516	ERR008::	.ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
2545	016350*	041040	052111	043040		
2546	016356*	044501	042514	020104		
2547	016364*	047524	051440	052105		
2548	016372*	040440	052106	051105		
2549	016400*	040				
2550	016401*	116	050117	050040		.ASCIZ /NOP PORT COMMAND/
2551	016406*	051117	020124	047503		
2552	016414*	046515	047101	000104		
2553	016422*	005015	047104	020111	ERR009::	.ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
2554	016430*	044502	020124	040506		
2555	016436*	046111	042105	052040		
2556	016444*	020117	042523	020124		
2557	016452*	043101	042524	020122		
2558	016460*	042507	020124	041520		.ASCIZ /GET PCBB PORT COMMAND/
2559	016466*	041102	050040	051117		
2560	016474*	020124	047503	046515		
2561	016502*	047101	000104			
2562	016506*	005015	047104	020111	ERR010::	.ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
2563	016514*	044502	020124	040506		

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2564	016522*	046111	042105	052040	
2565	016530*	020117	042523	020124	
2566	016536*	043101	042524	020122	
2567	016544*	042507	020124	046503	.ASCIZ /GET LMD PORT COMMAND/
2568	016552*	020104	047520	052122	
2569	016560*	041440	046517	040515	
2570	016566*	042116	000		
2571	016571*	015	042012	052101	ERR011:: .ASCIZ <15><12>/DATA COMPARE ERROR IN MODE REGISTER/
2572	016576*	020101	047503	050115	
2573	016604*	051101	020105	051105	
2574	016612*	047522	020122	047111	
2575	016620*	046440	042117	020105	
2576	016626*	042522	044507	052123	
2577	016634*	051105	000		
2578	016637*	015	042012	044516	ERR012:: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
2579	016644*	041040	052111	043040	
2580	016652*	044501	042514	020104	
2581	016660*	047524	051440	052105	
2582	016666*	040440	052106	051105	
2583	016674*	040			
2584	016675*	123	040524	052122	.ASCIZ /START PORT COMMAND/
2585	016702*	050040	051117	020124	
2586	016710*	047503	046515	047101	
2587	016716*	000104			
2588	016720*	005015	054124	020111	ERR013:: .ASCIZ <15><12>/TXI BIT FAILED TO SET /
2589	016726*	044502	020124	040506	
2590	016734*	046111	042105	052040	
2591	016742*	020117	042523	020124	
2592	016750*	000			
2593	016751*	015	053412	044522	ERR014:: .ASCIZ <15><12>/WRITING ONE TO CLEAR TXI BIT FAILED/
2594	016756*	044524	043516	047440	
2595	016764*	042516	052040	020117	
2596	016772*	046103	040505	020122	
2597	017000*	054124	020111	044502	
2598	017006*	020124	040506	046111	
2599	017014*	042105	000		
2600	017017*	015	051012	044530	ERR015:: .ASCIZ <15><12>/RXI BIT FAILED TO SET /
2601	017024*	041040	052111	043040	
2602	017032*	044501	042514	020104	
2603	017040*	047524	051440	052105	
2604	017046*	000040			
2605	017050*	005015	051127	052111	ERR016:: .ASCIZ <15><12>/WRITING ONE TO CLEAR RXI BIT FAILED/
2606	017056*	047111	020107	047117	
2607	017064*	020105	047524	041440	
2608	017072*	042514	051101	051040	
2609	017100*	044530	041040	052111	
2610	017106*	043040	044501	042514	
2611	017114*	000104			
2612	017116*	005015	044524	042515	ERR017:: .ASCII <15><12>/TIMEOUT ERROR' - DENUA FAILED TO /
2613	017124*	052517	020124	051105	
2614	017132*	047522	020122	020055	
2615	017140*	042504	052516	020101	
2616	017146*	040506	046111	042105	
2617	017154*	052040	020117		
2618	017160*	042522	044514	050516	.ASCIZ /RELINQUISH OWNERSHIP OF RDRB /
2619	017166*	044525	044123	047440	

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2620	017174*	047127	051105	044123	
2621	017202*	050111	047440	020106	
2622	017210*	042122	041122	000040	
2623	017216*	005015	044524	042515	ERR018::
2624	017224*	052517	020124	051105	.ASCII <15><12>/TIMEOUT ERROR - DENUA FAILED TO /
2625	017232*	047522	020122	020055	
2626	017240*	042504	052516	020101	
2627	017246*	040506	046111	042105	
2628	017254*	052040	020117		
2629	017260*	042522	044514	050516	.ASCIZ /RELINQUISH OWNERSHIP OF TDRB /
2630	017266*	044525	044123	047440	
2631	017274*	047127	051105	044123	
2632	017302*	050111	047440	020106	
2633	017310*	042124	041122	000040	
2634	017316*	005015	047104	020111	ERR019::
2635	017324*	044502	020124	040506	.ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
2636	017332*	046111	042105	052040	
2637	017340*	020117	042523	020124	
2638	017346*	043101	042524	020122	
2639	017354*	052123	050117	050040	.ASCIZ /STOP PORT COMMAND/
2640	017362*	051117	020124	047503	
2641	017370*	046515	047101	000104	
2642	017376*	005015	040504	040524	ERR020::
2643	017404*	041440	046517	040520	.ASCII <15><12>/DATA COMPARE ERROR IN /
2644	017412*	042522	042440	051122	
2645	017420*	051117	044440	020116	
2646	017426*	051124	047101	046523	.ASCIZ /TRANSMIT DESCRIPTOR RING/
2647	017434*	051111	042040	051505	
2648	017442*	051103	050111	047524	
2649	017450*	020122	044522	043516	
2650	017456*	000			
2651	017457*	015	042012	052101	ERR021::
2652	017464*	020101	047503	050115	.ASCII <15><12>/DATA COMPARE ERROR IN /
2653	017472*	051101	020105	051105	
2654	017500*	047522	020122	047111	
2655	017506*	020040			
2656	017510*	042522	042503	053111	.ASCIZ /RECEIVE DESCRIPTOR RING/
2657	017516*	020105	042504	041523	
2658	017524*	044522	052120	051117	
2659	017532*	041040	047111	000107	
2660	017540*	005015	051124	047101	ERR022::
2661	017546*	046523	052111	051055	.ASCIZ <15><12>/TRANSMIT-RECEIVE DATA COMPARE ERROR /
2662	017554*	041505	044505	042526	
2663	017562*	042040	052101	020101	
2664	017570*	047503	050115	051101	
2665	017576*	020105	051105	047522	
2666	017604*	020122	000		
2667	017607*	015	041412	041522	ERR023::
2668	017614*	041440	046517	040520	.ASCIZ <15><12>/CRC COMPARE ERROR /
2669	017622*	042522	042440	051122	
2670	017630*	051117	000040		
2671	017634*	005015	047111	042524	ERR024::
2672	017642*	047122	046101	051040	.ASCIZ <15><12>/INTERNAL ROM CRC COMPARE ERROR /
2673	017650*	046517	041440	041522	
2674	017656*	041440	046517	040520	
2675	017664*	042522	042440	051122	

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2676	017672*	051117	000040		
2677	017676*	005015	041522	044502	ERR025:: .ASCIZ <15><12>/RCBI BIT FAILED TO SET /
2678	017704*	041040	052111	043040	
2679	017712*	044501	042514	020104	
2680	017720*	047524	051440	052105	
2681	017726*	000040			
2682	017730*	005015	051127	052111	ERR026:: .ASCIZ <15><12>/WRITING ONE TO CLEAR RCBI BIT FAILED/
2683	017736*	047111	020107	047117	
2684	017744*	020105	047524	041440	
2685	017752*	042514	051101	051040	
2686	017760*	041103	020111	044502	
2687	017766*	020124	040506	046111	
2688	017774*	042105	000		
2689	017777*	015	052012	046511	ERR027:: .ASCII <15><12>/TIMEOUT ERROR - DENUA FAILED TO RELINQUISH/
2690	020004*	047505	052125	042440	
2691	020012*	051122	051117	026440	
2692	020020*	042040	047105	040525	
2693	020026*	043040	044501	042514	
2694	020034*	020104	047524	051040	
2695	020042*	046105	047111	052521	
2696	020050*	051511	110		
2697	020053*	040	053517	042516	.ASCIZ / OWNERSHIP OF FIRST TDRB/
2698	020060*	051522	044510	020120	
2699	020066*	043117	043040	051111	
2700	020074*	052123	052040	051104	
2701	020102*	000102			
2702	020104*	005015	044524	042515	ERR028:: .ASCII <15><12>/TIMEOUT ERROR - DENUA FAILED TO RELINQUISH/
2703	020112*	052517	020124	051105	
2704	020120*	047522	020122	020055	
2705	020126*	042504	052516	020101	
2706	020134*	040506	046111	042105	
2707	020142*	052040	020117	042522	
2708	020150*	044514	050516	044525	
2709	020156*	044123			
2710	020160*	047440	047127	051105	.ASCIZ / OWNERSHIP OF SECOND TDRB/
2711	020166*	044123	050111	047440	
2712	020174*	020106	042523	047503	
2713	020202*	042116	052040	051104	
2714	020210*	000102			
2715	020212*	005015	044524	042515	ERR029:: .ASCII <15><12>/TIMEOUT ERROR - DENUA FAILED TO RELINQUISH/
2716	020220*	052517	020124	051105	
2717	020226*	047522	020122	020055	
2718	020234*	042504	052516	020101	
2719	020242*	040506	046111	042105	
2720	020250*	052040	020117	042522	
2721	020256*	044514	050516	044525	
2722	020264*	044123			
2723	020266*	047440	047127	051105	.ASCIZ / OWNERSHIP OF THIRD TDRB/
2724	020274*	044123	050111	047440	
2725	020302*	020106	044124	051111	
2726	020310*	020104	042124	041122	
2727	020316*	000			
2728	020317*	015	052012	046511	ERR030:: .ASCII <15><12>/TIMEOUT ERROR - DENUA FAILED TO RELINQUISH/
2729	020324*	047505	052125	042440	
2730	020332*	051122	051117	026440	
2731	020340*	042040	047105	040525	

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2732	020346'	043040	044501	042514		
2733	020354'	020104	047524	051040		
2734	020362'	046105	047111	052521		
2735	020370'	051511	110			
2736	020373'	040	053517	042516		.ASCIZ / OWNERSHIP OF FIRST RDRB/
2737	020400'	051522	04510	020120		
2738	020406'	043117	043040	051111		
2739	020414'	052123	051040	051104		
2740	020422'	000102				
2741	020424'	005015	044524	042515	ERR031::	.ASCII <15><12>/TIMEOUT ERROR - DENUA FA TO RELINQUISH/
2742	020432'	052517	020124	051105		
2743	020440'	047522	020122	020055		
2744	020446'	042504	052516	020101		
2745	020454'	040506	046111	042105		
2746	020462'	052040	020117	042522		
2747	020470'	044514	050516	044525		
2748	020476'	044123				
2749	020500'	047440	047127	051105		.ASCIZ / OWNERSHIP OF SECOND RDRB/
2750	020506'	044123	050111	047440		
2751	020514'	020106	042523	047503		
2752	020522'	042116	051040	051104		
2753	020530'	000102				
2754	020532'	005015	044524	042515	ERR032::	.ASCII <15><12>/TIMEOUT ERROR - DENUA FAILED TO RELINQUISH/
2755	020540'	052517	020124	051105		
2756	020546'	047522	020122	020055		
2757	020554'	042504	052516	020101		
2758	020562'	040506	046111	042105		
2759	020570'	052040	020117	042522		
2760	020576'	044514	050516	044525		
2761	020604'	044123				
2762	020606'	047440	047127	051105		.ASCIZ / OWNERSHIP OF THIRD RDRB/
2763	020614'	044123	050111	047440		
2764	020622'	020106	044124	051111		
2765	020630'	020104	042122	041122		
2766	020636'	000				
2767	020637'	015	042012	052101	ERR033::	.ASCII <15><12>/DATA COMPARE ERROR IN /
2768	020644'	020101	047503	050115		
2769	020652'	051101	020105	051105		
2770	020660'	047522	020122	047111		
2771	020666'	040				
2772	020667'	106	051111	052123		.ASCIZ /FIRST TRANSMIT DESCRIPTOR RING/
2773	020674'	052040	040522	051516		
2774	020702'	044515	020124	042504		
2775	020710'	041523	044522	052120		
2776	020716'	01117	051040	047111		
2777	020724'	000107				
2778	020726'	005015	040504	040524	ERR034::	.ASCII <15><12>/DATA COMPARE ERROR IN /
2779	020734'	041440	046517	040520		
2780	020742'	042522	042440	051122		
2781	020750'	051117	044440	020116		
2782	020756'	042523	047503	042116		.ASCIZ /SECOND TRANSMIT DESCRIPTOR RING/
2783	020764'	052040	040522	051516		
2784	020772'	044515	020124	042504		
2785	021000'	041523	044522	052120		
2786	021006'	051117	051040	047111		
2787	021014'	000107				

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2788	021016*	005015	040504	040524	ERR035::	.ASCII <15><12>/DATA COMPARE ERROR IN /
2789	021024*	041440	046517	040520		
2790	021032*	042522	042440	051122		
2791	021040*	051117	044440	020116		
2792	021046*	044124	051111	020104		.ASCIZ /THIRD TRANSMIT DESCRIPTOR RING/
2793	021054*	051124	047101	046523		
2794	021062*	052111	042040	051505		
2795	021070*	051103	050111	047524		
2796	021076*	020122	044522	043516		
2797	021104*	000				
2798	021105*	015	042012	052101	ERR036::	.ASCII <15><12>/DATA COMPARE ERROR IN /
2799	021112*	020101	047503	050115		
2800	021120*	051101	020105	051105		
2801	021126*	047522	020122	047111		
2802	021134*	040				
2803	021135*	106	051111	052123		.ASCIZ /FIRST RECEIVE DESCRIPTOR RING/
2804	021142*	051040	041505	044505		
2805	021150*	042526	042040	051505		
2806	021156*	051103	050111	047524		
2807	021164*	020122	044522	043516		
2808	021172*	000				
2809	021173*	015	042012	052101	ERR037::	.ASCII <15><12>/DATA COMPARE ERROR IN /
2810	021200*	020101	047503	050115		
2811	021206*	051101	020105	051105		
2812	021214*	047522	020122	047111		
2813	021222*	040				
2814	021223*	123	041505	047117		.ASCIZ /SECOND RECEIVE DESCRIPTOR RING/
2815	021230*	020104	042522	042503		
2816	021236*	053111	020105	042504		
2817	021244*	041523	044522	052120		
2818	021252*	051117	051040	047111		
2819	021260*	000107				
2820	021262*	005015	040504	040524	ERR038::	.ASCII <15><12>/DATA COMPARE ERROR IN /
2821	021270*	041440	046517	040520		
2822	021276*	042522	042440	051122		
2823	021304*	051117	044440	020116		
2824	021312*	044124	051111	020104		.ASCIZ /THIRD RECEIVE DESCRIPTOR RING/
2825	021320*	042522	042503	053111		
2826	021326*	020105	042504	041523		
2827	021334*	044522	052120	051117		
2828	021342*	051040	047111	000107		
2829	021350*	005015	051105	047522	ERR039::	.ASCII <15><12>/ERROR - LOOPBACK SUCCESSFUL WITH/
2830	021356*	020122	020055	047514		
2831	021364*	050117	040502	045503		
2832	021372*	051440	041525	042503		
2833	021400*	051523	052506	020114		
2834	021406*	044527	044124			
2835	021412*	005015	047111	040526		.ASCIZ <15><12>/INVALID DESTINATION ADDRESS /
2836	021420*	044514	020104	042504		
2837	021426*	052123	047111	052101		
2838	021434*	047511	020116	042101		
2839	021442*	051104	051505	020123		
2840	021450*	000				
2841	021451*	015	041012	043125	ERR040::	.ASCII <15><12>/BUFL BIT FAILED TO SET /
2842	021456*	020114	044502	020124		
2843	021464*	040506	046111	042105		

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2844	021472'	052040	020117	042523	
2845	021500'	020124			
2846	021502'	044127	047105	040440	.ASCIZ /WHEN ATTEMPTING TO TRANSMIT A RUNT PACKET/
2847	021510'	052124	046505	052120	
2848	021516'	047111	020107	047524	
2849	021524'	052040	040522	051516	
2850	021532'	044515	020124	020101	
2851	021540'	052522	052116	050040	
2852	021546'	041501	042513	000124	
2853	021554'	005015	040520	020104	ERR041:: .ASCIZ <15><12>/PAD RUNT PACKET FAILURE /
2854	021562'	052522	052116	050040	
2855	021570'	041501	042513	020124	
2856	021576'	040506	046111	051125	
2857	021604'	020105	000		
2858	021607'	015	053412	051503	ERR042:: .ASCIZ <15><12>/WCS MEMORY DATA COMPARE ERROR /
2859	021614'	046440	046505	051117	
2860	021622'	020131	040504	040524	
2861	021630'	041440	046517	040520	
2862	021636'	042522	042440	051122	
2863	021644'	051117	000040		
2864	021650'	005015	044514	045516	ERR043:: .ASCIZ <15><12>/LINK MEMORY DATA COMPARE ERROR /
2865	021656'	046440	046505	051117	
2866	021664'	020131	040504	040524	
2867	021672'	041440	046517	040520	
2868	021700'	042522	042440	051122	
2869	021706'	051117	000040		
2870	021712'	005015	047104	020111	ERR044:: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
2871	021720'	044502	020124	040506	
2872	021726'	046111	042105	052040	
2873	021734'	020117	042523	020124	
2874	021742'	043101	042524	020122	
2875	021750'	042522	042101	041440	.ASCIZ /READ COUNTERS PORT COMMAND/
2876	021756'	052517	052116	051105	
2877	021764'	020123	047520	052122	
2878	021772'	041440	046517	040515	
2879	022000'	042116	000		
2880	022003'	015	042012	044516	ERR045:: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
2881	022010'	041040	052111	043040	
2882	022016'	044501	042514	020104	
2883	022024'	047524	051440	052105	
2884	022032'	040440	052106	051105	
2885	022040'	040			
2886	022041'	123	046105	020106	.ASCIZ /SELF TEST PORT COMMAND/
2887	022046'	042524	052123	050040	
2888	022054'	051117	020124	047503	
2889	022062'	046515	047101	000104	
2890	022070'	005015	051105	047522	ERR046:: .ASCII <15><12>/ERROR - LOOPBACK SUCCESSFUL WITH/
2891	022076'	020122	020055	047514	
2892	022104'	050117	040502	045503	
2893	022112'	051440	041525	042503	
2894	022120'	051523	052506	020114	
2895	022126'	044527	044124		
2896	022132'	005015	040510	043114	.ASCIZ <15><12>/HALF DUPLEX MODE SET /
2897	022140'	042040	050125	042514	
2898	022146'	020130	047515	042504	
2899	022154'	051440	052105	000040	

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2900	022162'	005015	051105	047522	ERR047::	.ASCII <15><12>/ERROR - DIAGNOSTIC TYPE PACKET /
2901	022170'	020122	020055	044504		
2902	022176'	C. 3501	047516	052123		
2903	022204'	041511	052040	050131		
2904	022212'	020105	040520	045503		
2905	022220'	052105	040			
2906	022223'	122	041505	044505		.ASCIZ /RECEIVED FROM ANOTHER NODE/
2907	022230'	042526	020104	051106		
2908	022236'	046517	040440	047516		
2909	022244'	044124	051105	047040		
2910	022252'	042117	000105			
2911	022256'	005015	042523	044522	ERR048::	.ASCIZ <15><12>/SERI BIT FAILED TO SET /
2912	022264'	041040	052111	043040		
2913	022272'	044501	042514	020104		
2914	022300'	047524	051440	052105		
2915	022306'	000040				
2916	022310'	005015	051127	052111	ERR049::	.ASCIZ <15><12>/WRITING ONE TO CLEAR SERI BIT FAILED/
2917	022316'	047111	020107	047117		
2918	022324'	020105	047524	041440		
2919	022332'	042514	051101	051440		
2920	022340'	051105	020111	044502		
2921	022346'	020124	040506	046111		
2922	022354'	042105	000			
2923	022357'	015	042412	051122	ERR050::	.ASCII <15><12>/ERROR SUMMARY BIT FAILED TO SET IN /
2924	022364'	051117	051440	046525		
2925	022372'	040515	054522	041040		
2926	022400'	052111	043040	044501		
2927	022406'	042514	020104	047524		
2928	022414'	051440	052105	044440		
2929	022422'	020116				
2930	022424'	047520	052122	051440		.ASCIZ /PORT STATUS WORD 2/
2931	022432'	040524	052524	020123		
2932	022440'	047527	042122	031040		
2933	022446'	000				
2934	022447'	015	041412	046117	ERR051::	.ASCII <15><12>/COLLISION TEST ERROR BIT FAILED TO SET IN /
2935	022454'	044514	044523	047117		
2936	022462'	052040	051505	020124		
2937	022470'	051105	047522	020122		
2938	022476'	044502	020124	040506		
2939	022504'	046111	042105	052040		
2940	022512'	020117	042523	020124		
2941	022520'	047111	040			
2942	022523'	120	051117	020124		.ASCIZ /PORT STATUS WORD 2/
2943	022530'	052123	052101	051525		
2944	022536'	053440	051117	020104		
2945	022544'	000062				

.EVEN

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.SBTTL GLOBAL SUBROUTINES SECTION

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*****
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
      ;
      ; LOOP FOR APPROX 2 SEC
      MOV      #4,R1          ; INIT OUTER LOOP
10$:  CLR      R0              ; INNER LOOP
20$:  MOV      @PCSRO,R4      ; PCSRO -> R4
      BIT      #DNI,R4       ; DNI SET ?
      BNE     30$             ; YES
      DEC     R0              ; INNER LOOP EXHAUSTED ?
      BNE     20$             ; NO, CHECK FOR DNI AGAIN
      DEC     R1              ; OUTER LOOP EXHAUSTED ?
      BNE     20$             ; NO, KEEP CHECKING FOR DNI
      ;
      ; LOOP EXHAUSTED AND NO DNI
      MOV      R4,EPCSR0     ; PCSRO -> EPCSR0
      MOV      @PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
      SEC
      BR      40$           ; SET CARRY
30$:  CLC
40$:  MOV      (SP)+,R4       ; DNI SET SO CLEAR CARRY
      MOV      (SP)+,R1       ; RESTORE R4
      MOV      (SP)+,R1       ; RESTORE R1
      MOV      (SP)+,R0       ; RESTORE R0
      RTS      PC            ; AND RETURN

```

```

022546'
022546' 010046
022550' 010146
022552' 010446
022554' 012701 000004
022560' 005000
022562' 017704 155440
022566' 032704 004000
022572' 001013
022574' 005300
022576' 001371
022600' 005301
022602' 001367
022604' 010437 013126'
022610' 017737 155414 013130'
022616' 000261
022620' 000401
022622' 000241
022624' 012604
022626' 012601
022630' 012600
022632' 000207

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022662
022664
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010446
010503
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100002
000261
000401
000241
012604
012603
000207

```
*****
SUBROUTINE - CHKOWN
THIS ROUTINE CHECKS FOR THE OWNERSHIP BIT IN
BOTH TRANSMIT AND RECEIVE DESCRIPTOR RINGS.
INPUTS:      R5 = ADDRESS OF DESCRIPTOR RING
OUTPUTS:     IF OWN BIT = 0 (PORT DRIVER)
              THEN CARRY = 0
              IF OWN BIT = 1 (UNA)
              THEN CARRY = 1
*****
```

```
CHKOWN::
      MOV     R3,-(SP)      ; SAVE R3
      MOV     R4,-(SP)      ; SAVE R4
      MOV     R5,R3        ; R3 POINTS TO DESCRIPTOR RING
      MOV     (R3)+,R4     ; INDEX TO THIRD RING ENTRY
      MOV     (R3)+,R4
      MOV     (R3)+,R4
      BPL    10$           ; OWN = 0 ?
      SEC
      BR     20$           ; YES
                          ; NO, SET CARRY = 1
10$:  CLC
20$:  MOV     (SP)+,R4      ; CLEAR CARRY
      MOV     (SP)+,R3      ; RESTORE R4
      RTS    PC            ; RESTORE R3
                          ; AND RETURN
```

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CZUABA.MAC

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022666*
022666* 010046
022670* 010146
022672* 010446

022674* 012701 000003
022700* 005000
022702* 017704 155320
022706* 032704 002000
022712* 001013
022714* 005300
022716* 001371
022720* 005301
022722* 001367

022724* 010437 013126*
022730* 017737 155274 013130*
022736* 000261
022740* 000401
022742* 000241
022744* 012604
022746* 012601
022750* 012600
022752* 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 -> EPCSRO
              PCSR1 -> EPCSR1
CALLING SEQUENCE:
              JSR      PC,CHKRCE
*****
```

```
CHKRCE::
      MOV      R0,-(SP)      ; SAVE R0
      MOV      R1,-(SP)      ; SAVE R1
      MOV      R4,-(SP)      ; SAVE R4
      ;
      ; LOOP FOR APPROX 2 SEC
      MOV      #3,R1        ; INIT OUTER LOOP
10$:  CLR      R0            ; INNER LOOP
20$:  MOV      @PCSRO,R4    ; PCSRO -> R4
      BIT      #RCBI,R4    ; RCBI SET ?
      BNE     30$          ; YES
      DEC     R0            ; INNER LOOP EXHAUSTED ?
      BNE     20$          ; NO, CHECK FOR RCBI AGAIN
      DEC     R1            ; OUTER LOOP EXHAUSTED ?
      BNE     20$          ; NO, KEEP CHECKING FOR RCBI
      ;
      ; LOOP EXHAUSTED AND NO RCBI
      MOV      R4,EPCSRO    ; PCSRO -> EPCSRO
      MOV      @PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
      SEC     ; SET CARRY
      BR      40$
30$:  CLC     ; RCBI SET SO CLEAR CARRY
40$:  MOV      (SP)+,R4    ; RESTORE R4
      MOV      (SP)+,R1    ; RESTORE R1
      MOV      (SP)+,R0    ; RESTORE R0
      RTS     PC           ; AND RETURN
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022754*
022754* 010046
022756* 010346
022760* 010446
022762* 012700 000003
022766* 012703 013142*
022772* 010504
022774* 022423
022776* 001010
023000* 005300
023002* 001374
023004* 011400
023006* 042700 007777
023012* 020013
023014* 001001
023016* 000411
023020* 012703 013132*
023024* 010504
023026* 012423
023030* 012423
023032* 012423
023034* 012423
023036* 000261
023040* 000401

SUBROUTINE - CHKRDR

THIS SUBROUTINE COMPARES A RECEIVE DESCRIPTOR RING ENTRY
WITH EXPECTED DATA.

INPUTS: R5 = ADDRESS OF RDRB TO BE COMPARED.

INPLICIT INPUTS:
XRDRB0 = 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 R3,-(SP) ; SAVE R3
MOV R4,-(SP) ; SAVE R4
MOV #3,R0 ; DO THREE COMPARES
MOV #XRDRB0,R3 ; R3 POINTS TO EXPECTED DATA
MOV R5,R4 ; R4 POINTS TO ACTUAL RDRB
10\$: CMP (R4)+,(R3)+ ; COMPARE RDRB TO EXPECTED DATA
; ERROR ?
; YES
BNE 20\$; NO, DONE COMPARING ?
DEC R0 ; NO, KEEP ON COMPARING
BNE 10\$; RDRB+6 -> R0
MOV (R4),R0 ; MASK OUT TDR VALUE
R1C #TDRMSK,R0 ; COMPARE ERROR ?
CMP R0,(R3)
BNE 20\$; YES
BR 30\$
20\$: MOV #ERDRB0,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)+
MOV (R4)+,(R3)+
SEC ; SET CARRY
BR 40\$

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3132	023042*	000241	30\$:	CLC		:	CLEAR CARRY
3133	023044*	012604	40\$:	MOV	(SP)+,R4	:	RESTORE R4
3134	023046*	012603		MOV	(SP)+,R3	:	RESTORE R3
3135	023050*	012600		MOV	(SP)+,R0	:	RESTORE R0
3136	023052*	000207		RTS	PC	:	AND RETURN

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023054'
023054' 010046
023056' 010146
023060' 010446

023062' 012701 000003
023066' 005000
023070' 017704 155132
023074' 032704 020000
023100' 001013
023102' 005300
023104' 001371
023106' 005301
023110' 001367

023112' 010437 013126'
023116' 017737 155106 013130'
023124' 000261
023126' 000401
023130' 000241
023132' 012604
023134' 012601
023136' 012600
023140' 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
;
; LOOP FOR APPROX 2 SEC
10$:  MOV      #3,R1          ; INIT OUTER LOOP
      CLR      R0            ; INNER LOOP
20$:  MOV      @PCSRO,R4      ; PCSRO -> R4
      BIT      #RXI,R4       ; RXI SET ?
      BNE     30$            ; YES
      DEC     R0             ; INNER LOOP EXHAUSTED ?
      BNE     20$            ; NO, CHECK FOR RXI AGAIN
      DEC     R1             ; OUTER LOOP EXHAUSTED ?
      BNE     20$            ; NO, KEEP CHECKING FOR RXI
;
; LOOP EXHAUSTED AND NO RXI
      MOV     R4,EPCSR0      ; PCSRO -> EPCSR0
      MOV     @PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
      SEC
      BR      40$           ; SET CARRY
30$:  CLC                    ; RXI SET SO CLEAR CARRY
40$:  MOV     (SP)+,R4       ; RESTORE R4
      MOV     (SP)+,R1       ; RESTORE R1
      MOV     (SP)+,R0       ; RESTORE R0
      RTS      PC           ; AND RETURN
```

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023142' 010046
023144' 010446
023146' 017704 155056
023152' 042704 140377
023156' 022704 000000
023162' 001412
023164' 012700 000010
023170' 006204
023172' 005300
023174' 001375
023176' 005104
023200' 010437 013206'
023204' 000261
023206' 000401
023210' 000241
023212' 012604
023214' 012600
023216' 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$:      MOV      #8.,R0
ASR      R4
DEC      R0
BNE      5$
COM      R4             ; MATCH THE LED'S
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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025220'
023220' 010046
023222' 010346
023224' 010446
023226' 012700 000004
023232' 012703 013162'
023236' 010504
023240' 022423

023242' 001003
023244' 005300
023246' 001374
023250' 000411
023252' 012703 013152'
023256' 010504
023260' 012423
023262' 012423
023264' 012423
023266' 012423
023270' 000261
023272' 000401
023274' 000241
023276' 012604
023300' 012603
023302' 012600

```
*****
SUBROUTINE - CHKTDR

THIS SUBROUTINE COMPARES A TRANSMIT DESCRIPTOR RING ENTRY
WITH EXPECTED DATA.

INPUTS:          R5 = ADDRESS OF TDRB TO BE COMPARED

IMPLICIT INPUTS: XTDORB0 = TABLE WITH EXPECTED DATA

OUTPUTS:         IF COMPARE IS SUCCESSFUL
                  THEN CARRY = 0

                  IF COMPARE IS UNSUCCESSFUL
                  THEN CARRY = 1
                  EXPECTED TDRB+0 = XTDORB0
                  EXPECTED TDRB+2 = XTDORB2
                  EXPECTED TDRB+4 = XTDORB4
                  EXPECTED TDRB+6 = XTDORB6
                  ACTUAL TDRB+0 -> ETDORB0
                  ACTUAL TDRB+2 -> ETDORB2
                  ACTUAL TDRB+4 -> ETDORB4
                  ACTUAL TDRB+6 -> ETDORB6

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      #XTDORB0,R3       ; R3 POINTS TO EXPECTED DATA
      MOV      R5,R4             ; R4 POINTS TO ACTUAL TDRB
10$:   CMP      (R4)+,(R3)+      ; COMPARE TDRB TO EXPECTED DATA
      ; ERROR ?
      BNE      20$              ; YES
      DEC      R0                ; NO, DONE COMPARING ?
      BNE      10$              ; NO, KEEP ON COMPARING
      BR       30$
20$:   MOV      #ETDORB0,R3      ; R3 POINTS TO ACTUAL TABLE
      MOV      R5,R4             ; R4 POINTS TO ACTUAL TDRB
      MOV      (R4)+,(R3)+      ; LOAD ACTUAL TABLE
      MOV      (R4)+,(R3)+
      MOV      (R4)+,(R3)+
      SEC                          ; SET CARRY
      BR       40$
30$:   CLC                          ; CLEAR CARRY
40$:   MOV      (SP)+,R4         ; RESTORE R4
      MOV      (SP)+,R3         ; RESTORE R3
      MOV      (SP)+,R0         ; RESTORE R0
```

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3283 023304' 000207

RTS PC

; AND RETURN

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023306' 010046
023306' 010146
023312' 010446

023314' 012701 000003
023320' 005000
023322' 017704 154700
023326' 032704 010000
023332' 001013
023334' 005300
023336' 001371
023340' 005301
023342' 001367

023344' 010437 013126'
023350' 017737 154654 013130'
023356' 000261
023360' 000401
023362' 000241
023364' 012604
023366' 012601
023370' 012600
023372' 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 -> EPCSR0
              PCSR1 -> EPCSR1
CALLING SEQUENCE:
              JSR      PC,CHKTXI
*****
```

```
CHKTXI::
MOV      R0,-(SP)      ; SAVE R0
MOV      R1,-(SP)      ; SAVE R1
MOV      R4,-(SP)      ; SAVE R4
;
; LOOP FOR APPROX 2 SEC
MOV      #3,R1          ; INIT OUTER LOOP
10$:    CLR      R0      ; INNER LOOP
20$:    MOV      @PCSRO,R4 ; PCSRO -> R4
        BIT      #TXI,R4 ; TXI SET ?
        BNE     30$     ; YES
        DEC     R0      ; INNER LOOP EXHAUSTED ?
        BNE     20$     ; NO, CHECK FOR TXI AGAIN
        DEC     R1      ; OUTER LOOP EXHAUSTED ?
        BNE     20$     ; NO, KEEP CHECKING FOR TXI
;
; LOOP EXHAUSTED AND NO TXI
MOV      R4,EPCSR0     ; PCSRO -> EPCSR0
MOV      @PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
SEC      ; SET CARRY
BR      40$
30$:    CLC          ; TXI SET SO CLEAR CARRY
40$:    MOV      (SP)+,R4 ; RESTORE R4
        MOV      (SP)+,R1 ; RESTORE R1
        MOV      (SP)+,R0 ; RESTORE R0
        RTS      PC      ; AND RETURN
```

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CZUABA.MAC 10-JAN-83 12:46 GLOBAL SUBROUTINES SECTION

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*****
SUBROUTINE - CHKSER
THIS ROUTINE CHECKS FOR THE SERI BIT IN PCSRO.
INPUTS: NONE
OUTPUTS:      IF SERI BIT SET THEN CARRY = 0
              IF SERI BIT NOT SET THEN CARRY = 1
              PCSRO -> EPCSRO
              PCSR1 -> EPCSR1
CALLING SEQUENCE:
              JSR      PC,CHKSER
*****

```

```

023374' 010446
023376' 017704 154624
023402' 032704 100000
023406' 001007
023410' 010437 013126'
023414' 017737 154610 013130'
023422' 000261
023424' 000401
023426' 000241
023430' 012604
023432' 000207

```

```

CHKSER::MOV      R4,-(SP)          ;SAVE R4
          MOV      @PCSRO,R4      ;GET PCSRO CONTENTS
          BIT      #SERI,R4      ;IS SERI BIT SET?
          BNE     10$            ;YES
          MOV      R4,EPCSRO     ;NO, SAVE PCSRO CONTENTS
          MOV      @PCSR1,EPCSR1 ;GET PCSR1 CONTENTS TOO
          SEC     ;INDICATE NO SERI BIT
          BR      20$            ;LEAVE
10$:     CLC     ;INDICATE SERI BIT SET
20$:     MOV      (SP)+,R4       ;RESTORE R4
          RTS      PC

```

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023434' 010446
023434' 012777 004000 154562
023444' 017704 154556
023450' 032704 004000
023454' 001407
023456' 010437 013126'
023462' 017737 154542 013130'
023470' 000261
023472' 000401
023474' 000241
023476' 012604
023500' 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      #DNI,@PCSRO       ; WRITE ONE TO CLEAR DNI BIT
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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GLOBAL SUBROUTINES SECTION

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```

*****
SUBROUTINE - CLRRCE

THIS SUBROUTINE PERFORMS A WRITE ONE TO CLEAR OPERATION ON
THE RCBI BIT AND VERIFIES ITS SUCCESS.

INPUTS: NONE

OUTPUTS:      IF SUCCESSFUL ( RCBI = 0 )
                THEN CARRY = 0

                IF UNSUCCESSFUL ( RCBI = 1 )
                THEN CARRY = 1
                PCSRO -> EPCSRO
                PCSR1 -> EPCSR1

CALLING SEQUENCE:
                JSR      PC,CLRRCE
*****

```

```

023502'
023502' 010446
023504' 012777 002000 154514
023512' 017704 154510
023516' 032704 002000
023522' 001407
023524' 010437 013126'
023530' 017737 154474 013130'
023536' 000261
023540' 000401
023542' 000241
023544' 012604
023546' 000207

```

```

CLRRCE::
MOV      R4,-(SP)           ; SAVE R4
MOV      #RCBI,@PCSRO      ; WRITE ONE TO CLEAR RCBI BIT
MOV      @PCSRO,R4         ; PCSRO -> R4
BIT      #RCBI,R4         ; RCBI = 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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```

*****
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
*****

```

```

023550'
023550' 010446
023552' 012777 020000 154446
023560' 017704 154442
023564' 032704 020000
023570' 001407
023572' 010437 013126'
023576' 017737 154426 013130'
023604' 000261
023606' 000401
023610' 000241
023612' 012604
023614' 000207

```

```

CLRRXI::
MOV      R4, -(SP)           ; SAVE R4
MOV      #RXI, @PCSRO       ; 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      CARRY              ; SET CARRY
BR       20$
10$:    CLC                  ; CLEAR CARRY
20$:    MOV      (SP)+, R4   ; RESTORE R4
RTS     PC                  ; AND RETURN

```

GLOBAL AREAS
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GLOBAL SUBROUTINES SECTION

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023616'
02361E' 010446
023620' 012777 010000 154400
023626' 017704 154374
023632' 032704 010000
023636' 001407
023640' 010437 01312E'
023644' 017737 154360 013130'
023652' 000261
023654' 000401
023656' 000241 10\$:
023660' 012604 20\$:
023662' 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
MOV      #TXI,@PCSRO       ; 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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GLOBAL SUBROUTINES SECTION

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023664'
023664' 010446
023666' 012777 100000 154332
023674' 017704 154326
023700' 032704 100000
023704' 001407
023706' 010437 013126'
023712' 017737 154312 013130'
023720' 000261
023722' 000401
023724' 000241 10\$:
023726' 012604 20\$:
023730' 000207

SUBROUTINE - CLRSER

THIS SUBROUTINE PERFORMS A WRITE ONE TO CLEAR OPERATION ON
THE SERI BIT AND VERIFIES ITS SUCCESS.

INPUTS: NONE

OUTPUTS: IF SUCCESSFUL (SERI = 0)
 THEN CARRY = 0

 IF UNSUCCESSFUL (SERI = 1)
 THEN CARRY = 1
 PCSR0 -> EPCSR0
 PCSR1 -> EPCSR1

CALLING SEQUENCE:
 JSR PC,CLRSER

CLRSER::
MOV R4,-(SP) : SAVE R4
MOV #SERI,@PCSR0 : WRITE ONE TO CLEAR SERI BIT
MOV @PCSR0,R4 : PCSRO -> R4
BIT #SERI,R4 : SERI = 0 ?
BEQ 10\$: YES
MOV R4,EPCSR0 : NO, PCSRO -> EPCSR0
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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023732'
023732' 010046
023734' 010346
023736' 010446
023740' 010500
023742' 012703 001106'
023746' 012704 005106'
023752' 022324
023754' 001003
023756' 005300
023760' 001374
023762' 000406
023764' 014337 013174'
023770' 014437 013172'
023774' 000261
023776' 000401
024000' 000241
024002' 012604
024004' 012603
024006' 012600
024010' 000207

```
*****
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+12,,R3  ; R3 POINTS TO EXPECTED DATA
MOV      #RBUF+12,,R4  ; R4 POINTS TO ACTUAL DATA
10$:     CMP      (R3)+,(R4)+ ; DATA COMPARE ?
        BNE      20$      ; NO
        DEC      R0         ; YES, DONE ?
        BNC      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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024012'
024012' 010346
024014' 010446
024016' 012703 013202'
024022' 010504
024024' 022324
024026' 001004
024030' 022324
024032' 001002
024034' 000241
024036' 000406
024040' 012703 013176'
024044' 010504
024046' 012423
024050' 012423
024052' 000261
024054' 012604
024056' 012603
024060' 000207

```
*****
SUBROUTINE - CMPCRC
THIS SUBROUTINE COMPARES A CRC VALUE WITH
AN EXPECTED CRC VALUE.
INPUTS:      R5 = ADDRESS OF ACTUAL CRC VALUE TO BE COMPARED.
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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024062*
024062* 010046
024064* 010346
024066* 010446
024070* 010500
024072* 012703 001072*
024076* 012704 005072*
024102* 022324
024104* 001003
024106* 005300
024110* 001374
024112* 000406
024114* 014337 013174*
024120* 014437 013172*
024124* 000261
024126* 000401
024130* 000241
024132* 012604
024134* 012603
024136* 012600
024140* 000207

```
*****
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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024142'
024142' 010046
024144' 010346
024146' 010446
024150' 010500
024152' 012703 000000
024156' 012704 005164'
024162' 020324
024164' 001003
024166' 005300
024170' 001374
024172' 000406
024174' 010337 013174'
024200' 014437 013172'
024204' 000261
024206' 000401
024210' 000241
024212' 012604
024214' 012603
024216' 012600
024220' 000207

```
*****
SUBROUTINE - CMPRNT

THIS SUBROUTINE COMPARES THE RECEIVE BUFFER (RBUF) DATA FIELD
TO VERIFY ZERO PADDING HAS OCCURED.

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,CMPRNT
*****
```

```
CMPRNT::
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      #ZERO,R3      ; R3 IS EXPECTED DATA (ZERO'S)
MOV      #RBUF+58.,R4  ; R4 POINTS TO ACTUAL DATA
10$:    CMP      R3,(R4)+ ; DATA = ZERO'S ?
        BNE      20$    ; 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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024222' 010046
024222' 010146
024224' 010246
024226' 010346
024230' 010546
024232' 012702 005072'
024234' 012703 004000
024240' 013704 012202'
024244' 012705 120001
024254' 112200
024256' 042700 177400
024262' 074004
024264' 012701 000010
024270' 000241
024272' 006004
024274' 103001
024276' 074504
024300' 077105
024302' 077314
024304' 012605
024306' 012603
024310' 012602
024312' 012601
024314' 012600
024316' 000207

SUBROUTINE - CRCBLK
THIS SUBROUTINE CALCULATES A 16 BIT CRC
ON A BLOCK OF DATA.
IMPLICIT
INPUTS: RBUF = ADDRESS OF DATA BLOCK
BYTE COUNT = 2048. WORDS*2
OUTPUTS: R4 = CRC
CALLING SEQUENCE:
JSR PC,CRCBLK

```
CRCBLK:
MOV R0,-(SP) ; SAVE R0
MOV R1,-(SP) ; SAVE R1
MOV R2,-(SP) ; SAVE R2
MOV R3,-(SP) ; SAVE R3
MOV R5,-(SP) ; SAVE R5
;
MOV #RBUF,R2 ; R2 = ADDRESS OF DATA BLOCK
MOV #2048.,R3 ; R3 = 2048. WORDS * 2
MOV CRCH,R4 ; INITIAL CRC
MOV #POLYH,R5 ; CRC POLYNOMIAL
1$:
MOVB (R2)+,R0 ; GET NEXT BYTE
BIC #^C377,R0 ; CLEAR HIGH BYTE
XOR R0,R4 ; MERGE BYTE WITH OLD CRC
MOV #8.,R1 ; LOOP COUNT
2$:
CLC ; CLEAR CARRY
ROR R4 ; SHIFT RIGHT THE CRC
BCC 3$ ; SKIP IF BIT ZERO NOT SET
XOR R5,R4 ; EXCLUSIVE OR IN THE POLY
3$:
SOB R1,2$ ; AND LOOP ON ALL 8 BITS
SOB R3,1$
;
MOV (SP)+,R5 ; RESTORE R5
MOV (SP)+,R3 ; RESTORE R3
MOV (SP)+,R2 ; RESTORE R2
MOV (SP)+,R1 ; RESTORE R1
MOV (SP)+,R0 ; RESTORE R0
RTS PC ; AND RETURN
```


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3786
3787 024320*
3788 024320* 010046
3789 024322* 010346
3790 024324* 010546
3791
3792 024326* 012700 000006
3793 024332* 012703 070343*
3794 024336* 012705 070260*
3795
3796 024342* 112537 070276*
3797 024346* 004737 024402*
3798 024352* 113723 070277*
3799 024356* 004737 024440*
3800 024362* 113723 070277*
3801 024366* 105723
3802 024370* 077014
3803
3804 024372* 012605
3805 024374* 012603
3806 024376* 012600
3807 024400* 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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024402'
024402' 010146
024404' 013701 070276'
024410' 042701 177417
024414' 006201
024416' 006201
024420' 006201
024422' 006201
024424' 062701 070367'
024430' 111137 070277'
024434' 012601
024436' 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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024440'
024440' 010146
024442' 013701 070276'
024446' 042701 177760
024452' 062701 070367'
024456' 111137 070277'
024462' 012601
024464' 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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024466*
024466* 010146
024470* 010346
024472* 010446
024474* 012701 002000
024500* 011504
024502* 012703 001072*
024506* 010423
024510* 062704 000002
024514* 005301
024516* 001373
024520* 012604
024522* 012603
024524* 012601
024526* 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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024530' 010146
024530' 010246
024532' 010346
024534' 010446
024536' 012701 002000
024544' 011504
024546' 012703 001072'
024552' 010402
024554' 005102
024556' 010223
024560' 062704 000002
024564' 005301
024566' 001371
024570' 012604
024572' 012603
024574' 012602
024576' 012601
024600' 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 = COMPLIMENTED 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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GLOBAL SUBROUTINES SECTION

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024602'
024602' 010346
024604' 010446
024606' 010504
024610' 012703 000244'
024614' 012423
024616' 012423
024620' 012423
024622' 012604
024624' 012603
024626' 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    (R4)+,(R3)+
MOV    (SP)+,R4      ; RESTORE R4
MOV    (SP)+,R3      ; RESTORE R3
RTS    PC            ; AND RETURN
```

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GLOBAL SUBROUTINES SECTION

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3990
3991
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3994
3995
3996
3997
3998
3999

024630'
024630' 010346
024632' 010446
024634' 012703 000252'
024640' 010504
024642' 012423
024644' 012423
024646' 012423
024650' 012423
024652' 012604
024654' 012603
024656' 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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GLOBAL SUBROUTINES SECTION

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4001
4002
4003
4004
4005
4006
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4008
4009
4010
4011
4012
4013
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4015
4016
4017
4018
4019
4020

024660*
024660* 012777 000252* 153344
024666* 012777 000000 153340
024674* 000207

```

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

```

```

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

```


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GLOBAL SUBROUTINES SECTION

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```

*****
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
*****

```

```

4038 024676'
4039 024676' 010046
4040 024700' 010346
4041 024702' 010446
4042 024704' 012700 000020
4043 024710' 012703 000632'
4044 024714' 010504
4045 024716' 012423
4046 024720' 005300
4047 024722' 001375
4048 024724' 012604
4049 024726' 012603
4050 024730' 012600
4051 024732' 000207

```

```

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

```

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GLOBAL SUBROUTINES SECTION

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024734'
024734' 010046
024736' 010346
024740' 010446
024742' 012700 000020
024746' 012703 000572'
024752' 010504
024754' 012423
024756' 005300
024760' 001375
024762' 012604
024764' 012603
024766' 012600
024770' 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
```

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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
*****

```

```

4100 024772'
4101 024772' 010046
4102 024774' 010346
4103 024776' 010446
4104 025000' 012700 000100
4105 025004' 012703 000672'
4106 025010' 010504
4107 025012' 012423
4108 025014' 005300
4109 025016' 001375
4110 025020' 012604
4111 025022' 012603
4112 025024' 012600
4113 025026' 000207

```

```

LDTDRX::
      MOV      R0,-(SP)          ; SAVE R0
      MOV      R3,-(SP)          ; SAVE R3
      MOV      R4,-(SP)          ; SAVE R4
      MOV      #64,R0           ; LOAD 64 WORDS
      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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4145

025030'
025030' 010146
025032' 010346
025034' 010446
025036' 010001
025040' 012703 000262'
025044' 010504
025046' 012423
025050' 005301
025052' 001375
025054' 012604
025056' 012603
025060' 012601
025062' 000207

```
*****
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
*****
```

```
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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4171

025064'
025064' 010346
025066' 010446
025070' 012704 013202'
025074' 010503
025076' 012324
025100' 012324
025102' 012604
025104' 012603
025106' 000207

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

4172
4173
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4199

025110'
025110' 010346
025112' 010446
025114' 012704 013142'
025120' 010503
025122' 012324
025124' 012324
025126' 012324
025130' 012324
025132' 012604
025134' 012603
025136' 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
```

GLOBAL AREAS MACY11 30(1046) 11-JAN-83 12:03 PAGE 94
CZUABA.MAC 10-JAN-83 12:46 GLOBAL SUBROUTINES SECTION

4200
4201
4202
4203
4204
4205
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4221
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4226
4227

025140'
025140' 010346
025142' 010446
025144' 012704 013162'
025150' 010503
025152' 012324
025154' 012324
025156' 012324
025160' 012324
025162' 012604
025164' 012603
025166' 000207

: SUBROUTINE - LDXTDR
: THIS SUBROUTINE LOADS XTDRB0 WITH EXPECTED TDRB DATA.
: INPUTS: R5 = ADDRESS OF EXPECTED DATA
: OUTPUTS: XTDRB0 TABLE = EXPECTED TDRB DATA
: CALLING SEQUENCE:
: JSR PC,LDXTDR

LDXTDR: :
MOV R3,-(SP) ; SAVE R3
MOV R4,-(SP) ; SAVE R4
MOV #XTDRB0,R4 ; R4 POINTS TO XTDRB0
MOV R5,R3 ; R3 POINTS TO DATA
MOV (R3)+,(R4)+ ; LOAD XTDRB0 TABLE
MOV (R3)+,(R4)+
MOV (R3)+,(R4)+
MOV (R3)+,(R4)+
MOV (SP)+,R4 ; RESTORE R4
MOV (SP)+,R3 ; RESTORE R3
RTS PC ; AND RETURN

GLOBAL AREAS MACY11 30(1046) 11-JAN-83 12:03 PAGE 95
CZUABA.MAC 10-JAN-83 12:46 GLOBAL SUBROUTINES SECTION

4228
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4255
4256
4257
4258
4259
4260
4261

```

*****
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
*****

```

```

025170'
025170' 010446
025172' 017704 153030
025176' 032704 020000
025202' 001407
025204' 010437 013126'
025210' 017737 153014 013130'
025216' 000261
025220' 000401
025222' 000241
025224' 012604
025226' 000207

```

```

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

```


GLOBAL AREAS MACY11 30(1046) 11-JAN-83 12:03 PAGE 96
 CZUABA.MAC 10-JAN-83 12:46 GLOBAL SUBROUTINES SECTION

4262
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4314
4315
4316
4317

025230*
025230* 010046
025232* 010346
025234* 010546
025236* 012703 005072*
025242* 012700 002000
025246* 005023
025250* 005300
025252* 001375
025254* 012705 000244*
025260* 012703 001072*
025264* 012523
025266* 012523
025270* 012523
025272* 012705 000244*
025276* 012523
025300* 012523
025302* 012523
025304* 005023
025306* 012700 001771
025312* 012705 013216*
025316* 011523
025320* 005300
025322* 001375
025324* 012605
025326* 012603
025330* 012600

```

*****
SUBROUTINE - SETBUF

THIS ROUTINE SETS UP THE TRANSMIT AND RECEIVE BUFFERS
FOR A 128 BYTE DATA LOOPBACK.
A. CLEAR RECEIVE BUFFER RBUF
B. LOAD TRANSMIT BUFFER TBUF

INPUTS:          NONE

IMPLICIT INPUTS:
                  DEST:: = DESTINATION ADDRESS

OUTPUTS:         RBUF IS CLEARED
                  TBUF IS SET UP FOR TRANSMIT

CALLING SEQUENCE:
                  JSR      PC,SETBUF
*****
    
```

```

SETBUF::
    MOV      R0,-(SP)          ; SAVE R0
    MOV      R3,-(SP)          ; SAVE R3
    MOV      R5,-(SP)          ; SAVE R5
;CLEAR RBUF (1024 WORDS)
    MOV      #RBUF,R3         ; POINT TO RBUF
    MOV      #1024,R0         ; COUNT 1024 WORDS
10$:      CLR      (R3)+       ; CLEAR BUFFER
          DEC      R0          ; DONE ?
          BNE     10$         ; NO
;SET UP TRANSMIT BUFFER TBUF
;LOAD DESTINATION ADDRESS
    MOV      #DEST,R5         ; POINT TO DESTINATION ADDRESS
    MOV      #TBUF,R3         ; POINT TO TBUF
    MOV      (R5)+,(R3)+      ; LOAD DESTINATION ADDRESS
    MOV      (R5)+,(R3)+
    MOV      (R5)+,(R3)+
;LOAD SOURCE ADDRESS
    MOV      #DEST,R5         ; LOAD FOR LATER COMPARISON
    MOV      (R5)+,(R3)+
    MOV      (R5)+,(R3)+
    MOV      (R5)+,(R3)+
;CLEAR TYPE FIELD
    CLR      (R3)+           ; CLEAR TYPE FIELD
;LOAD DATA FIELD (1017 WORDS)
    MOV      #1017,R0        ; COUNT 1017 WORDS
    MOV      #PATRN1,R5      ; POINT TO DATA PATTERN
20$:      MOV      (R5),(R3)+  ; LOAD DATA PATTERN
          DEC      R0          ; DONE ?
          BNE     20$         ; NO
    MOV      (SP)+,R5        ; YES, RESTORE R5
    MOV      (SP)+,R3        ; RESTORE R3
    MOV      (SP)+,R0        ; RESTORE R0
    
```

GLOBAL AREAS MACY11 30(1046) 11-JAN-83 12:03 PAGE 97
CZUABA.MAC 10-JAN-83 12:46 GLOBAL SUBROUTINES SECTION

4318 025332' 000207

RTS PC

; AND RESTORE

GLOBAL AREAS
CZUABA.MAC

MACY11 30(1046)
10-JAN-83 12:46

11-JAN-83 12:03 PAGE 98
GLOBAL SUBROUTINES SECTION

4319
4320
4321
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4357

025334' 010446
025336' 012777 177400 152662
025344' 017704 152656
025350' 001011
025352' 017704 152652
025356' 042704 177770
025362' 022704 000002
025366' 001002
025370' 000241
025372' 000401
025374' 000261
025376' 012604
025400' 000207

SUBROUTINE - TINIT

THIS SUBROUTINE IS CALLED AT THE BEGINNING OF A TEST
TO DETERMINE IF A DEVICE RESET IS REQUIRED BEFORE
THE REST OF THE TEST IS EXECUTED.

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 #TIMASK,@PCSR0 ; ATTEMPT TO CLEAR PCSRO
MOV @PCSR0,R4 ; PCSRO = 0 ?
BNE 10\$; NO, A RESET IS REQUIRED
MOV @PCSR1,R4 ; PCSR1 -> R4
BIC #SMASK,R4 ; MASK DEUNA 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

MISCELLANEOUS SECTIONS MACY11 30(1046)
 CZUABA.MAC 10-JAN-83 12:46

11-JAN-83 12:03 PAGE 99
 GLOBAL SUBROUTINES SECTION

4358
 4359
 4360
 4361
 4362
 4363
 4364
 4365
 4366
 4367
 4368
 4369
 4370
 4371
 4372
 4373
 4374
 4375
 4376
 4377
 4378
 4379
 4380
 4381

025402'
 025402'
 025402'
 025402' 000167
 025404' 000000
 025406'
 025406'
 025406' 104425

.TITLE MISCELLANEOUS SECTIONS
 .SBITL REPORT CODING SECTION

::+
 : THE REPORT CODING SECTION CONTAINS THE
 : 'PRINTS' CALLS THAT GENERATE STATISTICAL REPORTS.
 :--

BGNRPT

L\$RPT::

EXIT RPT

.WORD JSJMP
 .WORD L10013-2-

.EVEN

ENDRPT

L10013:
 TRAP C\$RPT

MISCELLANEOUS SECTIONS MACY11 30(1046) 11-JAN-83 12:03 PAGE 100
CZUABA.MAC 10-JAN-83 12:46 PROTECTION TABLE

.SBTTL PROTECTION TABLE

:++
: THIS TABLE IS USED BY THE RUNTIME SERVICES
: TO PROTECT THE LOAD MEDIA.
:--

4382
4383
4384
4385
4386
4387
4388
4389
4390
4391
4392
4393
4394
4395
4396
4397

025410'
025410'

025410' 177777
025412' 177777
025414' 177777

025416'

BGNPROT

-1
-1
-1

ENDPROT

LSPROT::

:OFFSET INTO P-TABLE FOR CSR ADDRESS
:OFFSET INTO P-TABLE FOR MASSBUS ADDRESS
:OFFSET INTO P-TABLE FOR DRIVE NUMBER

MISCELLANEOUS SECTIONS MACY11 30(1046) 11-JAN-83 12:03 PAGE 101
CZUABA.MAC 10-JAN-83 12:46 INITIALIZE SECTION

.SBTTL INITIALIZE SECTION

;++
: THE INITIALIZE SECTION CONTAINS THE CODING THAT IS PERFORMED
: AT THE BEGINNING OF EACH PASS.
:--

```

4398
4399
4400
4401
4402
4403
4404
4405 025416'          BGNINIT
4406 025416'
4407
4408
4409
4410 025416'          READEF #EF.CONTINUE          ;WAS A CONTINUE COMMAND ENTERED?
4411 025416' 012700 000036          MOV #EF.CONTINUE,RO
4412 025422' 104447          TRAP CSREFG
4413 025424'          BCOMPLETE          30$          ;YES, LEAVE INIT CODE
4414 025424' 103473          READEF #EF.PWR          ;WAS THERE A POWER FAILURE?
4415 025426'          BCS          30$
4416 025426' 012700 000034          READEF #EF.PWR          MOV #EF.PWR,RO
4417 025432' 104447          TRAP CSREFG
4418 025434'          BCOMPLETE          30$          ;YES, LEAVE INIT CODE
4419 025434' 103467          READEF #EF.NEW          ;NEW PASS ?
4420 025436'          BCS          30$
4421 025436' 012700 000035          READEF #EF.NEW          MOV #EF.NEW,RO
4422 025442' 104447          TRAP CSREFG
4423 025444'          BNCOMPLETE          10$          ;NO
4424 025444' 103016          READEF #EF.START          ;START ?
4425 025446'          BCC          10$
4426 025446' 012700 000040          READEF #EF.START          MOV #EF.START,RO
4427 025452' 104447          TRAP CSREFG
4428 025454'          BNCOMPLETE          5$          ;NO
4429 025454' 103005          BCC          5$
4430 025456' 000005          RESET          ;CLEAR THE WORLD
4431 025460' 012737 000001 013214'  MOV #1,FRSTIM          ;SET FIRST TIME FLAG
4432 025466' 000402          BR 6$
4433 025470' 005037 013214' 5$: CLR FRSTIM          ;CLEAR FIRST TIME FLAG
4434 025474' 012737 177777 000242' 6$: MOV #-1,UNIT          ;YES, INITIALIZE UNIT NUMBER
4435 025502' 005237 000242' 10$: INC UNIT          ;SET UP FOR NEXT UNIT
4436 025506' 023737 000242' 000012' CMP UNIT,LSUNIT          ;TESTED ALL AVAILABLE UNITS?
4437 025514' 003034          BGT 20$          ;YES, LEAVE
4438 025516'          GPHARD UNIT,R1          ;GET P-TABLE POINTER FOR THIS UNIT
4439 025516' 013700 000242'          MOV UNIT,RO
4440 025522' 104442          TRAP CS$GPHRD
4441 025524' 010001          MOV RO,R1
4442 025526'          BNCOMPLETE          10$          ;THIS ONE IS NOT AVAILABLE
4443 025526' 103365          BCC          10$
4444 025530' 012137 000226'          MOV (R1)+,PCSR0          ;SAVE PCSR0
4445 025534' 012137 000236'          MOV (R1)+,INTVEC          ;SAVE VECTOR
4446
4447 025540' 013737 000226' 000230'          MOV PCSR0,PCSR1          ;SET UP PCSR1
4448 025546' 062737 000002 000230'          ADD #2,PCSR1
4449 025554' 013737 000230' 000232'          MOV PCSR1,PCSR2          ;SET UP PCSR2
4450 025562' 062737 000002 000232'          ADD #2,PCSR2
4451 025570' 013737 000232' 000234'          MOV PCSR2,PCSR3          ;SET UP PCSR3
4452 025576' 062737 000002 000234'          ADD #2,PCSR3
4453 025604' 000403          BR 30$          ;LEAVE

```

MISCELLANEOUS SECTIONS MACY11 30(1046) 11-JAN-83 12:03 PAGE 102
CZUABA.MAC 10-JAN-83 12:46 INITIALIZE SECTION

4454 025606' 005037 013214'
4455 025612'
4456 025612' 104444
4457 025614'
4458 025614'
4459 025614' 104411
4460

20\$: CLR FRSTIM
DOCLN
30\$: ENDINIT
.EVEN

:CLEAR FIRST TIME FLAG
:ABORT PASS

TRAP CSDCLN
L10015:
TRAP CSINIT

MISCELLANEOUS SECTIONS MACY11 30(1046) 11-JAN-83 12:03 PAGE 103
CZUABA.MAC 10-JAN-83 12:46 AUTODROP SECTION

4461
4462
4463
4464
4465
4466
4467
4468
4469
4470 025616'
4471 025616'
4472
4473
4474 025616'
4475 025616'
4476 025616' 104461

.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.
:--

BGNAUTO

LSAUTO::

ENDAUTO

L10016: TRAP CSAUTO

MISCELLANEOUS SECTIONS MACY11 30(1046) 11-JAN-83 12:03 PAGE 104
CZUABA.MAC 10-JAN-83 12:46 CLEANUP CODING SECTION

4477
4478
4479
4480
4481
4482
4483
4484
4485
4486
4487
4488
4489
4490
4491
4492
4493
4494
4495
4496
4497

025620*
025620*

025620*
025620* 104432
025622* 000002

025624*
025624*
025624* 104412

.SBTTL CLEANUP CODING SECTION

:++
: THE CLEANUP CODING SECTION CONTAINS THE CODING THAT IS PERFORMED
: AFTER THE HARDWARE TESTS HAVE BEEN PERFORMED.
:--

BGNCLN

L\$CLEAN::

EXIT CLN

TRAP C\$EXIT
.WORD L10017-

.EVEN

ENDCLN

L10017:
TRAP C\$CLEAN

MISCELLANEOUS SECTIONS MACY11 30(1046)
CZUABA.MAC 10-JAN-83 12:46

11-JAN-83 12:03 PAGE 105
DROP UNIT SECTION

H
C

4498
4499
4500
4501
4502
4503
4504
4505
4506
4507
4508
4509
4510
4511
4512
4513
4514
4515
4516
4517
4518

025626'
025626'

025626'
025626' 000167
025630' 000000

025632'
025632'
025632' 104453

.SBTTL DROP UNIT SECTION

:++
: THE DROP-UNIT SECTION CONTAINS THE CODING THAT CAUSES A DEVICE
: TO NO LONGER BE TESTED.
:--

BGNDU

L\$DU::

EXIT DU

.WORD JSJMP
.WORD L10020-2-

.EVEN

ENDDU

L10020:
TRAP C\$DU

MISCELLANEOUS SECTIONS MACY11 30(1J46)
CZUABA.MAC 10-JAN-83 12:46

11-JAN-83 12:03 PAGE 106
ADD UNIT SECTION

4519
4520
4521
4522
4523
4524
4525
4526
4527 025634'
4528 025634'
4529
4530
4531 025634'
4532 025634' 000167
4533 025636' 000000
4534
4535
4536
4537
4538 025640'
4539 025640'
4540 025640' 104452

.SBTTL ADD UNIT SECTION

;++
: THE ADD-UNIT SECTION CONTAINS ANY CODE THE PROGRAMMER WISHES
: TO BE EXECUTED IN CONJUNCTION WITH THE ADDING OF A UNIT BACK
: TO THE TEST CYCLE.
:--

BGNAU

LSAU::

EXIT AU

.WORD JSJMP
.WORD L10021-2-

.EVEN

ENDAU

L10021:
TRAP CSAU

GLOBAL INTERRUPT SERVICE ROUTINES
CZUABA.MAC 10-JAN-83 12:46

MACY11 30(1046) 11-JAN-83 12:03 PAGE 107
ADD UNIT SECTION

4541
4542
4543
4544
4545
4546
4547
4548
4549
4550
4551
4552
4553
4554
4555 025642'
4556 025642'
4557 025642' 012737 000001 013210'
4558 025650'
4559 025650'
4560 025650' 000002
4561

.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
ENDSRV
ISRNXM::
L1002:
RTI

```

GLOBAL INTERRUPT SERVICE ROUTINES
CZUABA.MAC 10-JAN-83 12:46

MACY11 30(1046) 11-JAN-83 12:03 PAGE 108
ISRNXM - NON-EXISTANT MEMORY INTERRUPT SERVICE ROUTINE

4562
4563
4564
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4568
4569
4570
4571
4572
4573
457
4575
4576
4577
4578
4579
4580
4581
4582
4583
4584
4585
4586
4587

025652' 010446
025652' 017704 152346
025660' 032704 004000
025664' 001403
025666' 012737 000001 013212'
025674' 012604
025676'
025676'
025676' 000002

.SBTTL ISRDN1 - DNI INTERRUPT SERVICE ROUTINE

: FUNCTIONAL DESCRIPTION:
: THIS ROUTINE IS ASSIGNED TO THE DEUNA'S INTERRUPT VECTOR BY
: TEST 9.
: WHEN AN INTERRUPT OCCURS THE DNIFLG FLAG IS SET IF DNI IS SET.

BGNSRV ISRDN1

ISRDN1::

MOV R4, -(SP) ; SAVE R4
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

L10023:
RTI

HARDWARE TESTS MACY11 30(1046) 11-JAN-83 12:03 PAGE 109
CZUABA.MAC 10-JAN-83 12:46

ISRDN1 - DNI INTERRUPT SERVICE ROUTINE

.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

4588
4589
4590
4591
4592
4593
4594
4595
4596
4597
4598
4599
4600
4601
4602
4603
4604
4605
4606
4607
4608
4609
4610
4611
4612
4613
4614
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4618
4619
4620
4621
4622
4623
4624
4625
4626
4627
4628
4629
4630
4631
4632

025700*
025700*
025700*
025700* 012746 000340
025704* 012746 025642*
025710* 012746 000004
025714* 012746 000003
025720* 104437
025722* 062706 000010
025726* 005037 013210*
025732* 005002
025734* 017701 152266
025740* 005737 013210*
025744* 001410
025746*
025746* 104455
025750* 000001
025752* 015762*
025754* 015042*
025756*
025756* 013700 000242*
025762* 104451
025764*
025764* 104444
025766*
025766* 012700 000004
025772* 104436
025774*
025774*
025774* 104401

BGNTST
SETVEC #4,#ISRNXM,#PRI07 ; SET UP TIMEOUT TRAP VECTOR
T1::
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 @PCSRO,R1 ; DOES PCSR EXIST?
TST NEXMEM
BEQ 10\$; YES
ERRDF 001,ERR001,MSG001 ; NO, PRINT DEVICE FATAL ERROR MESSAGE
TRAP C\$ERDF
.WORD 1
.WORD ERR001
.WORD MSG001
DODU UNIT ; DROP UNIT
MOV UNIT,R0
TRAP C\$DODU
DOCLN ; AND ABORT PASS
TRAP C\$DCLN
10\$: CLRVEC #4
MOV #4,R0
TRAP C\$CVEC
L10024:
TRAP C\$ETST
ENDTST

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TEST 2: PCRS1 READ ACCESS TEST

4633
4634
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4638
4639
4640
4641
4642
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4666
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4670
4671
4672
4673
4674

025776' 012746 000340
025776' 012746 025642'
025776' 012746 000004
025776' 012746 000003
026002' 012746 000010
026006' 104437
026012' 062706 000010
026016' 005037 013210'
026020' 012702 000001
026024' 017701 152170
026030' 005737 013210'
026034' 001410
026040' 104455
026044' 000002
026046' 015762'
026050' 015042'
026054' 013700 000242'
026056' 104451
026062' 104444
026064' 104444
026066' 104444
026068' 012700 000004
026070' 104436
026072' 104436
026074' 104401

.SBTTL TEST 2: PCRS1 READ ACCESS TEST

THIS TEST WILL VERIFY THAT A DEVICE IS PRESENT AT THE PCRS1
UNIBUS ADDRESS SPECIFIED.
TEST SEQUENCE:
1. READ PCRS1

BGNTST

SETVEC #4,#ISRNXM,#PRI07 ; SET UP TIMEOUT TRAP VECTOR T2::
MOV #PRI07,-(SP)
MOV #ISRNXM,-(SP)
MOV #4,-(SP)
MOV #3,-(SP)
TRAP C\$SVEC
ADD #10,SP
CLR NEXMEM ; CLEAR NXM TIMEOUT FLAG
MOV #1,R2 ; R2 = WHICH PCRS IS BEING TESTED
MOV @PCRS1,R1 ; DOES PCRS EXIST?
TST NEXMEM
BEQ 10\$; YES
ERRDF 002,ERR001,MSG001 ; NO, PRINT DEVICE FATAL ERROR MESSAGE
TRAP C\$ERDF
.WORD 2
.WORD ERR001
.WORD MSG001
DODU UNIT ; DROP UNIT
MOV UNIT,R0
TRAP C\$DODU
DOCLN ; AND ABORT PASS
TRAP C\$DOCLN
10\$: CLRVEC #4
MOV #4,R0
TRAP C\$CVEC
L10025:
TRAP C\$SETST

ENDTST

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TEST 3: PCSR2 READ ACCESS TEST

.SBTTL TEST 3: PCSR2 READ ACCESS TEST

THIS TEST WILL VERIFY THAT A DEVICE IS PRESENT AT THE PCSR2
UNIBUS ADDRESS SPECIFIED.

TEST SEQUENCE:
1. READ PCSR2

4675
4676
4677
4678
4679
4680
4681
4682
4683
4684
4685
4686
4687 026076*
4688 026076*
4689 026076*
4690 026076* 012746 000340
4691 026102* 012746 025642*
4692 026106* 012746 000004
4693 026112* 012746 000003
4694 026116* 104437
4695 026120* 062706 000010
4696 026124* 005037 013210*
4697 026130* 012702 000002
4698 026134* 017701 152072
4699 026140* 005737 013210*
4700 026144* 001410
4701 026146*
4702 026146* 104455
4703 026150* 000003
4704 026152* 015762*
4705 026154* 015042*
4706 026156*
4707 026156* 013700 000242*
4708 026162* 104451
4709 026164*
4710 026164* 104444
4711 026166*
4712 026166* 012700 000004
4713 026172* 104436
4714 026174*
4715 026174*
4716 026174* 104401

BGNTST
SETVEC #4,#ISRNXM,#PRI07 ; SET UP TIMEOUT TRAP VECTOR
T3::
MOV #PRI07,-(SP)
MOV #ISRNXM,-(SP)
MOV #4,-(SP)
MOV #3,-(SP)
TRAP C\$SVEC
ADD #10,SP
CLR NEXMEM ; CLEAR NXM TIMEOUT FLAG
MOV #2,R2 ; R2 = WHICH PCSR IS BEING TESTED
MOV @PCSR2,R1 ; DOES PCSR EXIST?
TST NEXMEM
BEQ 10\$; YES
ERRDF 003,ERR001,MSG001 ; NO, PRINT DEVICE FATAL ERROR MESSAGE
TRAP C\$ERDF
.WORD 3
.WORD ERR001
.WORD MSG001
DODU UNIT ; DROP UNIT
MOV UNIT,R0
TRAP C\$DODU
DOCLN ; AND ABORT PASS
TRAP C\$DCLN
10\$: CLRVEC #4
MOV #4,R0
TRAP C\$CVEC
L10026:
TRAP C\$SETST
ENDTST

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TEST 4: PCRS3 READ ACCESS TEST

.SBTTL TEST 4: PCRS3 READ ACCESS TEST

```

*****
THIS TEST WILL VERIFY THAT A DEVICE IS PRESENT AT THE PCRS3
UNIBUS ADDRESS SPECIFIED.

TEST SEQUENCE:
1. READ PCRS3
*****

```

```

4717
4718
4719
4720
4721
4722
4723
4724
4725
4726
4727
4728 026176'
4729 026176'
4730 026176'
4731 026176' 012746 000340
4732 026202' 012746 025642'
4733 026206' 012746 000004
4734 026212' 012746 000003
4735 026216' 104437
4736 026220' 062706 000010
4737 026224' 005037 013210'
4738 026230' 012702 000003
4739 026234' 017701 151774
4740 026240' 005737 013210'
4741 026244' 01410
4742 026246'
4743 026246' 104455
4744 026250' 000004
4745 026252' 015762'
4746 026254' 015042'
4747 026256'
4748 026256' 013700 000242'
4749 026262' 104451
4750 026264'
4751 026264' 104444
4752 026266'
4753 026266' 012700 000004
4754 026272' 104436
4755 026274'
4756 026274'
4757 026274' 104401

```

```

*****
BGNTST
SETVEC #4,#ISRNXM,#PRIO7 ; SET UP TIMEOUT TRAP VECTOR
                                T4::
                                MOV #PRIO7,-(SP)
                                MOV #ISRNXM,-(SP)
                                MOV #4,-(SP)
                                MOV #3,-(SP)
                                TRAP C$SVEC
                                ADD #10,SP
CLR NEXMEM ; CLEAR NXM TIMEOUT FLAG
MOV #3,R2 ; R2 = WHICH PCRS IS BEING TESTED
MOV @PCRS3,R1 ; DOES PCRS EXIST?
TST NEXMEM
BEQ 10$ ; YES
ERRDF 004,ERR001,MSG001 ; NO, PRINT DEVICE FATAL ERROR MESSAGE
                                TRAP C$ERDF
                                .WORD 4
                                .WORD ERR001
                                .WORD MSG001
DODU UNIT ; DROP UNIT
                                MOV UNIT,R0
                                TRAP C$DODU
DOCLN ; AND ABORT PASS
                                TRAP C$DCLN
10$: CLRVEC #4
                                MOV #4,R0
                                TRAP C$CVEC
ENDTST
                                L10027:
                                TRAP C$SETST

```

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TEST 5: PCSR2 STATIC BIT TEST

.SBTTL TEST 5: 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
*****

```

4758
4759
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4770
4771
4772
4773
4774
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4776
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4779
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4781
4782
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4797
4798
4799
4800
4801
4802
4803
4804
4805
4806
4807

026276'
026276'
026276' 012701 013216'
026302' 012705 000004
026306' 012103
026310'
026310' 104404
026312' 010377 151714
026316' 017704 151710
026322' 042703 000001
026326' 020304
026330' 001404
026332'
026332' 104456
026334' 000005
026336' 016012'
026340' 015066'
^26342'
26342'
026342'
026342' 104405
026344' 005305
026346' 001357
026350'
026350'
026350' 104401

```

BGNTST
T5::
MOV #PATRN1,R1 ; GET ADDRESS OF DATA PATTERNS
MOV #4,R5 ; COUNT 4 PATTERNS (PASSES)
10$: MOV (R1)+,R3 ; DATA PATTERN -> R3

BGNSEG
TRAP C$BSEG

MOV R3,@PCSR2 ; DATA PATTERN -> PCSR2
MOV @PCSR2,R4 ; READ PCSR2
BIC #1,R3 ; MASK BIT00
CMP R3,R4 ; DATA COMPARE?
BEQ 20$ ; YES, CONTINUE

ERRHRD 005,ERR002,MSG002 ; NO, REPORT ERROR
TRAP C$ERHRD
.WORD 5
.WORD ERR002
.WORD MSG002

20$: ENDSEG
10000$: TRAP C$ESEG

DEC R5 ; DONE?
BNE 10$ ; NO

ENDTST
L10030: TRAP C$ETST

```

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TEST 6: PCRS3 STATIC BIT TEST

.SBTTL TEST 6: PCRS3 STATIC BIT TEST

```

*****
THIS TEST WILL CHECK PCRS3 FOR ALL SA0 AND SA1 ERRORS.
THE HOST WILL WRITE PATTERNS TO PCRS3 AND READ THEM
BACK TO VERIFY.

NOTE: PCRS3 BIT02 THRU BIT15 SHOULD ALWAYS BE A ZERO.
THESE BITS WILL BE MASKED BEFORE DOING THE COMPARE.

TEST SEQUENCE:
1. WRITE PATTERN TO PCRS3
2. COMPARE MASKED PATTERN WITH PCRS3 CONTENTS
3. REPEAT STEPS 1 AND 2 FOR ALL PATTERNS
*****

```

4808
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4810
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4840
4841
4842
4843
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4849
4850
4851
4852
4853
4854
4855
4856
4857

```

026352'
026352'
026352' 012701 013216'
026356' 012705 000004
026362' 012103
026364'
026364' 104404
026366' 010377 151642
026372' 017704 151636
026376' 042703 177774
026402' 020304
026404' 001404
026406'
026406' 104456
026410' 000006
026412' 016050'
026414' 015066'
026416'
026416'
026416'
026416' 104405
026420' 005305
026422' 001357
026424'
026424'
026424' 104401

```

```

BGNTST
T6::
MOV #PATRN1,R1 ; GET ADDRESS OF DATA PATTERNS
MOV #4,R5 ; COUNT 4 PATTERNS (PASSES)
10$: MOV (R1)+,R3 ; DATA PATTERN -> R3

BGNSEG
TRAP C$BSEG

MOV R3,@PCSR3 ; DATA PATTERN -> PCRS3
MOV @PCSR3,R4 ; READ PCRS3
BIC #177774,R3 ; MASK BIT02 THRU BIT15
CMP R3,R4 ; DATA COMPARE?
BEQ 20$ ; YES, CONTINUE

ERRHRD 006,ERR003,MSG002 ; NO, REPORT ERROR
TRAP C$ERHRD
.WORD 6
.WORD ERR003
.WORD MSG002

20$: ENDSEG
10000$: TRAP C$ESEG

DEC R5 ; DONE '
BNE 10$ ; NO

ENDTST
L10031: TRAP C$ETST

```

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CZUABA.MAC 10 JAN-83 12: TEST 7: SELF TEST

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4902
4903
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4909
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4911
4912
4913

.SBTTL TEST 7: SELF TEST

THIS TEST VERIFIES THAT THE ROM BASED SELF TEST
CAN BE RUN SUCCESSFULLY WHEN INVOKED VIA
THE SELF TEST PORT COMMAND.
TEST SEQUENCE:
1. ISSUE THE SELF TEST PORT COMMAND
2. WAIT FOR DNI
3. CHECK LITE BITE REGISTER FOR SUCCESSFUL SELF TEST
4. WRITE ONE TO CLEAR DNI

026426' 004737 025334'
026426' 103025
026426' 012777 000040 151564
026442' 004737 022546'
026446' 103006
026450' 104456
026452' 000007
026454' 016106'
026456' 015114'
026460' 104410
026462' 000172
026464' 004737 023434'
026470' 103006
026472' 104456
026474' 000010
026476' 016206'
026500' 015114'
026502' 104410
026504' 000150
026506' 012777 000003 151512
026514' 012701 000034
026520' 005000
026522' 017704 151500
026526' 032704 004000
026532' 001017
026534' 005300
026536' 001371
026540' 005301
026542' 001367

```

BGNTST
JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 25$ ; NO
MOV #RSET,@PCSR0 ; YES, RESET DEUNA
JSR PC,CHKDNI ; DNI ?
BCC 20$ ; YES
ERRHRD 007.,ERR004,MSG003 ; NO, REPORT ERROR
TRAP C$ERHRD
.WORD 7
.WORD ERR004
.WORD MSG003
ESCAPE TST ; AND ABORT TEST
TRAP C$ESCAPE
.WORD L10032-.
20$: JSR PC,CLR DNI ; WRITE ONE TO CLEAR DNI
; ERROR
; NO
; YES, REPORT ERROR
TRAP C$ERHRD
.WORD 8
.WORD ERR006
.WORD MSG003
ESCAPE TST ; AND ABORT
TRAP C$ESCAPE
.WORD L10032-.
25$: MOV #SLFT,@PCSR0 ; RUN SELF TEST
; WAIT FOR SELF TEST DNI
; LOOP FOR APPROX 20 SEC (11/24 CPU)
MOV #28.,R1 ; INIT OUTER LOOP
26$: CLR R0 ; INNER LOOP
27$: MOV @PCSR0,R4 ; PCSRO -> R4
BIT #DNI,R4 ; DNI SET ?
; YES
; INNER LOOP EXHAUSTED ?
; NO, CHECK FOR DNI AGAIN
; OUTER LOOP EXHAUSTED ?
; NO, KEEP CHECKING FOR DNI

```

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```

4914
4915
4916 026544' 010437 013126'
4917 026550' 017737 151454 013130'
4918 026556'
4919 026556' 104456
4920 026560' 000011
4921 026562' 022003'
4922 026564' 015114'
4923 026566'
4924 026566' 104410
4925 026570' 000064
4926
4927 026572' 004737 023142'
4928 026576' 103015
4929 026600' 013704 013206'
4930 026604' 006304
4931 026606' 062704 026660'
4932 026612' 011437 026656'
4933 026616'
4934 026616' 104456
4935 026620' 000012
4936 026622' 016162'
4937 026624' 015146'
4938 026626'
4939 026626' 104410
4940 026630' 000024
4941
4942 026632' 004737 023434'
4943
4944 026636' 103006
4945 026640'
4946 026640' 104456
4947 026642' 000013
4948 026644' 016206'
4949 026646' 015114'
4950 026650'
4951 026650' 104410
4952 026652' 000002
4953 026654'
4954 026654'
4955 026654'
4956 026654' 104401

```

```

:
MOV R4,EPCSR0
MOV @PCSR1,EPCSR1
ERRHRD 009.,ERR045,MSG003
: LOOP EXHAUSTED AND NO DNI
: PCSRO -> EPCSR0
: PCSR1 -> EPCSR1
: NO, REPORT ERROR
TRAP C$ERHRD
.WORD 9
.WORD ERR045
.WORD MSG003
ESCAPE TST
: AND ABORT TEST
TRAP C$ESCAPE
.WORD L10032-.

30$: JSR PC,CHKSTR
BCC 40$
MOV ECODE,R4
ASL R4
ADD #STTBL,R4
MOV (R4),STMSG
ERRHRD 010.,ERR005,MSG004
: SELF TEST SUCCESSFUL ?
: YES
: NO, SET UP TO PRINT ERROR
: SHIFT CODE FOR INDEX
: INDEX INTO SELF TEST TABLE
: LOAD INTO SELF TEST MESSAGE
: REPORT SELF TEST FAILURE
TRAP C$ERHRD
.WORD 10
.WORD ERR005
.WORD MSG004
ESCAPE TST
: AND ABORT TEST
TRAP C$ESCAPE
.WORD L10032-.

40$: JSR PC,CLRDNI
BCC 50$
ERRHRD 011.,ERR006,MSG003
: WRITE ONE TO CLEAR DNI
: ERROR?
: NO
: YES, REPORT ERROR
TRAP C$ERHRD
.WORD 11
.WORD ERR006
.WORD MSG003
ESCAPE TST
: AND ABORT
TRAP C$ESCAPE
.WORD L10032-.

50$: ENDTST
L10032: TRAP C$ETST

```

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M
C

4957			:LOCAL STORAGE FOR TEST 7	
4958	026656'	000000	STMSG::	.WORD 0 ; SELF TEST MESSAGE ADDRESS
4959			:SELF TEST MESSAGE TABLE	
4960	026660'	027060'	STTBL::	.WORD SMSG00
4961	026662'	027110'		.WORD SMSG01
4962	026664'	027137'		.WORD SMSG02
4963	026666'	027152'		.WORD SMSG03
4964	026670'	027211'		.WORD SMSG04
4965	026672'	027240'		.WORD SMSG05
4966	026674'	027303'		.WORD SMSG06
4967	026676'	027336'		.WORD SMSG07
4968	026700'	027354'		.WORD SMSG10
4969	026702'	027406'		.WORD SMSG11
4970	026704'	027421'		.WORD SMSG12
4971	026706'	027436'		.WORD SMSG13
4972	026710'	027452'		.WORD SMSG14
4973	026712'	027466'		.WORD SMSG15
4974	026714'	027502'		.WORD SMSG16
4975	026716'	027516'		.WORD SMSG17
4976	026720'	027532'		.WORD SMSG20
4977	026722'	027555'		.WORD SMSG21
4978	026724'	027571'		.WORD SMSG22
4979	026726'	027605'		.WORD SMSG23
4980	026730'	027621'		.WORD SMSG24
4981	026732'	027635'		.WORD SMSG25
4982	026734'	027651'		.WORD SMSG26
4983	026736'	027665'		.WORD SMSG27
4984	026740'	027701'		.WORD SMSG30
4985	026742'	027756'		.WORD SMSG31
4986	026744'	030030'		.WORD SMSG32
4987	026746'	030103'		.WORD SMSG33
4988	026750'	030147'		.WORD SMSG34
4989	026752'	030220'		.WORD SMSG35
4990	026754'	030263'		.WORD SMSG36
4991	026756'	030334'		.WORD SMSG37
4992	026760'	030377'		.WORD SMSG40
4993	026762'	030467'		.WORD SMSG41
4994	026764'	030554'		.WORD SMSG42
4995	026766'	030642'		.WORD SMSG43
4996	026770'	030721'		.WORD SMSG44
4997	026772'	031005'		.WORD SMSG45
4998	026774'	031063'		.WORD SMSG46
4999	026776'	031077'		.WORD SMSG47
5000	027000'	031113'		.WORD SMSG50
5001	027002'	031201'		.WORD SMSG51
5002	027004'	031264'		.WORD SMSG52
5003	027006'	031350'		.WORD SMSG53
5004	027010'	031425'		.WORD SMSG54
5005	027012'	031507'		.WORD SMSG55
5006	027014'	031563'		.WORD SMSG56
5007	027016'	031577'		.WORD SMSG57
5008	027020'	031613'		.WORD SMSG60
5009	027022'	031626'		.WORD SMSG61
5010	027024'	031651'		.WORD SMSG62
5011	027026'	031665'		.WORD SMSG63
5012	027030'	031714'		.WORD SMSG64

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5013	027032'	031730'				.WORD	SMSG65
5014	027034'	031751'				.WORD	SMSG66
5015	027036'	031765'				.WORD	SMSG67
5016	027040'	032001'				.WORD	SMSG70
5017	027042'	032022'				.WORD	SMSG71
5018	027044'	032055'				.WORD	SMSG72
5019	027046'	032101'				.WORD	SMSG73
5020	027050'	032115'				.WORD	SMSG74
5021	027052'	032131'				.WORD	SMSG75
5022	027054'	032145'				.WORD	SMSG76
5023	027056'	032161'				.WORD	SMSG77
5024							
5025	027060'	047503	050115	042514		:ASCII MESSAGES	
5026	027066'	042524	020104	020055		SMSG00::	.ASCII /COMPLETED - NO ERRORS/
5027	027074'	047516	042440	051122			
5028	027102'	051117	123				
5029	027105'	015	000012			.ASCIZ	<15><12>
5030	027110'	050103	020125	047111	SMSG01::	.ASCII	/CPU INSTRUCTION TEST/
5031	027116'	052123	052522	052103			
5032	027124'	047511	020116	042524			
5033	027132'	052123					
5034	027134'	005015	000			.ASCIZ	<15><12>
5035	027137'	122	046517	052040	SMSG02::	.ASCII	/ROM TEST/
5036	027144'	051505	124				
5037	027147'	015	000012			.ASCIZ	<15><12>
5038	027152'	051127	052111	040505	SMSG03::	.ASCII	/WRITEABLE CONTROL STORE TEST/
5039	027160'	046102	020105	047503			
5040	027166'	052116	047522	020114			
5041	027174'	052123	051117	020105			
5042	027202'	042524	052123				
5043	027206'	005015	000			.ASCIZ	<15><12>
5044	027211'	120	054510	044523	SMSG04::	.ASCII	/PHYSICAL ADDRESS ROM/
5045	027216'	040503	020114	042101			
5046	027224'	051104	051505	020123			
5047	027232'	047522	115				
5048	027235'	015	000012			.ASCIZ	<15><12>
5049	027240'	030524	020061	047125	SMSG05::	.ASCII	/T11 UNIBUS ADDRESS REGISTER TEST/
5050	027246'	041111	051525	040440			
5051	027254'	042104	042522	051523			
5052	027262'	051040	043505	051511			
5053	027270'	042524	020122	042524			
5054	027276'	052123					
5055	027300'	005015	000			.ASCIZ	<15><12>
5056	027303'	122	041505	044505	SMSG06::	.ASCII	/RECEIVER UNIBUS DMA TEST/
5057	027310'	042526	020122	047125			
5058	027316'	041111	051525	042040			
5059	027324'	040515	052040	051505			
5060	027332'	124					
5061	027333'	015	000012			.ASCIZ	<15><12>
5062	027336'	047125	041111	051525	SMSG07::	.ASCII	/UNIBUS TEST/
5063	027344'	052040	051505	124			
5064	027351'	015	000012			.ASCIZ	<15><12>
5065	027354'	044515	051103	050117	SMSG10::	.ASCII	/MICROPROCESSOR DMA TEST/
5066	027362'	047522	042503	051523			
5067	027370'	051117	042040	040515			
5068	027376'	052040	051505	124			

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5069	027403'	015	000012			.ASCIZ	<15><12>
5070	027406'	051503	020122	042524	MSG11::	.ASCII	/CSR TEST/
5071	027414'	052123					
5072	027416'	005015	000			.ASCIZ	<15><12>
5073	027421'	124	046511	051105	MSG12::	.ASCII	/TIMER TEST/
5074	027426'	052040	051505	124			
5075	027433'	015	000012			.ASCIZ	<15><12>
5076	027436'	047125	042504	044506	MSG13::	.ASCII	/UNDEFINED/
5077	027444'	042516	104				
5078	027447'	015	000012			.ASCIZ	<15><12>
5079	027452'	047125	042504	044506	MSG14::	.ASCII	/UNDEFINED/
5080	027460'	042516	104				
5081	027463'	015	000012			.ASCIZ	<15><12>
5082	027466'	047125	042504	044506	MSG15::	.ASCII	/UNDEFINED/
5083	027474'	042516	104				
5084	027477'	015	000012			.ASCIZ	<15><12>
5085	027502'	047125	042504	044506	MSG16::	.ASCII	/UNDEFINED/
5086	027510'	042516	104				
5087	027513'	015	000012			.ASCIZ	<15><12>
5088	027516'	047125	042504	044506	MSG17::	.ASCII	/UNDEFINED/
5089	027524'	042516	104				
5090	027527'	015	000012			.ASCIZ	<15><12>
5091	027532'	044514	045516	046440	MSG20::	.ASCII	/LINK MEMORY TEST/
5092	027540'	046505	051117	020131			
5093	027546'	042524	052123				
5094	027552'	005015	000			.ASCIZ	<15><12>
5095	027555'	125	042116	043105	MSG21::	.ASCII	/UNDEFINED/
5096	027562'	047111	042105				
5097	027566'	005015	000			.ASCIZ	<15><12>
5098	027571'	125	042116	043105	MSG22::	.ASCII	/UNDEFINED/
5099	027576'	047111	042105				
5100	027602'	005015	000			.ASCIZ	<15><12>
5101	027605'	125	042116	043105	MSG23::	.ASCII	/UNDEFINED/
5102	027612'	047111	042105				
5103	027616'	005015	000			.ASCIZ	<15><12>
5104	027621'	125	042116	043105	MSG24::	.ASCII	/UNDEFINED/
5105	027626'	047111	042105				
5106	027632'	005015	000			.ASCIZ	<15><12>
5107	027635'	125	042116	043105	MSG25::	.ASCII	/UNDEFINED/
5108	027642'	047111	042105				
5109	027646'	005015	000			.ASCIZ	<15><12>
5110	027651'	125	042116	043105	MSG26::	.ASCII	/UNDEFINED/
5111	027656'	047111	042105				
5112	027662'	005015	000			.ASCIZ	<15><12>
5113	027665'	125	042116	043105	MSG27::	.ASCII	/UNDEFINED/
5114	027672'	047111	042105				
5115	027676'	005015	000			.ASCIZ	<15><12>
5116	027701'	114	041517	046101	MSG30::	.ASCII	/LOCAL LOOPBACK TEST - TRANSMITTER TIMEOUT/
5117	027706'	046040	047517	041120			
5118	027714'	041501	020113	042524			
5119	027722'	052123	026440	020040			
5120	027730'	051124	047101	046523			
5121	027736'	052111	042524	020122			
5122	027744'	044524	042515	052517			
5123	027752'	124					
5124	027753'	015	000012			.ASCIZ	<15><12>

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5125	027756	047514	040503	020114	MSG31::	.ASCII	/LOCAL LOOPBACK TEST - RECEIVER TIMEOUT/
5126	027764	047514	050117	040502			
5127	027772	045503	052040	051505			
5128	030000	020124	020055	051040			
5129	030006	041505	044505	042526			
5130	030014	020122	044524	042515			
5131	030022	052517	124				
5132	030025	015	000012			.ASCIZ	<15><12>
5133	030030	047514	040503	020114	MSG32::	.ASCII	/LOCAL LOOPBACK TEST - BUFFER COMPARSION/
5134	030036	047514	050117	040502			
5135	030044	045503	052040	051505			
5136	030052	020124	020055	041040			
5137	030060	043125	042506	020122			
5138	030066	047503	050115	051101			
5139	030074	044523	047117				
5140	030100	005015	000			.ASCIZ	<15><12>
5141	030103	114	041517	046101	MSG33::	.ASCII	/LOCAL LOOPBACK TEST - BYTE COUNT/
5142	030110	046040	047517	041120			
5143	030116	041501	020113	042524			
5144	030124	052123	026440	020040			
5145	030132	054502	042524	041440			
5146	030140	052517	052116				
5147	030144	005015	000			.ASCIZ	<15><12>
5148	030147	114	041517	046101	MSG34::	.ASCII	/LOCAL LOOPBACK TEST - RECEIVER STATUS/
5149	030154	046040	047517	041120			
5150	030162	041501	020113	042524			
5151	030170	052123	026440	020040			
5152	030176	042522	042503	053111			
5153	030204	051105	051440	040524			
5154	030212	052524	123				
5155	030215	015	000012			.ASCIZ	<15><12>
5156	030220	047514	040503	020114	MSG35::	.ASCII	/LOCAL LOOPBACK TEST - CRC ERROR/
5157	030226	047514	050117	040502			
5158	030234	045503	052040	051505			
5159	030242	020124	020055	041440			
5160	030250	041522	042440	051122			
5161	030256	051117					
5162	030260	005015	000			.ASCIZ	<15><12>
5163	030263	114	041517	046101	MSG36::	.ASCII	/LOCAL LOOPBACK TEST - MATCH BIT ERROR/
5164	030270	046040	047517	041120			
5165	030276	041501	020113	042524			
5166	030304	052123	026440	020040			
5167	030312	040515	041524	020110			
5168	030320	044502	020124	051105			
5169	030326	047522	122				
5170	030331	015	000012			.ASCIZ	<15><12>
5171	030334	047514	040503	020114	MSG37::	.ASCII	/LOCAL LOOPBACK TEST - TDR ERROR/
5172	030342	047514	050117	040502			
5173	030350	045503	052040	051505			
5174	030356	020124	020055	052040			
5175	030364	051104	042440	051122			
5176	030372	051117					
5177	030374	005015	000			.ASCIZ	<15><12>
5178	030377	124	040522	051516	MSG40::	.ASCII	/TRANSMITTER BUFFER ADDRESS TEST - TRANSMITTER TIMEOUT/
5179	030404	044515	052124	051105			
5180	030412	041940	043125	042506			

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5181	030420'	020122	042101	051104		
5182	030426'	051505	020123	042524		
5183	030434'	052123	026440	052040		
5184	030442'	040522	051516	044515		
5185	030450'	052124	051105	052040		
5186	030456'	046511	047505	052125		
5187	030464'	005015	000			
5188	030467'	124	040522	051516	MSG41::	.ASCIZ <15><12> .ASCII /TRANSMITTER BUFFER ADDRESS TEST - RECEIVER TIMEOUT/
5189	030474'	044515	052124	051105		
5190	030502'	041040	043125	042506		
5191	030510'	020122	042101	051104		
5192	030516'	051505	02123	042524		
5193	030524'	052123	02140	051040		
5194	030532'	041505	044505	042526		
5195	030540'	020122	044524	042515		
5196	030546'	052517	124			
5197	030551'	015	000012			
5198	030554'	051124	047101	046523	MSG42::	.ASCIZ <15><12> .ASCII /TRANSMITTER BUFFER ADDRESS TEST - BUFFER COMPARISON/
5199	030562'	052111	042524	020122		
5200	030570'	052502	043106	051105		
5201	030576'	040440	042104	042522		
5202	030604'	051523	052040	051505		
5203	030612'	020124	020055	052502		
5204	030620'	043106	051105	041440		
5205	030626'	046517	040520	051522		
5206	030634'	047511	116			
5207	030637'	015	000012			
5208	030642'	051124	047101	046523	MSG43::	.ASCIZ <15><12> .ASCII /TRANSMITTER BUFFER ADDRESS TEST - BYTE COUNT/
5209	030650'	052111	042524	020122		
5210	030656'	052502	043106	051105		
5211	030664'	040440	042104	042522		
5212	030672'	051523	052040	051505		
5213	030700'	020124	020055	054502		
5214	030706'	042524	041440	052517		
5215	030714'	052116				
5216	030716'	005015	000			
5217	030721'	124	040522	051516	MSG44::	.ASCIZ <15><12> .ASCII /TRANSMITTER BUFFER ADDRESS TEST - RECEIVER STATUS/
5218	030726'	044515	052124	051105		
5219	030734'	041040	043125	042506		
5220	030742'	020122	042101	051104		
5221	030750'	051505	020123	042524		
5222	030756'	052123	026440	051040		
5223	030764'	041505	044505	042526		
5224	030772'	020122	052123	052101		
5225	031000'	051525				
5226	031002'	005015	000			
5227	031005'	124	040522	051516	MSG45::	.ASCIZ <15><12> .ASCII /TRANSMITTER BUFFER ADDRESS TEST - LRC ERROR/
5228	031012'	044515	052124	051105		
5229	031020'	041040	043125	042506		
5230	031026'	020122	042101	051104		
5231	031034'	051505	020123	042524		
5232	031042'	052123	026440	041440		
5233	031050'	041522	042440	051122		
5234	031056'	051117				
5235	031060'	005015	000			
5236	031063'	125	042116	043105	MSG46::	.ASCIZ <15><12> .ASCII /UNDEFINED/

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5237	031070*	047111	042105			
5238	031074*	005015	000			.ASCIZ <15><12>
5239	031077*	125	042116	043105	SMSG47::	.ASCII /UNDEFINED/
5240	031104*	047111	042105			
5241	031110*	005015	000			.ASCIZ <15><12>
5242	031113*	122	041505	044505	SMSG50::	.ASCII /RECEIVER BUFFER ADDRESS TEST - TRANSMITTER TIMEOUT/
5243	031120*	042526	020122	052502		
5244	031126*	043106	051105	040440		
5245	031134*	042104	042522	051523		
5246	031142*	052040	051505	020124		
5247	031150*	020055	052040	040522		
5248	031156*	051516	044515	052124		
5249	031164*	051105	052040	046511		
5250	031172*	047505	052125			
5251	031176*	005015	000			.ASCIZ <15><12>
5252	031201*	122	041505	044505	SMSG51::	.ASCII /RECEIVER BUFFER ADDRESS TEST - RECEIVER TIMEOUT/
5253	031206*	042526	020122	052502		
5254	031214*	043106	051105	040440		
5255	031222*	042104	042522	051523		
5256	031230*	052040	051505	020124		
5257	031236*	020055	051040	041505		
5258	031244*	044505	042526	020122		
5259	031252*	044524	042515	052517		
5260	031260*	124				
5261	031261*	015	000012			.ASCIZ <15><12>
5262	031264*	042522	042503	053111	SMSG52::	.ASCII /RECEIVER BUFFER ADDRESS TEST - BUFFER COMPARSION/
5263	031272*	051105	041040	043125		
5264	031300*	042506	020122	042101		
5265	031306*	051104	051505	020123		
5266	031314*	042524	052123	026440		
5267	031322*	020040	052502	043106		
5268	031330*	051105	041440	046517		
5269	031336*	040520	051522	047511		
5270	031344*	116				
5271	031345*	015	000012			.ASCIZ <15><12>
5272	031350*	042522	042503	053111	SMSG53::	.ASCII /RECEIVER BUFFER ADDRESS TEST - BYTE COUNT/
5273	031356*	051105	041040	043125		
5274	031364*	042506	020122	042101		
5275	031372*	051104	051505	020123		
5276	031400*	042524	052123	026440		
5277	031406*	020040	054502	042524		
5278	031414*	041440	052517	052116		
5279	031422*	005015	000			.ASCIZ <15><12>
5280	031425*	122	041505	044505	SMSG54::	.ASCII /RECEIVER BUFFER ADDRESS TEST - RECEIVER STATUS/
5281	031432*	042526	020122	052502		
5282	031440*	043106	051105	040440		
5283	031446*	042104	042522	051523		
5284	031454*	052040	051505	020124		
5285	031462*	020055	051040	041505		
5286	031470*	044505	042526	020122		
5287	031476*	052123	052101	051525		
5288	031504*	005015	000			.ASCIZ <15><12>
5289	031507*	122	041505	044505	SMSG55::	.ASCII /RECEIVER BUFFER ADDRESS TEST - CRC ERROR/
5290	031514*	042526	020122	052502		
5291	031522*	043106	051105	040440		
5292	031530*	042104	042522	051523		

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5293	031536*	052040	051505	020124			
5294	031544*	020055	041440	041522			
5295	031552*	042440	051122	051117			
5296	031560*	005015	000			.ASCIZ	<15><12>
5297	031563*	125	042116	043105	MSG56::	.ASCII	/UNDEFINED/
5298	031570*	047111	042105				
5299	031574*	005015	000			.ASCIZ	<15><12>
5300	031577*	125	042116	043105	MSG57::	.ASCII	/UNDEFINED/
5301	031604*	047111	042105				
5302	031610*	005015	000			.ASCIZ	<15><12>
5303	031613*	103	041522	052040	MSG60::	.ASCII	/CRC TEST/
5304	031620*	051505	124				
5305	031623*	015	000012			.ASCIZ	<15><12>
5306	031626*	052522	052116	050040	MSG61::	.ASCII	/RUNT PACKET TEST/
5307	031634*	041501	042513	020124			
5308	031642*	042524	052123				
5309	031646*	005015	000			.ASCIZ	<15><12>
5310	031651*	125	042116	043105	MSG62::	.ASCII	/UNDEFINED/
5311	031656*	047111	042105				
5312	031662*	005015	000			.ASCIZ	<15><12>
5313	031665*	117	042526	051522	MSG63::	.ASCII	/OVERSIZE PACKET TEST/
5314	031672*	055111	020105	040520			
5315	031700*	045503	052105	052040			
5316	031706*	051505	124				
5317	031711*	015	000012			.ASCIZ	<15><12>
5318	031714*	047125	042504	044506	MSG64::	.ASCII	/UNDEFINED/
5319	031722*	042516	104				
5320	031725*	015	000012			.ASCIZ	<15><12>
5321	031730*	047503	046114	051511	MSG65::	.ASCII	/COLLISION TEST/
5322	031736*	047511	020116	042524			
5323	031744*	052123					
5324	031746*	005015	000			.ASCIZ	<15><12>
5325	031751*	125	042116	043105	MSG66::	.ASCII	/UNDEFINED/
5326	031756*	047111	042105				
5327	031762*	005015	000			.ASCIZ	<15><12>
5328	031765*	125	042116	043105	MSG67::	.ASCII	/UNDEFINED/
5329	031772*	047111	042105				
5330	031776*	005015	000			.ASCIZ	<15><12>
5331	032001*	115	046125	044524	MSG70::	.ASCII	/MULTICAST TEST/
5332	032006*	040503	052123	052040			
5333	032014*	051505	124				
5334	032017*	015	000012			.ASCIZ	<15><12>
5335	032022*	042101	051104	051505	MSG71::	.ASCII	/ADDRESS RECOGNITION TEST/
5336	032030*	020123	042522	047503			
5337	032036*	047107	052111	047511			
5338	032044*	020116	042524	052123			
5339	032052*	005015	000			.ASCIZ	<15><12>
5340	032055*	105	052130	051105	MSG72::	.ASCII	/EXTERNAL LOOPBACK/
5341	032062*	040516	020114	047514			
5342	032070*	050117	040502	045503			
5343	032076*	005015	000			.ASCIZ	<15><12>
5344	032101*	125	042116	043105	MSG73::	.ASCII	/UNDEFINED/
5345	032106*	047111	042105				
5346	032112*	005015	000			.ASCIZ	<15><12>
5347	032115*	125	042116	043105	MSG74::	.ASCII	/UNDEFINED/
5348	032122*	047111	042105				

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5349	03226	005015	000			.ASCIZ	<15><12>
5350	032131	125	042116	043105	MSG75::	.ASCII	/UNDEFINED/
5351	032136	047111	042105				
5352	032142	005015	000			.ASCIZ	<15><12>
5353	032145	125	042116	043105	MSG76::	.ASCII	/UNDEFINED/
5354	032152	047111	042105				
5355	032156	005015	000			.ASCIZ	<15><12>
5356	032161	116	053105	051105	MSG77::	.ASCII	/NEVER GOT STARTED/
5357	032166	043440	052117	051440			
5358	032174	040524	052122	042105			
5359	032202	005015	000			.ASCIZ	<15><12>
5360	032206					.EVEN	

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TEST 8: PORT COMMAND TEST

.SBTTL TEST 8: PORT COMMAND TEST

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THIS TEST VERIFIES THAT NO ERRORS OCCUR WHEN
A DEUNA PORT COMMAND IS ISSUED.

TEST SEQUENCE:
1. ISSUE A NOP PORT COMMAND
2. WAIT FOR DNI
3. WRITE ONE TO CLEAR DNI
4. MOVE NOP FUNCTION INTO PCBB
5. ISSUE A GETPCBB PORT COMMAND
6. WAIT FOR DNI
7. WRITE ONE TO CLEAR DNI
8. ISSUE A GETCMD PORT COMMAND
9. WAIT FOR DNI
10. WRITE ONE TO CLEAR DNI
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032206'
032206' 004737 025334'
032212' 103025
032214' 012777 000040 146004
032222' 004737 022546'
032226' 103006
032230'
032230' 104456
032232' 000014
032234' 016106'
032236' 015114'
032240'
032240' 104410
032242' 000236
032244' 004737 023434'
032250' 103006
032252'
032252' 104456
032254' 000015
032256' 016206'
032260' 015114'
032262'
032262' 104410
032264' 000214
032266' 012777 000006 145732 25$
032274' 004737 022546'
032300' 103006
032302'
032302' 104456
032304' 000016
032306' 016343'

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```

BGNTST
JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 25$ ; NO
MOV #RSET,@PCSR0 ; YES, RESET DEUNA
JSR PC,CHKDNI ; DNI ?
BCC 20$ ; YES
ERRHRD 012.,ERR004,MSG003 ; NO, REPORT ERROR
; TRAP C$ERHRD
; .WORD 12
; .WORD ERR004
; .WORD MSG003
ESCAPE TST ; AND ABORT TEST
; TRAP C$ESCAPE
; .WORD L10033-.
20$: JSR PC,CLR DNI ; WRITE ONE TO CLEAR DNI
; ERROR
; NO
ERRHRD 013.,ERR006,MSG003 ; YES, REPORT ERROR
; TRAP C$ERHRD
; .WORD 13
; .WORD ERR006
; .WORD MSG003
ESCAPE TST ; AND ABORT
; TRAP C$ESCAPE
; .WORD L10033-.
25$: MOV #PNOP,@PCSR0 ; ISSUE A NOP PORT COMMAND
JSR PC,CHKDNI ; DNI ?
BCC 30$ ; YES
ERRHRD 014.,ERR008,MSG003 ; NO, REPORT ERROR
; TRAP C$ERHRD
; .WORD 14
; .WORD ERR008

```

HARDWARE TESTS MACY11 30(1046) 11-JAN-83 12:03 PAGE 126
CZUABA.MAC 10-JAN-83 12:46 TEST 8: PORT COMMAND TEST

```

5417 032310' 015114'
5418 032312'          ESCAPE TST          : AND ABORT TEST          .WORD  MSG003
5419 032312' 104410
5420 032314' 000164          TRAP          C$ESCAPE
5421          .          .WORD          L10033-.
5422 032316' 004737 023434' 30$: JSR      PC,CLRDNI          : WRITE ONE TO CLEAR DNI
5423          .          .          : ERROR
5424 032322' 103006          BCC      40$          : NO
5425 032324'          ERRHRD  015.,ERR006,MSG003 : YES, REPORT ERROR
5426 032324' 104456          TRAP          C$ERHRD
5427 032326' 000017          .WORD          15
5428 032330' 016206'          .WORD          ERR006
5429 032332' 015114'          .WORD          MSG003
5430 032334'          ESCAPE TST          . AND ABORT
5431 032334' 104410          TRAP          C$ESCAPE
5432 032336' 000142          .WORD          L10033-.
5433          .
5434 032340' 012705 011072' 40$: MOV      #NOPF,R5          : POINT TO DEFAULT NOP FUNCTION
5435 032344' 004737 024630' JSR      PC,LDPCBB          : LOAD FUNCTION INTO PCBB
5436 032350' 004737 024660' JSR      PC,LDPCSR          : ADDRESS OF PCBB -> PCSR2!3
5437 032354' 012777 000001 145644 MOV      #GETPCBB,@PCSR0    : ISSUE A GETPCBB PORT COMMAND
5438 032362' 004737 022546' JSR      PC,CHKDNI          : DNI?
5439 032366' 103006          BCC      50$          : YES
5440 032370'          ERRHRD  016.,ERR009,MSG003 : NO, REPORT ERROR
5441 032370' 104456          TRAP          C$ERHRD
5442 032372' 000020          .WORD          16
5443 032374' 016422'          .WORD          ERR009
5444 032376' 015114'          .WORD          MSG003
5445 032400'          ESCAPE TST          : AND ABORT TEST
5446 032400' 104410          TRAP          C$ESCAPE
5447 032402' 000076          .WORD          L10033-.
5448          .
5449 032404' 004737 023434' 50$: JSR      PC,CLRDNI          : WRITE ONE TO CLEAR DNI
5450          .          .          : ERROR ?
5451 032410' 103006          BCC      60$          : NO
5452 032412'          ERRHRD  017.,ERR006,MSG003 : YES, REPORT ERROR
5453 032412' 104456          TRAP          C$ERHRD
5454 032414' 000021          .WORD          17
5455 032416' 016206'          .WORD          ERR006
5456 032420' 015114'          .WORD          MSG003
5457 032422'          ESCAPE TST          : AND ABORT TEST
5458 032422' 104410          TRAP          C$ESCAPE
5459 032424' 000054          .WORD          L10033-.
5460          .
5461 032426' 012777 000002 145572 60$: MOV      #GETCMD,@PCSR0    : ISSUE A GETCMD PORT COMMAND
5462 032434' 004737 022546' JSR      PC,CHKDNI          : DNI ?
5463 032440' 103006          BCC      70$          : YES
5464 032442'          ERRHRD  018.,ERR010,MSG003 : NO, REPORT ERROR
5465 032442' 104456          TRAP          C$ERHRD
5466 032444' 000022          .WORD          18
5467 032446' 016506'          .WORD          ERR010
5468 032450' 015114'          .WORD          MSG003
5469 032452'          ESCAPE TST          : AND ABORT TEST
5470 032452' 104410          TRAP          C$ESCAPE
5471 032454' 000024          .WORD          L10033-.
5472          .

```

HARDWARE TESTS MACY11 30(1046)
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TEST 8: PORT COMMAND TEST

54 032456* 004737 023434*
5475 032462* 103006
5476 032464*
5477 032464* 104456
5478 032466* 000023
5479 032470* 016206*
5480 032472* 015114*
5481 032474*
5482 032474* 104410
5483 032476* 000002
5484 032500*
5485 032500*
5486 032500*
5487 032500* 104401

70\$: JSR PC,CLRDNI
BCC 80\$
ERRHRL 019.,ERR006,MSG003

ESCAPE TST

80\$:
ENDTST

: WRITE ONE TO CLEAR DNI
: ERROR ?
: NO
: YES, REPORT ERROR

TRAP C\$ERHRD
.WORD 19
.WORD ER006
.WORD MSG003

TRAP C\$ESCAPE
.WORD L10033-

: AND ABORT TEST

L10033:

TRAP C\$ETST

HARDWARE TESTS MACY11 30(1046) CZUABA.MAC 10-JAN-83 12:46

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.SBTTL TEST 9: INTERRUPT LOGIC TEST

```

*****
THIS TEST VERIFIES THAT A DEUNA INTERRUPT CAN BE GENERATED.
TEST SEQUENCE:
1. SET UP THE INTERRUPT VECTOR
2. ISSUE A GET PCBB PORT COMMAND
3. WAIT FOR A DNI INTERRUPT
4. WRITE ONE TC CLEAR DNI
*****

```

3GNTST

T9::

```

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 25$ ; NO
MOV #RSET,@PCSR0 ; YES, RESET DEUNA
JSR PC,CHKDNI ; DNI ?
BCC 20$ ; YES
ERRHRD 020.,ERR004,MSG003 ; NO, REPORT ERROR

```

```

TRAP C$ERHRD
.WORD 20
.WORD ERR004
.WORD MSG003

```

ESCAPE TST ; AND ABORT TEST

```

TRAP C$ESCAPE
.WORD L10034-.

```

```

20$: JSR PC,CLR DNI ; WRITE ONE TO CLEAR DNI
; ERROR
BCC 25$ ; NO
ERRHRD 021.,ERR006,MSG003 ; YES, REPORT ERROR

```

```

TRAP C$ERHRD
.WORD 21
.WORD ERR006
.WORD MSG003

```

ESCAPE TST ; AND ABORT

```

TRAP C$ESCAPE
.WORD L10034-.

```

```

;SET UP INTERRUPT VECTOR
25$: SETVEC INTVEC,#ISR DNI,UNAPRI

```

```

MOV UNAPRI,-(SP)
MOV #ISR DNI,-(SP)
MOV INTVEC,-(SP)
MOV #3,-(SP)
TRAP C$SVEC
ADD #10,SP

```

SETPRI #PRI04 ; SET CPU PRIORITY = 4

```

MOV #PRI04,RO
TRAP C$SPRI

```

```

CLR DNIFLG ; CLEAR DNI INTERRUPT FLAG
;ISSUE GET PCBB PORT COMMAND WITH INTERRUPTS ENABLED
40$: MOV #INTE,@PCSR0 ; ENABLE INTERRUPTS

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145510

023434'

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HARDWARE TESTS MACY11 30(1046) 11-JAN-83 12:03 PAGE 129
 CZUABA.MAC 10-JAN-83 12:46 TEST 9: INTERRUPT LOGIC TEST

```

5544 032630' 012705 011072'      MOV      #NOPF,R5      ; POINT TO DEFAULT NOP FUNCTION
5545 032634' 004737 024630'      JSR      PC,LDPCBB    ; LOAD FUNCTION INTO PCBB
5546 032640' 004737 024660'      JSR      PC,LDPCSR    ; ADDRESS OF PCBB -> PCSR2!3
5547 032644' 012777 000101 145354  MOV      #GETPCB!INTE,@PCSR0 ; ISSUE A GETPCBB PORT COMMAND
5548                                     ; WAIT FOR DNI INTERRUPT
5549                                     ; LOOP FOR APPROX 2 SEC.
5550 032652' 012701 000003      MOV      #3,R1        ; INIT OUTER LOOP
5551 032656' 005000      50$: CLR      RO        ; INNER LOOP
5552 032660' 005737 013212'      60$: TST      DNIFLG   ; DNI INTERRUPT OCCUR ?
5553 032664' 001020      BNE      70$         ; YES, CONTINUE TEST
5554 032666' 005300      DEC      RO        ; INNER LOOP EXHAUSTED?
5555 032670' 001373      BNE      60$         ; NO, CHECK FOR INTERRUPT AGAIN
5556 032672' 005301      DEC      R1        ; OUTER LOOP EXHAUSTED?
5557 032674' 001371      BNE      60$         ; NO, KEEP CHECKING FOR INTERRUPT
5558 032676'      ERRHRD 022.,ERR007 ; YES, REPORT ERROR
5559 032676' 104456      TRAP    C$ERHRD
5560 032700' 000026      .WORD  22
5561 032702' 016254'      .WORD  ERR007
5562 032704' 000000      .WORD  0
5563 032706'      CLRVEC  INTVEC      ; DEALLOCATE VECTOR
5564 032706' 013700 000236'      MOV      INTVEC,RO
5565 032712' 104436      TRAP    C$CVEC
5566 032714'      SETPRI  #PRI07      ; RESTORE CPU PRIORITY TO 7
5567 032714' 012700 000340      MOV      #PRI07,RO
5568 032720' 104441      TRAP    C$SPRI
5569 032722'      ESCAPE  TST        ; AND ABORT TEST
5570 032722' 104410      TRAP    C$ESCAPE
5571 032724' 000040      .WORD  L10034-.
5572
5573                                     ; WRITE ONE TO CLEAR DNI
5574 032726'      70$: CLRVEC  INTVEC ; DEALLOCATE VECTOR
5575 032726' 013700 000236'      MOV      INTVEC,RO
5576 032732' 104436      TRAP    C$CVEC
5577 032734'      SETPRI  #PRI07      ; RESTORE CPU PRIORITY TO 7
5578 032734' 012700 000340      MOV      #PRI07,RO
5579 032740' 104441      TRAP    C$SPRI
5580 032742' 004737 023' 34'      JSR      PC,CL'DNI   ; WRITE ONE TO CLEAR DNI
5581                                     ; ERROR?
5582 032746' 103006      BCC      80$         ; NO
5583 032750'      ERRHRD 023.,ERR006,MSG003 ; YES, REPORT ERROR
5584 032750' 104456      TRAP    C$ERHRD
5585 032752' 000J27      .WORD  23
5586 032754' 016206'      .WORD  ERR006
5587 032756' 015114'      .WORD  MSG003
5588 032760'      ESCAPE  TST        ; AND ABORT
5589 032760' 104410      TRAP    C$ESCAPE
5590 032762' 000002      .WORD  L10034-.
5591 032764'      80$:
5592 032764'      ENDTST
5593 032764'
5594 032764' 104401      L10034: TRAP    C$ETST

```

HARDWARE TESTS MACY11 30(1046)
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TEST 10: READ INTERNAL ROM TEST

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.SBTTL TEST 10: READ INTERNAL ROM TEST

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*****
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

T10::

```

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30$ ; NO
MOV #RSET,@PCSR0 ; YES, RESET DEUNA
JSR PC,CHKDNI ; DNI ?
BCC 20$ ; YES
ERRHRD 024.,ERR004,MSG003 ; NO, REPORT ERROR
; TRAP C$ERHRD
; .WORD 24
; .WORD ERR004
; .WORD MSG003

ESCAPE TST ; AND ABORT TEST
; TRAP C$ESCAPE
; .WORD L10035-.

20$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
; ERROR ?
; NO
ERRHRD 025.,ERR006,MSG003 ; YES, REPORT ERROR
; TRAP C$ERHRD
; .WORD 25
; .WORD ERR006
; .WORD MSG003

ESCAPE TST ; AND ABORT TEST
; TRAP C$ESCAPE
; .WORD L10035-.

30$: JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2!3
MOV #GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
JSR PC,CHKDNI ; DNI ?
BCC 40$ ; YES
ERRHRD 026.,ERR009,MSG003 ; NO, REPORT ERROR
; TRAP C$ERHRD
; .WORD 26
; .WORD ERR009
; .WORD MSG003

```


HARDWARE TESTS MACY11 30(1046) 11-JAN-83 12:03 PAGE 132
 CZUABA.MAC 10-JAN-83 12:46 TEST 10: READ INTERNAL ROM TEST

```

5707 033256' 000036                                .WORD  L10035-.
5708
5709 033260' 004737 024222'                80$:   JSR    PC, 3CBLK      ; CALCULATE CRC ON 1K RBUF
5710 033264' 010437 012202'                MOV    R4,CRCH           ; CRC -> CRCH
5711 033270' 077042                          SOB    R0,60$           ; DO ALL 8K BY 1K BLOCKS
5712
5713
5714 033272' 005737 012202'                ;VERIFY CRC              ; CRC = 0 ?
5715 033276' 001406                          TST   CRCH               ; YES
5716 033300'                                BEQ   95$                 ; NO, ROM CRC ERROR, REPORT ERROR
5717 033300' 104456                                ERRHRD 030.,ERR024      TRAP  C$ERHRD
5718 033302' 000036                                .WORD  30
5719 033304' 017634'                                .WORD  ERR024
5720 033306' 000000                                .WORD  0
5721 033310'                                ESCAPE TST              ; AND ABORT TEST
5722 033310' 104410                                TRAP  C$ESCAPE
5723 033312' 000002                                .WORD  L10035-.
5724 033314'                                95$:
5725 033314'                                ENDTST
5726 033314'
5727 033314' 104401                                L10035: TRAP  C$ETST

```

HARDWARE TESTS MACY11 30(1046) 11-JAN-83 12:03 PAGE 133
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TEST 11: READ/WRITE INTERNAL WCS TEST

.SBTTL TEST 11: READ/WRITE INTERNAL WCS TEST

```

*****
THIS TEST READS AND WRITES THE INTERNAL WCS MEMORY.
THE DUMP/LOAD INTERNAL MEMORY FUNCTIONS ARE USED TO
READ/WRITE THE RESERVED DOWNLINE LOAD PORTION OF THE WCS MEMORY.
THE TOP 1K OF WCS.

TEST SEQUENCE:

1. LOAD TBUF WITH DATA = ADDRESS
2. LOAD TOP 1K OF INTERNAL WCS MEMORY WITH TBUF
3. RESETUP TBUF FOR DATA COMPARE
4. CLEAR RBUF
5. DUMP INTERNAL WCS MEMORY -> RBUF
6. COMPARE RBUF WITH TBUF
7. REPEAT STEPS 1 THRU 6 WITH COMPLIMENT DATA
*****

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5749 033316'          BGNTST
5750 033316'
5751 033316' 004737 025334'
5752 033322' 103025
5753 033324' 012777 000040 144674
5754 033332' 004737 022546'
5755 033336' 103006
5756 033340'
5757 033340' 104456
5758 033342' 000037
5759 033344' 016106'
5760 033346' 015114'
5761 033350'
5762 033350' 104410
5763 033352' 000716
5764
5765 033354' 004737 023434'
5766
5767 033360' 103006
5768 033362'
5769 033362' 104456
5770 033364' 000040
5771 033366' 016206'
5772 033370' 015114'
5773 033372'
5774 033372' 104410
5775 033374' 000674
5776
5777 033376' 004737 024660'
5778 033402' 012777 000001 144616
5779 033410' 004737 022546'
5780 033414' 103006
5781 033416'
5782 033416' 104456
5783 033420' 000041

```

```

                T11::
                : IS A DEVICE RESET NEEDED?
                : NO
                : YES, RESET DE INA
                : DNI ?
                : YES
                : NO, REPORT ERROR
                TRAP  C$ERHRD
                .WORD 31
                : AND ABORT TEST
                TRAP  C$ESCAPE
                .WORD L10036-.

20$: JSR      PC,CLRDNI          : WRITE ONE TO CLEAR DNI
                : ERROR ?
                : NO
                : YES, REPORT ERROR
                TRAP  C$ERHRD
                .WORD 32
                : AND ABORT TEST
                TRAP  C$ESCAPE
                .WORD L10036-.

30$: JSR      PC,LDPCSR         : ADDRESS OF PCBB -> ^CSR2!3
                : ISSUE GET_PCBB PORT COMMAND
                : DNI ?
                : YES
                : NO, REPORT ERROR
                TRAP  C$ERHRD
                .WORD 33

```

HARDWARE TESTS MACY11 30(1046) 11-JAN-83 12:03 PAGE 134
 CZUABA.MAC 10-JAN-83 12:46 TEST 11: READ/WRITE INTERNAL WCS TEST

```

5784 033422' 016422' .WORD ERR009
5785 033424' 015114' .WORD MSG003
5786 033426' ESCAPE TST ; AND ABORT TEST
5787 033426' 104410 TRAP C$ESCAPE
5788 033430' 000640 .WORD L10036-.
5789
5790 033432' 004737 023434' 40$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
5791 ; ERROR ?
5792 033436' 103006 BCC 50$ ; NO
5793 033440' ERRHRD 034. _RR006,MSG003 ; YES, REPORT ERROR
5794 033440' 104456 TRAP C$ERHRD
5795 033442' 000042 .WORD 34
5796 033444' 016206' .WORD ERR006
5797 033446' 015114' .WORD MSG003
5798 033450' ESCAPE TST ; AND ABORT TEST
5799 033450' 104410 TRAP C$ESCAPE
5800 033452' 000616 .WORD L10036-.
5801
5802 ;WRITE TOP 1K DOWNLINE LOAD WCS WITH DATA = ADDRESS
5803 033454' 012703 012244' 50$: MOV #MEM11A,R3 ; R3 POINTS TO WCS ADDRESS TABLE
5804
5805 ;WRITE TBUF WITH DATA = ADDRESS
5806 033460' 010305 60$: MOV R3,R5 ; R5 POINTS TO ADDRESS
5807 033462' 004737 024466' JSR PC,LDBUF ; LOAD TBUF WITH ADDRESS DATA PATTERN
5808 ;LOAD INTERNAL WCS MEMORY
5809 033466' 012705 011302' MOV #LDMEM,R5 ; DEFAULT LOAD INTERNAL MEMORY
5810 033472' 004737 0246 JSR PC,LDPCCB ; LOAD FUNCTION -> PCBB
5811 033476' 012705 012234' MOV #UDB11A,R5 ; DEFAULT UDBB
5812 033502' 012700 000004 MOV #4,R0 ; FOUR WORDS
5813 033506' 004737 025030' JSR PC,LDUDBB ; LOAD INTO UDE
5814 033512' 012737 001072' 000264' MOV #TBUF,UDBB+2 ; LOAD TBUF ADDRESS -> UDBB+2
5815 033520' 011337 000270' MOV (R3),UDBB+6 ; LOAD WCS ADDRESS -> UDBB+6
5816 033524' 012777 000002 144474 MOV #GETCMD,@PCSRO ; ISSUE GET COMMAND PORT COMMAND
5817 033532' 004737 022546' JSR PC,CHKDNI ; DNI ?
5818 033536' 103006 BCC 70$ ; YES
5819 033540' ERRHRD 035.,ERR010,MSG003 ; NO, REPORT ERROR
5820 033540' 104456 TRAP C$ERHRD
5821 033542' 000043 .WORD 35
5822 033544' 016506' .WORD ERR010
5823 033546' 015114' .WORD MSG003
5824 033550' ESCAPE TST ; AND ABORT TEST
5825 033550' 104410 TRAP C$ESCAPE
5826 033552' 000516 .WORD L10036-.
5827
5828 033554' 004737 023434' 70$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
5829 ; ERROR ?
5830 033560' 103006 BCC 80$ ; NO
5831 033562' ERRHRD 036.,ERR006,MSG003 ; YES, REPORT ERROR
5832 033562' 104456 TRAP C$ERHRD
5833 033564' 000044 .WORD 36
5834 033566' 016206' .WORD ERR006
5835 033570' 015114' .WORD MSG003
5836 033572' ESCAPE TST ; AND ABORT TEST
5837 033572' 104410 TRAP C$ESCAPE
5838 033574' 000474 .WORD L10036-.
5839 ;

```

HARDWARE TESTS MACY11 30(1046)
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 TEST 11: READ/WRITE INTERNAL WCS TEST

```

5840 ;READ TOP 1K DOWNLINE LOAD WCS AND COMPARE DATA
5841 033576' 012703 012244' 80$: MOV #MEM11A,R3 ; R3 POINTS TO WCS ADDRESS TABLE
5842 ;
5843 ;SETUP RBUF FOR DATA COMPARE
5844 033602' 010305 100$: MOV R3,R5 ; R5 POINTS TO ADDRESS
5845 033604' 004737 024466' JSR PC,LDBUF ; LOAD TBUF WITH ADDRESS DATA PATTERN
5846 ;CLEAR RBUF
5847 033610' 012704 005072' MOV #RBUF,R4 ; CLEAR RBUF
5848 033614' 012700 002000 MOV #1024.,R0
5849 033620' 005024 110$: CLR (R4)+
5850 033622' 077002 SOB R0,110$
5851 ;DUMP INTERNAL WCS MEMORY INTO RBUF
5852 033624' 012705 011272' MOV #DMPMEM,R5 ; DEFAULT DUMP INTERNAL MEMORY
5853 033630' 004737 024630' JSP PC,LDPCCB ; LOAD FUNCTION -> PCBB
5854 033634' 012705 012234' MOV #UDB11A,R5 ; DEFAULT UDBB
5855 033640' 012700 000004 MOV #4,R0 ; FOUR WORDS
5856 033644' 004737 025130' JSR PC,LDUDBB ; LOAD INTO UDBB
5857 033650' 012737 005072' 000264' MOV #RBUF,UDBB+2 ; LOAD RBUF ADDRESS -> UDBB+2
5858 033656' 011337 000270' MOV (R3),UDBB+6 ; LOAD WCS ADDRESS -> UDBB+6
5859 033662' 012777 000002 144336 MOV #GETCMD,@PCSR0 ; ISSUE GET COMMAND PORT COMMAND
5860 033670' 004737 022546' JSR PC,CHKDNI ; DNI ?
5861 033674' 103006 BCC 120$ ; YES
5862 033676' ERRHRD 037.,ERR010,MSG003 ; NO, REPORT ERROR
5863 033676' 104456 TRAP C$ERRHRD
5864 033700' 000045 .WORD 37
5865 033702' 016506' .WORD ERR010
5866 033704' 015114' .WORD MSG003
5867 033706' ESCAPE TST ; AND ABORT TEST
5868 033706' 104410 TRAP C$ESCAPE
5869 033710' 000360 .WORD L10036-.
5870 ;
5871 033712' 004737 023434' 120$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
5872 ; ERROR ?
5873 033716' 103006 BCC 130$ ; NO
5874 033720' ERRHRD 038.,ERR006,MSG003 ; YES, REPORT ERROR
5875 033720' 104456 TRAP C$ERRHRD
5876 033722' 000046 .WORD 38
5877 033724' 016206' .WORD ERR006
5878 033726' 015114' .WORD MSG003
5879 033728' ESCAPE TST ; AND ABORT TEST
5880 033730' 104410 TRAP C$ESCAPE
5881 033732' 000336 .WORD L10036-.
5882 ;
5883 ;COMPARE RBUF WITH TBUF
5884 ;
5885 033734' 012705 002000 130$: MOV #1024.,R5 ; COMPARE 1024. WORDS OF DATA
5886 033740' 004737 024062' JSR PC,CMPMEM ; DATA COMPARE ERROR ?
5887 033744' 103006 BCC 140$ ; NO
5888 033746' ERRHRD 039.,ERR042,MSG007 ; YES, REPORT ERROR
5889 033746' 104456 TRAP C$ERRHRD
5890 033750' 000047 .WORD 39
5891 033752' 021607' .WORD ERR042
5892 033754' 015524' .WORD MSG007
5893 033756' ESCAPE TST ; AND ABORT TEST
5894 033756' 104410 TRAP C$ESCAPE
5895 033760' 000310 .WORD L10036-.

```


HARDWARE TESTS MACY11 30(1046) 11-JAN-83 12:03 PAGE 136
 CZUABA.MAC 10-JAN-83 12:46 TEST 11: READ/WRITE INTERNAL WCS TEST

```

5896
5897      ;REPEAT TEST WITH COMPLIMENTED DATA PATTERN
5898
5899      ;WRITE TOP 1K DOWNLINE LOAD WCS WITH DATA = COMPLIMENT OF ADDRESS
5900 033762' 012703 012244' 140$: MOV #MEM11A,R3 ; R3 POINTS TO WCS ADDRESS TABLE
5901
5902      ;WRITE RBUF WITH DATA = ADDRESS
5903 033766' 010305 160$: MOV R3,R5 ; R5 POINTS TO ADDRESS
5904 033770' 004737 024530' JSR PC,LDBUFC ; LOAD TBUF WITH COMPLIMENTED DATA
5905      ;LOAD INTERNAL WCS MEMORY
5906 033774' 012705 011302' MOV #LDMEM,R5 ; DEFAULT LOAD INTERNAL MEMORY
5907 034000' 004737 024630' JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
5908 034004' 012705 012234' MOV #UDB11A,R5 ; DEFAULT UDBB
5909 034010' 012700 000004' MOV #4,R0 ; FOUR WORDS
5910 034014' 004737 025030' JSR PC,LDUDBB ; LOAD INTO UDBB
5911 034020' 012737 001072' 000264' MOV #TBUF,UDBB+2 ; LOAD TBUF ADDRESS -> UDBB+2
5912 034026' 011337 000270' MOV (R3),UDBB+6 ; LOAD WCS ADDRESS -> UDBB+6
5913 034032' 012777 000002 144166 MOV #GETCMD,@PCSR0 ; ISSUE GET COMMAND PORT COMMAND
5914 034040' 004737 022546' JSR PC,CHKDNI ; DNI ?
5915 034044' 103006 BCC 170$ ; YES
5916 034046' ERRHRD 040.,ERR010,MSG003 ; NO, REPORT ERROR
5917 034046' 104456 TRAP C$ERHRD
5918 034050' 000050 .WORD 40
5919 034052' 016506' .WORD ERR010
5920 034054' 015114' .WORD MSG003
5921 034056' ESCAPE TST ; AND ABORT TEST
5922 034056' 104410 TRAP C$ESCAPE
5923 034060' 000210 .WORD L10036-.
5924
5925 034062' 004737 023434' 170$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
5926      ; ERROR ?
5927 034066' 103006 BCC 180$ ; NO
5928 034070' ERRHRD 041.,ERR006,MSG003 ; YES, REPORT ERROR
5929 034070' 104456 TRAP C$ERHRD
5930 034072' 000051 .WORD 41
5931 034074' 016206' .WORD ERR006
5932 034076' 015114' .WORD MSG003
5933 034100' ESCAPE TST ; AND ABORT TEST
5934 034100' 104410 TRAP C$ESCAPE
5935 034102' 000166 .WORD L10036-.
5936
5937      ;READ TOP 1K DOWNLINE LOAD WCS AND COMPARE DATA
5938 034104' 012703 012244' 180$: MOV #MEM11A,R3 ; R3 POINTS TO WCS ADDRESS TABLE
5939
5940      ;SETUP TBUF FOR DATA COMPARE
5941 034110' 010305 200$: MOV R3,R5 ; R5 POINTS TO ADDRESS
5942 034112' 004737 024530' JSR PC,LDBUFC ; LOAD TBUF WITH COMPLIMENTED DATA
5943      ;CLEAR RBUF
5944 034116' 012704 005072' MOV #RBUF,R4 ; CLEAR RBUF
5945 034122' 012700 002000 MOV #1024.,R0
5946 034126' 005024 210$: CLR (R4)+
5947 034130' 077002 SOB R0,210$
5948      ;DUMP INTERNAL WCS MEMORY INTO RBUF
5949 034132' 012705 011272' MOV #DMPMEM,R5 ; DEFAULT DUMP INTERNAL MEMORY
5950 034136' 004737 024630' JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
5951 034142' 012705 012234' MOV #UDB11A,R5 ; DEFAULT UDBB

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 CZUABA.MAC 10-JAN-83 12:46 TEST 11: READ/WRITE INTERNAL WCS TEST

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5952 034146 012700 000004      MOV      #4,R0      ; FOUR WORDS
5953 034152 004737 025030      JSR      PC,LDUDBB  ; LOAD INTO UDBB
5954 034156 012737 005072 000264  MOV      #RBUF,UDBB+2 ; LOAD RBUF ADDRESS -> UDBB+2
5955 034164 011337 000270      MOV      (R3),UDBB+6 ; LOAD WCS ADDRESS -> UDBB+6
5956 034170 012777 000002 144030  MOV      #GETCMD,@PCSR0 ; ISSUE GET COMMAND PORT COMMAND
5957 034176 004737 022546      JSR      PC,CHKDNI  ; DNI ?
5958 034202 103006      BCC      220$      ; YES
5959 034204      ERRHRD  042.,ERR010,MSG003 ; NO, REPORT ERROR
5960 034204 104456      ;
5961 034206 000052      ; TRAP      C$ERHRD
5962 034210 016506      ; .WORD    42
5963 034212 015114      ; .WORD    ERR010
5964 034214      ; .WORD    MSG003
5965 034214 104410      ESCAPE  TST      ; AND ABORT TEST
5966 034216 000052      ; TRAP      C$ESCAPE
5967      ; .WORD    L10036-
5968 034220 004737 023434 220$: JSR      PC,CLRDNI  ; WRITE ONE TO CLEAR DNI
5969      ; ERROR ?
5970 034224 103006      BCC      230$      ; NO
5971 034226      ERRHRD  043.,ERR006,MSG003 ; YES, REPORT ERROR
5972 034226 104456      ; TRAP      C$ERHRD
5973 034230 000053      ; .WORD    43
5974 034232 016206      ; .WORD    ERR006
5975 034234 015114      ; .WORD    MSG003
5976 034236      ESCAPE  TST      ; AND ABORT TEST
5977 034236 104410      ; TRAP      C$ESCAPE
5978 034240 000030      ; .WORD    L10036-
5979      ;
5980      ; COMPARE RBUF WITH TBUF
5981      ;
5982 034242 012705 002000 230$: MOV      #1024,R5  ; COMPARE 1024. WORDS OF DATA
5983 034246 004737 024062  JSR      PC,CMPMEM  ; DATA COMPARE ERROR ?
5984 034252 103006      BCC      240$      ; NO
5985 034254      ERRHRD  044.,ERR042,MSG007 ; YES, REPORT ERROR
5986 034254 104456      ; TRAP      C$ERHRD
5987 034256 000054      ; .WORD    44
5988 034260 021607      ; .WORD    ERR042
5989 034262 015524      ; .WORD    MSG007
5990 034264      ESCAPE  TST      ; AND ABORT TEST
5991 034264 104410      ; TRAP      C$ESCAPE
5992 034266 000002      ; .WORD    L10036-
5993      ;
5994 034270 240$:      ;
5995 034270      ;
5996 034270      ;
5997 034270 104401      ; L10036: TRAP      C$ETST

```

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TEST 12: READ/WRITE MODE FUNCTION TEST

.SBTTL TEST 12: READ/WRITE MODE FUNCTION TEST

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*****
THIS TEST VERIFIES THE READ/WRITE MODE FUNCTIONS.
TEST SEQUENCE:
1. WRITE MODE REGISTER WITH ALL ONES
2. READ AND COMPARE MODE REGISTER
3. WRITE MODE REGISTER WITH ALL ZEROS
4. READ AND COMPARE MODE REGISTER
*****

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5998
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6000
6001
6002
6003
6004
6005
6006
6007
6008
6009
6010
6011
6012 034272'          BGNTST
6013 034272'
6014 034272' 004737 025334'          JSR    PC,TINIT          ; IS A DEVICE RESET NEEDED?
6015 034276' 103025          BCC    30$              ; NO
6016 034300' 012777 000040 143720    MOV    #RSET,@PCSR0     ; YES, RESET DEUNA
6017 034306' 004737 022546'          JSR    PC,CHKDNI        ; DNI ?
6018 034312' 103006          BCC    20$              ; YES
6019 ^34314'          ERRHRD 045.,ERR004,MSG003 ; NO, REPORT ERROR
6020 J34314' 104456          TRAP   C$ERHRD
6021 034316' 000055          .WORD 45
6022 034320' 016106'          .WORD ERR004
6023 034322' 015114'          .WORD MSG003
6024 034324'          ESCAPE TST              ; AND ABORT TEST
6025 034324' 104410          TRAP   C$ESCAPE
6026 034326' 000506          .WORD L10037-.
6027
6028 034330' 004737 023434'          20$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
6029
6030 034334' 103006          ; ERROR ?
6031 034336'          BCC    30$              ; NO
6032 034336' 104456          ERRHRD 046.,ERR006,MSG003 ; YES, REPORT ERROR
6033 034340' 000056          TRAP   C$ERHRD
6034 034342' 016206'          .WORD 46
6035 034344' 015114'          .WORD ERR006
6036 034346'          .WORD MSG003
6037 034346' 104410          ESCAPE TST              ; AND ABORT TEST
6038 034350' 000464          TRAP   C$ESCAPE
6039
6040 034352' 004737 024660'          30$: JSR    PC,LDPCSR     ; ADDRESS OF PCBB -> PCSR2!3
6041 034356' 012777 000001 143642    MOV    #GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
6042 034364' 004737 022546'          JSR    PC,CHKDNI        ; DNI?
6043 034370' 103006          BCC    40$              ; YES
6044 034372'          ERRHRD 047.,ERR009,MSG003 ; NO, REPORT ERROR
6045 034372' 104456          TRAP   C$ERHRD
6046 034374' 000057          .WORD 47
6047 034376' 016422'          .WORD ERR009
6048 034400' 015114'          .WORD MSG003
6049 034402'          ESCAPE TST              ; AND ABORT TEST
6050 034402' 104410          TRAP   C$ESCAPE
6051 034404' 000430          .WORD L10037-.
6052
6053 034406' 004737 023434'          40$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI

```

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CZUABA.MAC 10-JAN-83 12:46 TEST 12: READ/WRITE MODE FUNCTION TEST

```

6054
6055 034412' 103006          BCC      50$          : ERROR ?
6056 034414'          ERRHRD  048.,ERR006,MSG003 : NO
6057 034414' 104456          : YES, REPORT ERROR
6058 034416' 000060          TRAP    C$ERHRD
6059 034420' 016206'          .WORD  48
6060 034422' 015114'          .WORD  ERR006
6061 034424'          .WORD  MSG003
6062 034424' 104410          ESCAPE  TST          : AND ABORT TEST
6063 034426' 000406          TRAP    C$ESCAPE
6064          .WORD  L10037-.
6065          :
6066 034430' 012705 011232' 50$: WRITE SETABLE MODE REGISTER BITS WITH ONES
6067 034434' 004737 024630' : POINT TO DEFAULT WRITE MODE FUNCTION
6068 034440' 012737 175015 000254' : LOAD FUNCTION INTO PCBB
6069 034446' 012777 000002 143552 : SETABLE MODE REGISTER BITS = ALL ONES
6070 034454' 004737 022546' : ISSUE GET_CMD PORT COMMAND
6071 034460' 103006          : DNI ?
6072 034462'          BCC      60$          : YES
6073 034462' 104456          ERRHRD  049.,ERR010,MSG003 : NO, REPORT ERROR
6074 034464' 000061          TRAP    C$ERHRD
6075 034466' 016506'          .WORD  49
6076 034470' 015114'          .WORD  ERR010
6077 034472'          .WORD  MSG003
6078 034472' 104410          ESCAPE  TST          : AND ABORT TEST
6079 034474' 000340          TRAP    C$ESCAPE
6080          .WORD  L10037-.
6081 034476' 004737 023434' 60$: JSR      PC,CLRDN1          : WRITE ONE TO CLEAR DNI
6082          : ERROR ?
6083 034502' 103006          BCC      70$          : NO
6084 034504'          ERRHRD  050.,ERR006,MSG003 : YES, REPORT ERROR
6085 034504' 104456          TRAP    C$ERHRD
6086 034506' 000062          .WORD  50
6087 034510' 016206'          .WORD  ERR006
6088 034512' 015114'          .WORD  MSG003
6089 034514'          ESCAPE  TST          : AND ABORT TEST
6090 034514' 104410          TRAP    C$ESCAPE
6091 034516' 000316          .WORD  L10037-.
6092          :
6093          : READ AND COMPARE MODE REGISTER
6094 034520' 012705 011222' 70$: MOV      #RDMODE,R5          : POINT TO DEFAULT READ MODE FUNCTION
6095 034524' 004737 024630' : LOAD FUNCTION INTO PCBB
6096 034530' 012777 000002 143470 : ISSUE GET_CMD PORT COMMAND
6097 034536' 004737 022546' : DNI ?
6098 034542' 103006          BCC      80$          : YES
6099 034544'          ERRHRD  051.,ERR010,MSG003 : NO, REPORT ERROR
6100 034544' 104456          TRAP    C$ERHRD
6101 034546' 000063          .WORD  51
6102 034550' 016506'          .WORD  ERR010
6103 034552' 015114'          .WORD  MSG003
6104 034554'          ESCAPE  TST          : AND ABORT TEST
6105 034554' 104410          TRAP    C$ESCAPE
6106 034556' 000256          .WORD  L10037-.
6107          :
6108 034560' 004737 023434' 80$: JSR      PC,CLRDN1          : WRITE ONE TO CLEAR DNI
6109          : ERROR ?

```

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 CZUABA.MAC 10-JAN-83 12:46 TEST 12: READ/WRITE MODE FUNCTION TEST

```

6110 034564* 103006          BCC      90$          ; NO
6111 034566*                ERRHRD  052.,ERR006,MSG003 ; YES, REPORT ERROR
6112 034566* 104456                TRAP    C$ERHRD
6113 034570* 000064                .WORD  52
6114 034572* 016206*                .WORD  ERR006
6115 034574* 015114*                .WORD  MSG003
6116 034576*                ESCAPE  TST          ; AND ABORT TEST
6117 034576* 104410                TRAP    C$ESCAPE
6118 034600* 000234                .WORD  L10037-.
6119
6120 034602*                ;
6121 034602* 012703 175015          90$:  MOV     #CMODE1,R3      ; EXPECTED DATA -> R3
6122 034606* 013704 000254*        MOV     PCBB+2,R4      ; ACTUAL DATA -> R4
6123 034612* 020304                CMP     R3,R4         ; MODE REGISTER = EXPECTED DATA ?
6124 034614* 001406                BEQ     100$          ; YES
6125 034616*                ERRHRD  053.,ERR011,MSG002 ; NO, REPORT ERROR
6126 034616* 104456                TRAP    C$ERHRD
6127 034620* 000065                .WORD  53
6128 034622* 016571*                .WORD  ERR011
6129 034624* 015066*                .WORD  MSG002
6130 034626*                ESCAPE  TST          ; AND ABORT TEST
6131 034626* 104410                TRAP    C$ESCAPE
6132 034630* 000204                .WORD  L10037-.
6133
6134                ; WRITE MODE REGISTER WITH ZEROS
6135
6136 034632* 012705 011232*          100$: MOV     #WTMODE,R5     ; POINT TO DEFAULT WRITE MODE FUNCTION
6137 034636* 004737 024630*        JSR     PC,LDPCCBB    ; LOAD FUNCTION INTO PCBB
6138 034642* 012737 000000 000254*  MOV     #ZERO,PCBB+2 ; MODE REGISTER = ALL ZEROS
6139 034650* 012777 000002 143350*  MOV     #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
6140 034656* 004737 022546*        JSR     PC,CHKDNI    ; DNI ?
6141 034662* 103006                BCC     160$          ; YES
6142 034664*                ERRHRD  054.,ERR010,MSG003 ; NO, REPORT ERROR
6143 034664* 104456                TRAP    C$ERHRD
6144 034666* 000066                .WORD  54
6145 034670* 016506*                .WORD  ERR010
6146 034672* 015114*                .WORD  MSG003
6147 034674*                ESCAPE  TST          ; AND ABORT TEST
6148 034674* 104410                TRAP    C$ESCAPE
6149 034676* 000136                .WORD  L10037-.
6150
6151 034700* 004737 023434*          160$: JSR     PC,CLR DNI    ; WRITE ONE TO CLEAR DNI
6152
6153 034704* 103006                BCC     170$          ; ERROR ?
6154 034706*                ERRHRD  055.,ERR006,MSG003 ; NO
6155 034706* 104456                ; YES, REPORT ERROR
6156 034710* 000067                TRAP    C$ERHRD
6157 034712* 016206*                .WORD  55
6158 034714* 015114*                .WORD  ERR006
6159 034716*                .WORD  MSG003
6160 034716* 104410                ESCAPE  TST          ; AND ABORT TEST
6161 034720* 000114                TRAP    C$ESCAPE
6162
6163                ; READ AND COMPARE MODE REGISTER
6164 034722* 012705 011222*          170$: MOV     #RDMODE,R5     ; POINT TO DEFAULT READ MODE FUNCTION
6165 034726* 004737 024630*        JSR     PC,LDPCCBB    ; LOAD FUNCTION INTO PCBB
    
```


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TEST 13: READ/WRITE LINK MEMORY TEST

.SBTTL TEST 13: READ/WRITE LINK MEMORY TEST

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*****
THIS TEST READS AND WRITES THE INTERNAL LINK MEMORY.
THE DUMP/LOAD INTERNAL MEMORY FUNCTIONS ARE USED TO
READ/WRITE THE ENTIRE 16K LINK MEMORY.

TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK MODE
   TO REMOVE LINK MEMORY FROM THE WIRE
2. LOAD TBUF WITH DATA = ADDRESS
3. LOAD 1K OF INTERNAL LINK MEMORY WITH TBUF
4. REPEAT STEPS 1 AND 2 FOR
   EACH 1K BLOCK OF LINK MEMORY (16 TIMES)
5. RESETUP TBUF FOR DATA COMPARE
6. CLEAR RBUF
7. DUMP INTERNAL LINK 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
*****

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035036'
035036'
035036' 004737 025334'
035042' 103025
035044' 012777 000040 143154
035052' 004737 022546'
035056' 103006
035060'
035060' 104456
035062' 000073
035064' 016106'
035066' 015114'
035070'
035070' 104410
035072' 001150
035074' 004737 023434'
035100' 103006
035102'
035102' 104456
035104' 000074
035106' 016206'
035110' 015114'
035112'
035112' 104410
035114' 001126
035116' 004737 024660'
035122' 012777 000001 143076
035130' 004737 022546'

```

```

BGNTST
JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30$ ; NO
MOV #RSET,@PCSR0 ; YES, RESET DEUNA
JSR PC,CHKDNI ; DNI ?
BCC 20$ ; YES
ERRHRD 059.,ERR004,MSG003 ; NO, REPORT ERROR
; TRAP C$ERHRD
; .WORD 59
; .WORD ERR004
; .WORD MSG003
ESCAPE TST ; AND ABORT TEST
; TRAP C$ESCAPE
; .WORD L10040-.
20$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
; ERROR ?
; NO
ERRHRD 060.,ERR006,MSG003 ; YES, REPORT ERROR
; TRAP C$ERHRD
; .WORD 60
; .WORD ERR006
; .WORD MSG003
ESCAPE TST ; AND ABORT TEST
; TRAP C$ESCAPE
; .WORD L10040-.
30$: JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2!3
MOV #GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
JSR PC,CHKDNI ; DNI ?

```

HARDWARE TESTS MACY11 30(1046)
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TEST 13: READ/WRITE LINK MEMORY TEST

```

6264 035134' 103006          BCC      40$          : YES
6265 035136'                ERRHRD  061.,ERR009,MSG003 : NO, REPORT ERROR
6266 035136' 104456                TRAP      C$ERHRD
6267 035140' 000075                .WORD    61
6268 035142' 016422'                .WORD    ERR009
6269 035144' 015114'                .WORD    MSG003
6270 035146'                ESCAPE  TST          : AND ABORT TEST
6271 035146' 104410                TRAP      C$ESCAPE
6272 035150' 001072                .WORD    L10040-.
6273
6274 035152' 004737 023434'    40$:   JSR      PC,CLRDNI          : WRITE ONE TO CLEAR DNI
6275                                     : ERROR ?
6276 035156' 103006          BCC      45$          : NO
6277 035160'                ERRHRD  062.,ERR006,MSG003 : YES, REPORT ERROR
6278 035160' 104456                TRAP      C$ERHRD
6279 035162' 000076                .WORD    62
6280 035164' 016206'                .WORD    ERR006
6281 035166' 015114'                .WORD    MSG003
6282 035170'                ESCAPE  TST          : AND ABORT TEST
6283 035170' 104410                TRAP      C$ESCAPE
6284 035172' 001050                .WORD    L10040-.
6285
6286                                     :WRITE MODE REGISTER = INTERNAL LOOPBACK TO TURN OFF LINK MEMORY
6287
6288 035174' 012705 011232'    45$:   MOV      #WTMODE,R5          : DEFAULT WRITE MODE FUNCTION
6289 035200' 004737 024630'    JSR      PC,LDPCBB          : LOAD FUNCTION -> PCBB
6290 035204' 012777 000002'    MOV      #GETCMD,@PCSR0    : ISSUE GET_CMD PORT COMMAND
6291 035212' 004737 022546'    JSR      PC,CHKDNI          : DNI ?
6292 035216' 103006          BCC      47$          : YES
6293 035220'                ERRHRD  063.,ERR010,MSG003 : NO, REPORT ERROR
6294 035220' 104456                TRAP      C$ERHRD
6295 035222' 000077                .WORD    63
6296 035224' 016506'                .WORD    ERR010
6297 035226' 015114'                .WORD    MSG003
6298 035230'                ESCAPE  TST          : AND ABORT TEST
6299 035230' 104410                TRAP      C$ESCAPE
6300 035232' 001010                .WORD    L10040-.
6301
6302 035234' 004737 023434'    47$:   JSR      PC,CLRDNI          : WRITE ONE TO CLEAR DNI
6303                                     : ERROR ?
6304 035240' 103006          BCC      50$          : NO
6305 035242'                ERRHRD  064.,ERR006,MSG003 : YES, REPORT ERROR
6306 035242' 104456                TRAP      C$ERHRD
6307 035244' 000100                .WORD    64
6308 035246' 016206'                .WORD    ERR006
6309 035250' 015114'                .WORD    MSG003
6310 035252'                ESCAPE  TST          : AND ABORT TEST
6311 035252' 104410                TRAP      C$ESCAPE
6312 035254' 000766                .WORD    L10040-.
6313
6314                                     :WRITE 16K LINK MEMORY WITH DATA = ADDRESS BY 1K BLOCKS
6315 035256' 012703 012246'    50$:   MOV      #MEM13A,R3          : R3 POINTS TO LINK MEM ADDRESS TABLE
6316 035262' 012701 000020    MOV      #16.,R1           : DO LOOP = 16
6317
6318                                     :WRITE RBUF WITH DATA = ADDRESS
6319 035266' 010305    60$:   MOV      R3,R5           : R5 POINTS TO ADDRESS

```


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TEST 13: READ/WRITE LINK MEMORY TEST

```

6320 035270' 004737 024466'      JSR    PC,LDBUF      ; LOAD TBUF WITH ADDRESS DATA PATTERN
6321
6322      ;LOAD INTERNAL LINK MEMORY
6323 035274' 012705 011302'      MOV    #LDMEM,R5    ; DEFAULT LOAD INTERNAL MEMORY
6324 035300' 004737 024630'      JSR    PC,LDPCCBB   ; LOAD FUNCTION -> PCBB
6325 035304' 012705 012234'      MOV    #UDB11A,R5   ; DEFAULT UDBB
6326 035310' 012700 000004'      MOV    #4,R0        ; FOUR WORDS
6327 035314' 004737 025030'      JSR    PC,LDUDBB    ; LOAD INTO UDBB
6328 035320' 012737 001072' 000264'  MOV    #TBUF,UDBB+2 ; LOAD TBUF ADDRESS -> UDBB+2
6329 035326' 012337 000270'      MOV    (R3)+,UDBB+6 ; LOAD LINK ADDRESS -> UDBB+6
6330
6331 035332' 022701 000001      CMP    #1,R1        ; IS THIS THE LAST 1K BLOCK ?
6332 035336' 001003                BNE    65$          ; NO
6333 035340' 012737 003774 000262'  MOV    #3774,UDBB   ; YES, ONLY WRITE 1022. WORDS
6334
6335 035346' 012777 000002 142652 65$: MOV    #GETCMD,@PCSR0 ; ISSUE GET COMMAND PORT COMMAND
6336 035354' 004737 022546'      JSR    PC,CHKDNI    ; DNI ?
6337 035360' 103006                BCC    70$          ; YES
6338 035362'                        ERRHRD 065.,ERR010,MSG003 ; NO, REPORT ERROR
6339 035362' 104456                TRAP   C$ERRHRD
6340 035364' 000101                .WORD 65
6341 035366' 016506'                .WORD ERR010
6342 035370' 015114'                .WORD MSG003
6343 035372'                        ESCAPE TST          ; AND ABORT TEST
6344 035372' 104410                TRAP   C$ESCAPE
6345 035374' 000646                .WORD L10040-.
6346
6347 035376' 004737 023434'      70$: JSR    PC,CLRDMI ; WRITE ONE TO CLEAR DNI
6348
6349 035402' 103006                BCC    80$          ; ERROR ?
6350 035404'                        ERRHRD 066.,ERR006,MSG003 ; YES, REPORT ERROR
6351 035404' 104456                TRAP   C$ERRHRD
6352 035406' 000102                .WORD 66
6353 035410' 016206'                .WORD ERR006
6354 035412' 015114'                .WORD MSG003
6355 035414'                        ESCAPE TST          ; AND ABORT TEST
6356 035414' 104410                TRAP   C$ESCAPE
6357 035416' 000624                .WORD L10040-.
6358 035420' 005301      80$: DEC    R1        ; DONE 16 WRITES ?
6359 035422' 001321                BNE    60$          ; NO
6360
6361      ;READ 16K LINK MEMORY BY 1K BLOCKS AND COMPARE DATA
6362 035424' 012703 012246'      MOV    #MEM13A,R3   ; R3 POINTS TO LINK MEM ADDRESS TABLE
6363 035430' 012701 000020'      MOV    #16.,R1      ; DO LOOP = 16
6364
6365      ;SETUP TBUF FOR DATA COMPARE
6366 035434' 010305      100$: MOV    R3,R5        ; R5 POINTS TO ADDRESS
6367 035436' 004737 024466'      JSR    PC,LDBUF     ; LOAD TBUF WITH ADDRESS DATA PATTERN
6368
6369      ;CLEAR RBUF
6370 035442' 012704 005072'      MOV    #RBUF,R4     ; CLEAR RBUF
6371 035446' 012700 002000'      MOV    #1024.,R0
6372 035452' 005024      110$: CLR    (R4)+
6373 035454' 077002                SOB    R0,110$
6374
6375      ;DUMP INTERNAL LINK MEMORY INTO RBUF

```

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```

6376 035456' 012705 011272'      MOV      #DMPMEM,R5      ; DEFAULT DUMP INTERNAL MEMORY
6377 035462' 004737 024630'      JSR      PC,LDPCBB      ; LOAD FUNCTION -> PCBB
6378 035466' 012705 012234'      MOV      #UDB11A,R5     ; DEFAULT UDBB
6379 035472' 012700 000004'      MOV      #4,R0          ; FOUR WORDS
6380 035476' 004737 025030'      JSR      PC,LDUDBB      ; LOAD INTO UDBB
6381 035502' 012737 005072' 000264'  MOV      #RBUF,UDBB+2   ; LOAD RBUF ADDRESS -> UDBB+2
6382 035510' 012337 000270'      MOV      (R3)+,UDBB+6   ; LOAD LINK ADDRESS -> UDBB+6
6383                                     ;
6384 035514' 022701 000001          ;
6385 035520' 001003          ;
6386 035522' 012737 003774 000262'  MOV      #3774,UDBB     ; IS THIS THE LAST 1K BLOCK ?
6387                                     ; NO
6388 035530' 012777 000002 142470 115$: MOV      #GETCMD,@PCSR0  ; YES, ONLY READ 1022. WORDS
6389 035536' 004737 022546'      JSR      PC,CHKDNI      ; IS 'JE GET COMMAND PORT COMMAND
6390 035542' 103006          ; DNI ?
6391 035544'          ;
6392 035544' 104456          ;
6393 035546' 000103          ;
6394 035550' 016506'          ;
6395 035552' 015114'          ;
6396 035554'          ;
6397 035554' 104410          ;
6398 035556' 000464          ;
6399                                     ;
6400 035560' 004737 023434'      120$: JSR      PC,CLRDNI  ; WRITE ONE TO CLEAR DNI
6401                                     ; ERROR ?
6402 035564' 103006          ;
6403 035566'          ;
6404 035566' 104456          ;
6405 035570' 000104          ;
6406 035572' 016206'          ;
6407 035574' 015114'          ;
6408 035576'          ;
6409 035576' 104410          ;
6410 035600' 000442          ;
6411                                     ;
6412                                     ; COMPARE RBUF WITH TBUF
6413                                     ;
6414 035602' 022701 000001          130$: CMP      #1,R1      ; IS THIS THE LAST 1K BLOCK ?
6415 035606' 001003          ;
6416 035610' 012705 001776          ;
6417 035614' 000402          ;
6418                                     ;
6419 035616' 012705 002000          135$: MOV      #1024.,R5   ; COMPARE 1024. WORDS OF DATA
6420 035622' 004737 024062'      136$: JSR      PC,CMPMEM  ; DATA COMPARE ERROR ?
6421 035626' 103006          ;
6422 035630'          ;
6423 035630' 104456          ;
6424 035632' 000105          ;
6425 035634' 021650'          ;
6426 035636' 015524'          ;
6427 035640'          ;
6428 035640' 104410          ;
6429 035642' 000400          ;
6430                                     ;
6431 035644' 005301          140$: DEC      R1          ; DONE 16 READS ?

```

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```

6432 035646' 001272          BNE      100$
6433
6434          ;REPEAT TEST WITH COMPLIMENTED DATA PATTERN
6435
6436          ;WRITE 16K LINK MEMORY WITH DATA = COMPLIMENT OF ADDRESS BY 1K BLOCKS
6437 035650' 012703 012246'   MOV      #MEM13A,R3          ; R3 POINTS TO LINK MEM ADDRESS TABLE
6438 035654' 012701 000020   MOV      #16.,R1           ; DO LOOP = 16
6439
6440          ;WRITE RBUF WITH DATA = ADDRESS
6441 035660' 010305 160$:     MOV      R3,R5           ; R5 POINTS TO ADDRESS
6442 035662' 004737 024530'   JSR      PC,LDBUFC        ; LOAD TBUF WITH COMPLIMENTED DATA
6443
6444          ;LOAD INTERNAL LINK MEMORY
6445 035666' 012705 011302'   MOV      #LDMEM,R5        ; DEFAULT LOAD INTERNAL MEMORY
6446 035672' 004737 024630'   JSR      PC,LDPCCBB       ; LOAD FUNC "N -> PCBB
6447 035676' 012705 012234'   MOV      #UDB11A,R5      ; DEFAULT L
6448 035702' 012700 000004'   MOV      #4,R0           ; FOUR WORDS
6449 035706' 004737 025030'   JSR      PC,LDUDBB        ; LOAD INTO UDBB
6450 035712' 012737 001072' 000264' MOV      #TBUF,UDBB+2     ; LOAD TBUF ADDRESS -> UDBB+2
6451 035720' 012337 000270'   MOV      (R3)+,UDBB+6    ; LOAD LINK ADDRESS -> UDBB+6
6452
6453 035724' 022701 000001'   ;
6454 035730' 001003          ;
6455 035732' 012737 003774 000262' MOV      #3774,UDBB      ; IS THIS THE LAST 1K BLOCK ?
6456          ;
6457 035740' 012777 000002 142260 165$: MOV      #GETCMD,@PCSR0    ; ISSUE ^T COMMAND PORT COMMAND
6458 035746' 004737 022546'   JSR      PC,CHKDNI        ; DNI ?
6459 035752' 103006          ;
6460 035754'          ;
6461 035754' 104456          ;
6462 035756' 000106          ;
6463 035760' 016506'          ;
6464 035762' 015114'          ;
6465 035764'          ;
6466 035764' 104410          ;
6467 035766' 000254          ;
6468          ;
6469 035770' 004737 023434' 170$: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
6470          ;
6471 035774' 103006          ;
6472 035776'          ;
6473 035776' 104456          ;
6474 036000' 000107          ;
6475 036002' 016206'          ;
6476 036004' 015114'          ;
6477 036006'          ;
6478 036006' 104410          ;
6479 036010' 000232          ;
6480 036012' 005301          ;
6481 036014' 001321          ;
6482          ;
6483          ;READ 16K LINK MEMORY BY 1K BLOCKS AND COMPARE DATA
6484 036016' 012703 012246'   MOV      #MEM13A,R3      ; R3 POINTS TO LINK MEM ADDRESS TABLE
6485 036022' 012701 000020   MOV      #16.,R1         ; DO LOOP = 16
6486          ;
6487          ;SETUP TBUF FOR DATA COMPARE

```

TRAP C\$ERHRD
 .WORD 70
 .WORD ERR010
 .WORD MSG003

TRAP C\$ESCAPE
 .WORD L10040-

TRAP C\$ERHRD
 .WORD 71
 .WORD ERR006
 .WORD MSG003

TRAP C\$ESCAPE
 .WORD L10040-

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 TEST 13: READ/WRITE LINK MEMORY TEST

```

6488 036026' 010305      200$:  MOV      R3,R5      ; R5 POINTS TO ADDRESS
6489 036030' 004737 024530'  JSR      PC,LDBUFC    ; LOAD TBUF WITH COMPLIMENTED DATA
6490
6491      ;CLEAR RBUF
6492 036034' 012704 005072'  MOV      #RBUF,R4     ; CLEAR RBUF
6493 036040' 012700 002000    MCV      #1024.,R0
6494 036044' 005024      210$:  CLR      (R4)+
6495 036046' 077002      SOB      R0,210$
6496
6497      ;DUMP INTERNAL LINK MEMORY INTO RBUF
6498 036050' 012705 011272'  MOV      #DMPMEM,R5   ; DEFAULT DUMP INTERNAL MEMORY
6499 036054' 004737 024630'  JSR      PC,LDPCCBB   ; LOAD FUNCTION -> PCBB
6500 036060' 012705 012234'  MOV      #UDB11A,R5   ; DEFAULT UDBB
6501 036064' 012700 000004'  MOV      #4,R0        ; FOUR WORDS
6502 036070' 004737 025030'  JSR      PC,LDUDBB    ; LOAD INTO UDBB
6503 036074' 012737 005072'  MOV      #RBUF,UDBB+2 ; LOAD RBUF ADDRESS -> UDBB+2
6504 036102' 012337 000270'  MOV      (R3)+,UDBB+6 ; LOAD LINK ADDRESS -> UDBB+6
6505
6506 036106' 022701 000001      ;
6507 036112' 001003      CMP      #1,R1        ; IS THIS THE LAST 1K BLOCK ?
6508 036114' 012737 003774 000262' BNE      215$        ; NO
6509      MOV      #3774,UDBB ; YES, ONLY READ 1022. WORDS
6510 036122' 012777 000002 142076 215$: MOV      #GETCMD,@PCSR0 ; ISSUFE GET COMMAND PORT COMMAND
6511 036130' 004737 022546'  JSR      PC,CHKDNI   ; DNI ?
6512 036134' 103006      BCC      220$        ; YES
6513 036136'      ERRHRD 072.,ERR010,MSG003 ; NO, REPORT ERROR
6514 036136' 104456
6515 036140' 000110      TRAP    C$ERRHRD
6516 036142' 016506'      .WORD  72
6517 036144' 015114'      .WORD  ERR010
6518 036146'      .WORD  MSG003
6519 036146' 104410      ESCAPE  TST          ; AND ABORT TEST
6520 036150' 000072      TRAP    C$ESCAPE
6521      .WORD  L10040-.
6522 036152' 004737 023434' 220$:  JSR      PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
6523      ; ERROR ?
6524 036156' 103006      BCC      230$        ; NO
6525 036160'      ERRHRD 073.,ERR006,MSG003 ; YES, REPORT ERROR
6526 036160' 104456
6527 036162' 000111      TRAP    C$ERRHRD
6528 036164' 016206'      .WORD  73
6529 036166' 015114'      .WORD  ERR006
6530 036170'      .WORD  MSG003
6531 036170' 104410      ESCAPE  TST          ; AND ABORT TEST
6532 036172' 000050      TRAP    C$ESCAPE
6533      .WORD  L10040-.
6534      ;COMPARE RBUF WITH TBUF
6535
6536 036174' 022701 000001 230$:  CMP      #1,R1        ; IS THIS THE LAST 1K BLOCK ?
6537 036200' 001003      BNE      235$        ; NO
6538 036202' 012705 001776      MOV      #1022.,R5   ; YES, ONLY COMPARE 1022. WORDS
6539 036206' 000402      BR      236$
6540
6541 036210' 012705 002000 235$:  MOV      #1024.,R5   ; COMPARE 1024. WORDS OF DATA
6542 036214' 004737 024062' 236$:  JSR      PC,CMPMEM   ; DATA COMPARE ERROR ?
6543 036220' 103006      BCC      240$        ; NO

```

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6544	036222°		ERRHRD 074.,ERR043,MSG007		; YES, REPORT ERROR		
6545	036222°	104456				TRAP	C\$ERHRD
6546	036224°	000112				.WORD	74
6547	036226°	021650°				.WORD	ERR043
6548	036230°	015524°				.WORD	MSG007
6549	036232°		ESCAPE TST		; AND ABORT TEST		
6550	036232°	104410				TRAP	C\$ESCAPE
6551	036234°	000006				.WORD	L10040-
6552							
6553	036236°	005301	240\$: DEC R1		; DONE 16 READS ?		
6554	036240°	001272	BNE 200\$				
6555							
6556	036242°		ENDTST				
6557	036242°					L10040:	
6558	036242°	104401				TRAP	C\$ETST

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TEST 14: INTERNAL LOOPBACK TEST

.SBTTL TEST 14: INTERNAL LOOPBACK TEST

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*****
THIS TEST HAS TWO PARTS: SUBTEST #1 AND SUBTEST #2
SUBTEST #1 VERIFIES THAT AN INTERNAL LOOPBACK OPERATION
CAN BE PERFORMED SUCCESSFULLY.
SUBTEST #2 VERIFIES THAT THE HEARTBEAT CIRCUITRY IS OPERATING CORRECTLY

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
8. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM MODE, ENABLE
   COLLISION TEST CIRCUITRY
9. SET UP RINGS AND BUFFERS
10. ISSUE START
11. ISSUE STOP
12. ISSUE READ PORT STATUS
13. VERIFY 'CERR' BIT SET IN PORT CONTROL WORD 2
*****

```

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6559
6560
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6581
6582
6583
6584
6585
6586 036244'
6587 036244'
6588 036244'
6589 036244'
6590 036244' 104402
6591
6592 036246' 004737 025334'
6593 036252' 103025
6594 036254' 012777 000040 141744
6595 036262' 004737 022546'
6596 036266' 103006
6597 036270'
6598 036270' 104456
6599 036272' 000113
6600 036274' 016106'
6601 036276' 015114'
6602 036300'
6603 036300' 104410
6604 036302' 001636
6605
6606 036304' 004737 023434'
6607
6608 036310' 103006
6609 036312'
6610 036312' 104456
6611 036314' 000114
6612 036316' 016206'
6613 036320' 015114'
6614 036322'

```

```

BGNTST
BGNSUB ;#1
T14::
T14.1: TRAP C$BSUB

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30$ ; NO
MOV #RSET,@PCSR0 ; YES, RESET DEUNA
JSR PC,CHKDNI ; DNI ?
BCC 20$ ; YES
ERRHRD 075.,ERR004,MSG003 ; NO, REPORT ERROR
TRAP C$ERHRD
.WORD 75
.WORD ERR004
.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
ERRHRD 076.,ERR006,MSG003 ; YES, REPORT ERROR
TRAP C$ERHRD
.WORD 76
.WORD ERR006
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

```

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6615 036322° 104410                                TRAP  C$ESCAPE
6616 036324° 001614                                .WORD L10041-.
6617
6618 036326° 004737 024660°                        ;
6619 036332° 012777 000001° 141666 30$: JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2!3
6620 036340° 004737 022546°                        MOV #GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
6621 036344° 103006                        JSR PC,CHKDNI ; DNI?
6622 036346°                        BCC 40$ ; YES
6623 036346° 104456                        ERRHRD 077.,ERR009,MSG003 ; NO, REPORT ERROR
6624 036350° 000115                                TRAP  C$ERHRD
6625 036352° 016422°                                .WORD 77
6626 036354° 015114°                                .WORD ERR009
6627 036356°                        .WORD MSG003
6628 036356° 104410                                ESCAPE TST ; AND ABORT TEST
6629 036360° 001560                                TRAP  C$ESCAPE
6630                                .WORD L10041-.
6631 036362° 004737 023434°                        ;
6632                                40$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
6633 036366° 103006                                ; ERROR ?
6634 036370°                        BCC 50$ ; NO
6635 036370° 104456                        ERRHRD 078.,ERR006,MSG003 ; YES, REPORT ERROR
6636 036372° 000116                                TRAP  C$ERHRD
6637 036374° 016206°                                .WORD 78
6638 036376° 015114°                                .WORD ERR006
6639 036400°                        .WORD MSG003
6640 036400° 104410                                ESCAPE TST ; AND ABORT TEST
6641 036402° 001536                                TR P  C$ESCAPE
6642                                .WORD L10041-.
6643                                ;
6644 036404° 012705 011232°                        ;WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
6645 036410° 004737 024630°                        50$: MOV #WTMODE,R5 ; DEFAULT WRITE MODE FUNCTION
6646 036414° 012777 000002° 141604 JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
6647 036422° 004737 022546° MOV #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
6648 036426° 103006 JSR PC,CHKDNI ; DNI ?
6649 036430° BCC 60$ ; YES
6650 036430° 104456 ERRHRD 079.,ERR010,MSG003 ; NO, REPORT ERROR
6651 036432° 000117                                TRAP  C$ERHRD
6652 036434° 016506°                                .WORD 79
6653 036436° 015114°                                .WORD ERR010
6654 036440°                        .WORD MSG003
6655 036440° 104410                                ESCAPE TST ; AND ABORT TEST
6656 036442° 001476                                TRAP  C$ESCAPE
6657                                .WORD L10041-.
6658 036444° 004737 023434°                        ;
6659                                60$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
6660 036450° 103006                                ; ERROR ?
6661 036452° BCC 70$ ; NO
6662 036452° 104456 ERRHRD 080.,ERR006,MSG003 ; YES, REPORT ERROR
6663 036454° 000120                                TRAP  C$ERHRD
6664 036456° 016206°                                .WORD 80
6665 036460° 015114°                                .WORD ERR006
6666 036462°                        .WORD MSG003
6667 036462° 104410                                ESCAPE TST ; AND ABORT TEST
6668 036464° 001454                                TRAP  C$ESCAPE
6669                                .WORD L10041-.
6670                                ;
                                ;WRITE RING FORMAT

```

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TEST 14: INTERNAL LOOPBACK TEST

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6671 036466' 012705 011172' 70$: MOV #WTRNGS,R5 ; DEFAULT WRITE RING FORMAT FUNCTION
6672 036472' 004737 024630' JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
6673 036476' 012705 011312' MOV #RFRMT,R5 ; DEFAULT RING FORMAT
6674 036502' 012700 000006' MOV #6,R0 ; FORMAT = SIX WORDS
6675 036506' 004737 025030' JSR PC,LDUDBB ; LOAD RING FORMAT -> UDBB
6676 036512' 012777 000002' 141506 MOV #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
6677 036520' 004737 022546' JSR PC,CHKDI.I ; DNI ?
6678 036524' 103006 BCC 80$ ; YES
6679 036526' ERRHRD 081.,ERR010,MSG003 ; NO, REPORT ERROR
6680 036526' 104456 TRAP C$ERHRD
6681 036530' 000121 .WORD 81
6682 036532' 016506' .WORD ERR010
6683 036534' 015114' .WORD MSG003
6684 036536' ESCAPE TST ; AND ABORT TEST
6685 036536' 104410 TRAP C$ESCAPE
6686 036540' 001400 .WORD L10041-.
6687
6688 036542' 004737 023434' 80$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
6689 BCC 90$ ; ERROR ?
6690 036546' 103006 ERRHRD 082.,ERR006,MSG003 ; YES, REPORT ERROR
6691 036550' TRAP C$ERHRD
6692 036550' 104456 .WORD 82
6693 036552' 000122 .WORD ERR006
6694 036554' 016206' .WORD MSG003
6695 036556' 015114' ESCAPE TST ; AND ABORT TEST
6696 036560' TRAP C$ESCAPE
6697 036560' 104410 .WORD L10041-.
6698 036562' 001356
6699
6700 ;WRITE PHYSICAL ADDRESS
6701 036564' 012705 011132' 90$: MOV #WTPHYA,R5 ; DEFAULT WRITE PHYSICAL ADDR FUNC
6702 036570' 004737 024630' JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
6703 036574' 012777 000002' 141424 MOV #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
6704 036602' 004737 022546' JSR PC,CHKDNI ; DNI ?
6705 036606' 103006 BCC 100$ ; YES
6706 036610' ERRHRD 083.,ERR010,MSG003 ; NO, REPORT ERROR
6707 036610' 104456 TRAP C$ERHRD
6708 036612' 000123 .WORD 83
6709 036614' 016506' .WORD ERR010
6710 036616' 015114' .WORD MSG003
6711 036620' ESCAPE TST ; AND ABORT TEST
6712 036620' 104410 TRAP C$ESCAPE
6713 036622' 001316 .WORD L10041-.
6714
6715 036624' 004737 023434' 100$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
6716 BCC 110$ ; ERROR ?
6717 036630' 103006 ERRHRD 084.,ERR006,MSG003 ; YES, REPORT ERROR
6718 036632' TRAP C$ERHRD
6719 036632' 104456 .WORD 84
6720 036634' 000124 .WORD ERR006
6721 036636' 016206' .WORD MSG003
6722 036640' 015114' ESCAPE TST ; AND ABORT TEST
6723 036642' TRAP C$ESCAPE
6724 036642' 104410 .WORD L10041-.
6725 036644' 001274
6726

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6727      ;SET UP RINGS FOR ONE BUFFER LOOPBACK
6728 036646 012705 011542 110$: MOV #TDRB1A,R5      ; DEFAULT ONE BUFFER TRANSMIT RING
6729 036652 004737 024734 JSR PC,LDTDRB      ; LOAD TDRB
6730 036656 012705 011342 MOV #RDR31A,R5     ; DEFAULT ONE BUFFER RECEIVE RING
6731 036662 004737 024676 JSR PC,LDRDRB      ; LOAD RDRB
6732      ;
6733      ;SET UP BUFFERS AND START
6734 036666 012705 000254 MOV #PCBB+2,R5     ; POINT TO DESTINATION ADDRESS
6735 036672 004737 024602 JSR PC,LDDEST      ; LOAD DEST
6736 036676 004737 025230 JSR PC,SETBU       ; SET UP BUFFERS
6737 036702 012777 000004 141316 MOV #START,@PCSRO ; ISSUE START PORT COMMAND
6738 036710 004737 022546 JSR PC,CHKDNI      ; DNI?
6739 036714 103006 BCC 120$          ; YES
6740 036716 ERRHRD 085.,ERR012,MSG003 ; NO, REPORT ERROR
6741 036716 104456 TRAP C$ERHRD
6742 036720 000125 .WORD 85
6743 036722 016637 .WORD ERR012
6744 036724 015114 .WORD MSG003
6745 036726 ESCAPE TST ; AND ABORT TEST
6746 036726 104410 TRAP C$ESCAPE
6747 036730 001210 .WORD L10041-.
6748      ;
6749 036732 004737 023434 120$: JSR PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
6750      ; ERROR ?
6751 036736 103006 BCC 130$          ; NO
6752 036740 ERRHRD 086.,ERR006,MSG003 ; YES, REPORT ERROR
6753 036740 104456 TRAP C$ERHRD
6754 036742 000126 .WORD 86
6755 036744 016206 .WORD ERR006
6756 036746 015114 .WORD MSG003
6757 036750 ESCAPE TST ; AND ABORT TEST
6758 036750 104410 TRAP C$ESCAPE
6759 036752 001166 .WORD L10041-.
6760      ;
6761 036754 004737 023306 130$: JSR PC,CHKTXI      ; TXI ?
6762 036760 103006 BCC 140$          ; YES
6763 036762 ERRHRD 087.,ERR013,MSG003 ; NO, REPORT ERROR
6764 036762 104456 TRAP C$ERHRD
6765 036764 000127 .WORD 87
6766 036766 016720 .WORD ERR013
6767 036770 015114 .WORD MSG003
6768 036772 ESCAPE TST ; AND ABORT TEST
6769 036772 104410 TRAP C$ESCAPE
6770 036774 001144 .WORD L10041-.
6771      ;
6772 036776 004737 023616 140$: JSR PC,CLRTXI      ; WRITE ONE TO CLEAR TXI
6773      ; ERROR ?
6774 037002 103006 BCC 150$          ; NO
6775 037004 ERRHRD 088.,ERR014,MSG003 ; YES, REPORT ERROR
6776 037004 104456 TRAP C$ERHRD
6777 037006 000130 .WORD 88
6778 037010 016751 .WORD ERR014
6779 037012 015114 .WORD MSG003
6780 037014 ESCAPE TST ; AND ABORT TEST
6781 037014 104410 TRAP C$ESCAPE
6782 037016 001122 .WORD L10041-.
    
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6783								
6784	037020°	012705	000572°	i50\$:	MOV #TDRB,R5	:	CHECK TDRB OWNERSHIP	
6785	037024°	004737	022634°		JSR PC,CHKOWN	:	OWN = PORT DRIVER ?	
6786	037030°	103006			BCC 160\$:	YES	
6787	037032°				ERRHRD 089.,ERR018	:	NO, REPORT ERROR	
6788	037032°	104456						TRAP C\$E HRD
6789	037034°	000131						.WORD 89
6790	037036°	017216°						.WORD ERR018
6791	037040°	000000						.WORD 0
6792	037042°				ESCAPE TST	:	AND ABORT TEST	
6793	037042°	104410						TRAP C\$ESCAPE
6794	037044°	001074						.WORD L10041-
6795								
6796	037046°	012705	012512°	i60\$:	MOV #TDR14A,R5	:	POINT TO EXPECTED TDRB	
6797	037052°	004737	025140°		JSR PC,LDXTDR	:	LOAD INTO XTDRB0 TABLE	
6798	037056°	012705	000572°		MOV #TDRB,R5	:	CHECK TDRB	
6799	037062°	004737	023220°		JSR PC,CHKTDR	:	ERRORS ?	
6800	037066°	103006			BCC 170\$:	NO	
6801	037070°				ERRHRD 090.,ERR020,MSG005	:	YES, REPORT ERROR	
6802	037070°	104456						TRAP C\$ERHRD
6803	037072°	000132						.WORD 90
6804	037074°	017376°						.WORD ERR020
6805	037076°	015220°						.WORD MSG005
6806	037100°				ESCAPE TST	:	AND ABORT TEST	
6807	037100°	104410						TRAP C\$ESCAPE
6808	037102°	001036						.WORD L10041-
6809								
6810	037104°	004737	023054°	i70\$:	JSR PC,CHKRXI	:	RXI ?	
6811	037110°	103006			BCC 180\$:	YES	
6812	037112°				ERRHRD 091.,ERR015,MSG003	:	NO, REPORT ERROR	
6813	037112°	104456						TRAP C\$ERHRD
6814	037114°	000133						.WORD 91
6815	037116°	017017°						.WORD ERR015
6816	037120°	015114°						.WORD MSG003
6817	037122°				ESCAPE TST	:	AND ABORT TEST	
6818	037122°	104410						TRAP C\$ESCAPE
6819	037124°	001014						.WORD L10041-
6820								
6821	037126°	004737	023550°	i80\$:	JSR PC,CLRRXI	:	WRITE ONE TO CLEAR RXI	
6822								
6823	037132°	103006			BCC 190\$:	ERROR ?	
6824	037134°				ERRHRD 092.,ERR016,MSG003	:	NO	
6825	037134°	104456						TRAP C\$ERHRD
6826	037136°	000134						.WORD 92
6827	037140°	017050°						.WORD ERR016
6828	037142°	015114°						.WORD MSG003
6829	037144°				ESCAPE TST	:	AND ABORT TEST	
6830	037144°	104410						TRAP C\$ESCAPE
6831	037146°	000772						.WORD L10041-
6832								
6833	037150°	012705	000632°	i90\$:	MOV #RDRB,R5	:	CHECK RDRB OWNERSHIP	
6834	037154°	004737	022634°		JSR PC,CHKOWN	:	OWN = PORT DRIVER ?	
6835	037160°	103006			BCC 200\$:	YES	
6836	037162°				ERRHRD 093.,ERR017	:	NO, REPORT ERROR	
6837	037162°	104456						TRAP C\$ERHRD
6838	037164°	000135						.WORD 93

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6839	037166'	017116'					.WORD	ERR017
6840	037170'	000000					.WORD	0
6841	037172'			ESCAPE	TST			: AND ABORT TEST
6842	037172'	104410					TRAP	C\$ESCAPE
6843	037174'	000744					.WORD	L10041-.
6844								
6845	037176'	012705	012622'	200\$:	MOV	#RDR14A,R5		: POINT TO EXPECTED RDRB
6846	037202'	004737	025110'		JSR	PC,LDXRDR		: LOAD INTO XRDRB0 TABLE
6847	037206'	012705	000632'		MOV	#RDRB,R5		: CHECK RDRB
6848	037212'	004737	022754'		JSR	PC,CHKRDR		: ERRORS ?
6849	037216'	103006			BCC	210\$: NO
6850	037220'				ERRHRD	094.,ERR021,MSG006		: YES, REPORT ERROR
6851	037220'	104456					TRAP	C\$ERHRD
6852	037222'	000136					.WORD	94
6853	037224'	017457'					.WORD	ERR021
6854	037226'	015362'					.WORD	MSG006
6855	037230'			ESCAPE	TST			: AND ABORT TEST
6856	037230'	104410					TRAP	C\$ESCAPE
6857	037232'	000706					.WORD	L10041-.
6858								
6859								
6860	037234'	012705	000070					
6861	037240'	004737	023732'	210\$:	MOV	#56.,R5		: COMPARE 56 WORDS OF DATA
6862	037244'	103006			JSR	PC,COMPDA!		: DATA COMPARE ERROR ?
6863	037246'				BCC	220\$: NO
6864	037246'	104456			ERRHRD	095.,ERR022,MSG007		: YES, REPORT ERROR
6865	037250'	000137					TRAP	C\$ERHRD
6866	037252'	017540'					.WORD	95
6867	037254'	015524'					.WORD	ERR022
6868	037256'			ESCAPE	TST		.WORD	MSG007
6869	037256'	104410						: AND ABORT TEST
6870	037260'	000660					TRAP	C\$ESCAPE
6871							.WORD	L10041-.
6872	037262'	012705	012712'	220\$:	MOV	#CRC14A,R5		: POINT TO EXPECTED CRCB
6873	037266'	004737	025064'		JSR	PC,LDXCRC		: LOAD INTO XCRC TABLE
6874	037272'	012705	005266'		MOV	#RBUF+124.,R5		: CHECK CRC
6875	037276'	004737	024012'		JSR	PC,CMPCRC		: ERRORS ?
6876	037302'	103006			BCC	230\$: NO
6877	037304'				ERRHRD	096.,ERR023,MSG008		: YES, REPORT ERROR
6878	037304'	104456					TRAP	C\$ERHRD
6879	037306'	000140					.WORD	96
6880	037310'	017607'					.WORD	ERR023
6881	037312'	015556'					.WORD	MSG008
6882	037314'			ESCAPE	TST			: AND ABORT TEST
6883	037314'	104410					TRAP	C\$ESCAPE
6884	037316'	000622					.WORD	L10041-.
6885								
6886	037320'	012777	000017	140700	230\$:	MOV	#STOP,@PCSRO	: ISSUE STOP PORT COMMAND
6887	037326'	004737	022546'		JSR	PC,CHKDNI		: DNI ?
6888	037332'	103006			BCC	240\$: YES
6889	037334'				ERRHRD	097.,ERR019,MSG003		: NO, REPORT ERROR
6890	037334'	104456					TRAP	C\$ERHRD
6891	037336'	000141					.WORD	97
6892	037340'	017316'					.WORD	ERR019
6893	037342'	015114'					.WORD	MSG003
6894	037344'			ESCAPE	TST			: AND ABORT TEST

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6895 037344' 104410                                TRAP  C$ESCAPE
6896 037346' 000572                                .WORD L10041-.
6897
6898 037350' 004737 023434' 240$: JSR      PC,CLRDNI                ; WRITE ONE TO CLEAR DNI
6899                                     ; ERROR ?
6900 037354' 103006                                BCC      250$
6901 037356'                                     ERRHRD   098.,ERR006,MSG003 ; YES, REPORT ERROR
6902 037356' 104456                                TRAP  C$ERHRD
6903 037360' 000142                                .WORD  98
6904 037362' 016206'                                .WORD  ERR006
6905 037364' 015114'                                .WORD  MSG003
6906 037366'                                     ESCAPE  TST                ; AND ABORT TEST
6907 037366' 104410                                TRAP  C$ESCAPE
6908 037370' 000550                                .WORD L10041-.
6909 037372'
6910 037372'
6911 037372'
6912 037372' 104403                                L10042: TRAP  C$ESUB
6913 037374'
6914 037374'
6915 037374' 104402                                T14.2: TRAP  C$BSUB
6916
6917
6918
6919 037376' 004737 025334'
6920 037402' 103025
6921 037404' 012777 000040 140614
6922 037412' 004737 022546'
6923 037416' 103006
6924 037420'
6925 037420' 104456
6926 037422' 000143
6927 037424' 016106'
6928 037426' 015114'
6929 037430'
6930 037430' 104410
6931 037432' 000506
6932 037434' 004737 023434' 251$: JSR      PC,CLRDNI                ; GO CLEAR DNI
6933 037440' 103006                                BCC      255$
6934 037442'                                     ERRHRD   100.,ERR006,MSG003 ; ERROR 'ING TO CLEAR DNI
6935 037442' 104456                                TRAP  C$ERHRD
6936 037444' 000144                                .WORD  100
6937 037446' 016206'                                .WORD  ERR006
6938 037450' 015114'                                .WORD  MSG003
6939 037452'
6940 037452' 104410
6941 037454' 000464                                ESCAPE  TST                ; ABORT TEST
6942
6943 037456' 012705 011242' 255$: MOV      #WTMOD1,R5          ; POINT TO WRITE MODE FUNCTION
6944 037462' 004737 024630'                                JSR      PC,LDPCBB         ; LOAD FUNCTION -> PCBB
6945 037466' 012777 000002 140532                                MOV      #GETCMD,@PCSR0   ; ISSUE GET_CMD PORT COMMAND
6946 037474' 004737 022546'                                JSR      PC,CHKDNI        ; DNI ?
6947 037500' 103006                                BCC      260$
6948 037502'                                     ERRHRD   101.,ERR010,MSG003 ; NO, REPORT ERROR
6949 037502' 104456                                TRAP  C$ERHRD
6950 037504' 000145                                .WORD  101

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6951 037506' 016506' .WORD ERR010
6952 037510' 015114' .WORD MSG003
6953 037512'          ESCAPE TST          ; AND ABORT TEST
6954 037512' 104410          ;
6955 037514' 000424          TRAP C$ESCAPE
6956                                     .WORD L10041-.
6957 037516' 004737 023434' 260$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
6958                                     ; ERROR ?
6959 037522' 103006          BCC 270$          ; NO
6960 037524'          ERRHRD 102.,ERR006,MSG003 ; YES, REPORT ERROR
6961 037524' 104456          TRAP C$ERHRD
6962 037526' 0C0146          .WORD 102
6963 037530' 016206'          .WORD ERR006
6964 037532' 015114'          .WORD MSG003
6965 037534'          ESCAPE TST          ; AND ABORT TEST
6966 037534' 104410          TRAP C$ESCAPE
6967 037536' 000402          .WORD L10041-.
6968
6969 ;SET UP RINGS FOR ONE BUFFER LOOPBACK
6970
6971 037540' 012705 011542' 270$: MOV #TDRB1A,R5          ; DEFAULT ONE BUFFER TRANSMIT RING
6972 037544' 004737 024734' JSR PC,LDTDRB          ; LOAD TDRB
6973 037550' 012705 011342' MOV #RDRB1A,R5          ; DEFAULT ONE BUFFER RECEIVE RING
6974 037554' 004737 024676' JSR PC,LDRDRB          ; LOAD RDRB
6975
6976 ;SET UP BUFFERS AND START
6977
6978 037560' 012705 000254' MOV #PCBB+2,R5          ; POINT TO DESTINATION ADDRESS
6979 037564' 004737 024602' JSR PC,LDDEST          ; LOAD DEST
6980 037570' 004737 025230' JSR PC,SETBUF          ; SET UP BUFFERS
6981 037574' 012777 000004' 140424 MOV #START,@PCSR0      ; ISSUE START PORT COMMAND
6982 037602' 004737 022546' JSR PC,CHKDNI          ; DNI?
6983 037606' 103006          BCC 280$          ; YES
6984 037610'          ERRHRD 103.,ERR012,MSG003 ; NO, REPORT ERROR
6985 037610' 104456          TRAP C$ERHRD
6986 037612' 000147          .WORD 103
6987 037614' 016637'          .WORD ERR012
6988 037616' 015114'          .WORD MSG003
6989 037620'          ESCAPE TST          ; AND ABORT TEST
6990 037620' 104410          TRAP C$ESCAPE
6991 037622' 000316          .WORD L10041-.
6992
6993 037624' 004737 023434' 280$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
6994                                     ; ERROR ?
6995 037630' 103006          BCC 290$          ; NO
6996 037632'          ERRHRD 104.,ERR006,MSG003 ; YES, REPORT ERROR
6997 037632' 104456          TRAP C$ERHRD
6998 037634' 000150          .WORD 104
6999 037636' 016206'          .WORD ERR006
7000 037640' 015114'          .WORD MSG003
7001 037642'          ESCAPE TST          ; AND ABORT TEST
7002 037642' 104410          TRAP C$ESCAPE
7003 037644' 000274          .WORD L10041-.
7004
7005 037646' 004737 023306' 290$: JSR PC,CHKTXI          ; TXI ?
7006 037652' 103006          BCC 300$          ; YES

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7007	037654'			ERRHRD	105.,ERR013,MSG003	:	NO, REPORT ERROR		
7008	037654'	104456						TRAP	C\$ERHRD
7009	037656'	000151						.WORD	105
7010	037660'	016720'						.WORD	ERR013
7011	037662'	015114'						.WORD	MSG003
7012	037664'			ESCAPE	TST	:	AND ABORT TEST		
7013	037664'	104410						TRAP	C\$ESCAPE
7014	037656'	000252						.WORD	L10041-.
7015									
7016	037670'	004737	023616'	300\$:	JSR	PC,CLRTXI	:	WRITE ONE TO CLEAR TXI	
7017							:	ERROR ?	
7018	037674'	103006			BCC	310\$:	NO	
7019	037676'				ERRHRD	106.,ERR014,MSG003	:	YES, REPORT ERROR	
7020	037676'	104456						TRAP	C\$ERHRD
7021	037700'	000152						.WORD	106
7022	037702'	016751'						.WORD	ERR014
7023	037704'	015114'						.WORD	MSG003
7024	037706'			ESCAPE	TST	:	AND ABORT TEST		
7025	037706'	104410						TRAP	C\$ESCAPE
7026	037710'	000230						.WORD	L10041-.
7027									
7028	037712'	004737	023054'	310\$:	JSR	PC,CHKRXI	:	RXI ?	
7029	037716'	103006			BCC	320\$:	YES	
7030	037720'				ERRHRD	107.,ERR015,MSG003	:	NO, REPORT ERROR	
7031	037720'	104456						TRAP	C\$ERHRD
7032	037722'	000153						.WORD	107
7033	037724'	017017'						.WORD	ERR015
7034	037726'	015114'						.WORD	MSG003
7035	037730'			ESCAPE	TST	:	AND ABORT TEST		
7036	037730'	104410						TRAP	C\$ESCAPE
7037	037732'	000206						.WORD	L10041-.
7038									
7039	037734'	004737	023550'	320\$:	JSR	PC,CLRRXI	:	WRITE ONE TO CLEAR RXI	
7040							:	ERROR ?	
7041	037740'	103006			BCC	330\$:	NO	
7042	037742'				ERRHRD	108.,ERR016,MSG003	:	YES, REPORT ERROR	
7043	037742'	104456						TRAP	C\$ERHRD
7044	037744'	000154						.WORD	108
7045	037746'	017050'						.WORD	ERR016
7046	037750'	015114'						.WORD	MSG003
7047	037752'			ESCAPE	TST	:	AND ABORT TEST		
7048	037752'	104410						TRAP	C\$ESCAPE
7049	037754'	000164						.WORD	L10041-.
7050									
7051	037756'	004737	023374'	330\$:	JSR	PC,CHKSER	:	SERI?	
7052	037762'	103005			BCC	340\$:	YES	
7053	037764'				ERRHRD	109.,ERR048.,MSG003	:	NO, REPORT NO SERI BIT SET!	
7054	037764'	104456						TRAP	C\$ERHRD
7055	037766'	000155						.WORD	109
7056	037770'	022256'						.WORD	ERR048.
7057	037772'	015114'						.WORD	MSG003
7058	037774'	000411			BR	350\$:	GO READ PORT STATUS	
7059	037776'	004737	027664'	340\$:	JSR	PC,CLRSER	:	WRITE ONE TO CLEAR SERI BIT	
7060							:	ERROR?	
7061	040002'	103006			BCC	350\$:	NO	
7062	040004'				ERRHRD	110.,ERR049.,MSG003	:	YES, REPORT SERI BIT DID NOT CLEAR	

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7063	040004'	104456						TRAP	C\$ERHRD
7064	040006'	000156						.WORD	110
7065	040010'	022310'						.WORD	ERR049.
7066	040012'	015114'						.WORD	MSG003
7067	040014'				ESCAPE	TST			;ABORT TEST
7068	040014'	104410						TRAP	C\$ESCAPE
7069	040016'	000122						.WORD	L10041-
7070									
7071	040020'	012705	011252'		350\$:	MOV	#RDSTA,R5		;READ PORT STATUS FUNCTION
7072	040024'	004737	024630'			JSR	PC,LDPCBB		;LOAD FUNCTION INTO PCBB
7073	040030'	012777	000002	140170		MOV	#GETCMD,@PCSR0		;ISSUE GET COMMAND PORT COMMAND
7074	040030'	004737	022546'			JSR	PC,CHKDNI		;DNI?
7075	040042'	103006				BCC	360\$;YES
7076	040044'					ERRHRD	111.,ERR010,MSG003		;NO, REPORT ERROR
7077	040044'	104456						TRAP	C\$ERHRD
7078	040046'	000157						.WORD	111
7079	040050'	016506'						.WORD	ERR010
7080	040052'	015114'						.WORD	MSG003
7081	040054'				ESCAPE	TST			;ABORT TEST
7082	040054'	104410						TRAP	C\$ESCAPE
7083	040056'	000062						.WORD	L10041-
7084									
7085	040060'	032737	100000	000254'	360\$:	BIT	#BIT15,PCBB+2		;ERROR SUMMARY BIT SHOULD BE SET
7086	040066'	001004				BNE	370\$;OK
7087	040070'					ERRHRD	112.,ERR050,MSG009		;PRINT ERROR INFORMATION
7088	040070'	104456						TRAP	C\$ERHRD
7089	040072'	000160						.WORD	112
7090	040074'	022357'						.WORD	ERR050
7091	040076'	015640'						.WORD	MSG009
7092	040100'	032737	100000	000254'	370\$:	BIT	#BIT12,PCBB+2		;COLLISION TEST ERROR SHOULD BE SET
7093	040106'	001004				BNE	380\$;OK
7094	040110'					ERRHRD	113.,ERR051,MSG009		;PRINT ERROR INFORMATION
7095	040110'	104456						TRAP	C\$ERHRD
7096	040112'	000161						.WORD	113
7097	040114'	022447'						.WORD	ERR051
7098	040116'	015640'						.WORD	MSG009
7099	040120'	004737	023434'		380\$:	JSR	PC,CLRDN1		;GO CLEAR DNI
7100	040124'	103004				BCC	390\$;OK
7101	040126'					ERRHRD	114.,ERR006,MSG003		;DNI BIT DID NOT CLEAR!
7102	040126'	104456						TRAP	C\$ERHRD
7103	040130'	000162						.WORD	114
7104	040132'	016206'						.WORD	ERR006
7105	040134'	015114'						.WORD	MSG003
7106	040136'				390\$:				
7107	040136'					ENDSUB	;#2		
7108	040136'								L10043:
7109	040136'	104403						TRAP	C\$ESUB
7110	040140'					ENDTST			L10041:
7111	040140'								
7112	040140'	104401						TRAP	C\$ETST

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TEST 15: CRC CHECKING TEST

.SBTTL TEST 15: 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
*****

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040142'
040142'
040142' 004737 025334'
040146' 103025
040150' 012777 000040 140050
040156' 004737 022546'
040162' 103006
040164'
040164' 104456
040156' 000163
040170' 016106'
040172' 015114'
040174'
040174' 104410
040176' 001054
.
040200' 004737 023434' 20$:
040204 103006
040206'
040206' 104456
040210' 000164
040212' 016206'
040214' 015114'
040216'
040216' 104410
040220' 001032
.
040222' 004737 024660' 30$:
040226' 012777 000001 137772
040234' 004737 022546'
040240' 103006
040242'

```

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BGNTST
T15::
JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30$ ; NO
MOV #RSET,@PCSR0 ; YES, RESET DEUNA
JSR PC,CHKDNI ; DNI ?
BCC 20$ ; YES
ERPHRD 115.,ERR004,MSG003 ; NO, REPORT ERROR
TRAP C$ERHRD
.WORD 115
.WORD ERR004
.WORD MSG003
ESCAPE TST ; AND ABORT TEST
TRAP C$ESCAPE
.WORD L10044-.
.
20$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 30$ ; NO
ERRHRD 116.,ERR006,MSG003 ; YES, REPORT ERROR
TRAP C$ERHRD
.WORD 116
.WORD ERR006
.WORD MSG003
ESCAPE TST ; AND ABORT TEST
TRAP C$ESCAPE
.WORD L10044-.
.
30$: JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2!3
MOV #GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
JSR PC,CHKDNI ; DNI?
BCC 40$ ; YES
ERRHRD 117.,ERR009,MSG003 ; NO, REPORT ERROR

```


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7169 040242° 104456 TRAP C$ERHRD
7170 040244° 000165 .WORD 117
7171 040246° 016422° .WORD ERR009
7172 040250° 015114° .WORD MSG003
7173 040252° ESCAPE TST ; AND ABORT TEST
7174 040252° 104410 TRAP C$ESCAPE
7175 040254° 000776 .WORD L10044-.
7176
7177 040256° 004737 023434° 40$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
7178 ; ERROR ?
7179 040262° 103006 BCC 50$ ; NO
7180 040264° ERRHRD 118.,ERR006,MSG003 ; YES, REPORT ERROR
7181 040264° 104456 TRAP C$ERHRD
7182 040266° 000166 .WORD 118
7183 040270° 016206° .WORD ERR006
7184 040272° 015114° .WORD MSG003
7185 040274° ESCAPE TST ; AND ABORT TEST
7186 040274° 104410 TRAP C$ESCAPE
7187 040276° 000754 .WORD L10044-.
7188 ;WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM AND DISABLE XMIT CRC MODE
7189 040300° 012705 011232° 50$: MOV #WTMODE,R5 ; DEFAULT WRITE MODE FUNCTION
7190 040304° 004737 024630° JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
7191 040310° 013737 013076° 000254° MOV MODE15,PCBB+2 ; LOAD MODE REGISTER
7192 040316° 012777 000002 137702 MOV #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7193 040324° 004737 022546° JSR PC,CHKDNI ; DNI ?
7194 040330° 103006 BCC 60$ ; YES
7195 040332° ERRHRD 119.,ERR010,MSG003 ; NO, REPORT ERROR
7196 040332° 104456 TRAP C$ERHRD
7197 040334° 000167 .WORD 119
7198 040336° 016506° .WORD ERR010
7199 040340° 015114° .WORD MSG003
7200 040342° ESCAPE TST ; AND ABORT TEST
7201 040342° 104410 TRAP C$ESCAPE
7202 040344° 000706 .WORD L10044-.
7203
7204 040346° 004737 023434° 60$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
7205 ; ERROR ?
7206 040352° 103006 BCC 70$ ; NO
7207 040354° ERRHRD 120.,ERR006,MSG003 ; YES, REPORT ERROR
7208 040354° 104456 TRAP C$ERHRD
7209 040356° 000170 .WORD 120
7210 040360° 016206° .WORD ERR006
7211 040362° 015114° .WORD MSG003
7212 040364° ESCAPE TST ; AND ABORT TEST
7213 040364° 104410 TRAP C$ESCAPE
7214 040366° 000664 .WORD L10044-.
7215 ;WRITE RING FORMAT
7216 040370° 012705 011172° 70$: MOV #WTRNGS,R5 ; DEFAULT WRITE RING FORMAT FUNCTION
7217 040374° 004737 024630° JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
7218 040400° 012705 011312° MOV #RFRMT,R5 ; DEFAULT RING FORMAT
7219 040404° 012700 000006 MOV #6,R0 ; FORMAT = SIX WORDS
7220 040410° 004737 025030° JSR PC,LDUDBB ; LOAD RING FORMAT -> UDBB
7221 040414° 012777 000002 137604 MOV #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7222 040422° 004737 022546° JSR PC,CHKDNI ; DNI ?
7223 040426° 103006 BCC 80$ ; YES
7224 040430° ERRHRD 121.,ERR010,MSG003 ; NO, REPORT ERROR

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7225 040430' 104456          TRAP  C$ERHRD
7226 040432' 000171          .WORD 121
7227 040434' 016506'        .WORD  ERR010
7228 040436' 015114'        .WORD  MSG003
7229 040440'                ESCAPE TST          ; AND ABORT TEST
7230 040440' 104410          TRAP  C$ESCAP:
7231 040442' 000610          .WORD  L10044-.
7232
7233 040444' 004737 023434'  80$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
7234                                ; ERROR ?
7235                                ; NO
7236                                ; YES, REPORT ERROR
7235 040450' 103006          BCC    90$
7236 040452'                ERRHRD 122.,ERR006,MSG003
7237 040452' 104456          TRAP  C$ERHRD
7238 040454' 000172          .WORD 122
7239 040456' 016206'        .WORD  ERR006
7240 040460' 015114'        .WORD  MSG003
7241 040462'                ESCAPE TST          ; AND ABORT TEST
7242 040462' 104410          TRAP  C$ESCAPE
7243 040464' 000566          .WORD  L10044-.
7244
7245 040466' 012705 011132'  90$: :WRITE PHYSICAL ADDRESS
7246 040472' 004737 024630'  MOV    #WTPHYA,R5      ; DEFAULT WRITE PHYSICAL ADDR FUNC
7247 040476' 012777 000002 137522 JSR    PC,LDP CBB      ; LOAD FUNCTION -> PCBB
7248 040504' 004737 022546'  MOV    #GETCMD,@PCSR0 ; ISSUF GET_CMD PORT COMMAND
7249 040510' 103006          JSR    PC,CHKDNI      ; DNI ?
7250 040512'                BCC    100$
7251 040512' 104456          ERRHRD 123.,ERR010,MSG003 ; NO, REPORT ERROR
7252 040514' 000173          TRAP  C$ERHRD
7253 040516' 016506'        .WORD 123
7254 040520' 015114'        .WORD  ERR010
7255 040522'                ESCAPE TST          ; AND ABORT TEST
7256 040522' 104410          TRAP  C$ESCAPE
7257 040524' 000526          .WORD  L10044-.
7258
7259 040526' 004737 023434'  100$: JSR   PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
7260                                ; ERROR ?
7261                                ; NO
7262                                ; YES, REPORT ERROR
7261 040532' 103006          BCC    110$
7262 040534'                ERRHRD 124.,ERR006,MSG003
7263 040534' 104456          TRAP  C$ERHRD
7264 040536' 000174          .WORD 124
7265 040540' 016206'        .WORD  ERR006
7266 040542' 015114'        .WORD  MSG003
7267 040544'                ESCAPE TST          ; AND ABORT TEST
7268 040544' 104410          TRAP  C$ESCAPE
7269 040546' 000504          .WORD  L10044-.
7270
7271 040550' 012705 011602'  110$: :SET UP RINGS FOR ONE BUFFER LOOPBACK
7272 040554' 004737 024734'  MOV    #TDRB1B,R5      ; DEFAULT ONE BUFFER TRANSMIT RING
7273 040560' 012705 011342'  JSR    PC,LDTDRB      ; LOAD TDRB
7274 040564' 004737 024676'  MOV    #RDRB1A,R5      ; DEFAULT ONE BUFFER RECEIVE RING
7275                                ; LOAD RDRB
7276                                ; SET UP BUFFERS AND START
7276 040570' 012705 000254'  MOV    #PCBB+2,R5      ; POINT TO DESTINATION ADDRESS
7277 040574' 004737 024602'  JSR    PC,LDDEST      ; LOAD DEST
7278 040600' 004737 025230'  JSR    PC,SETBUF      ; SET UP BUFFERS
7279 040604' 013737 012716'  MOV    CRC15H,TBUF+124. ; APPEND GODD CRC VALUE
7280 040612' 013737 012720'  MOV    CRC15L,TBUF+126. ; TO TRANSMIT DATA

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7281	040620'	012777	000004	137400	MOV	#START,@PCSR0	:	ISSUE START PORT COMMAND		
7282	040626'	004737	022546'		JSR	PC,CHKDNI	:	DNI?		
7283	040632'	103006			BCC	120\$:	YES		
7284	040634'				ERRHRD	125.,ERR012,MSG003	:	NO, REPORT ERROR		
7285	040634'	104456							TRAP	C\$ERHRD
7286	040636'	000175							.WORD	125
7287	040640'	016637'							.WORD	ERR012
7288	040642'	015114'							.WORD	MSG003
7289	040644'				ESCAPE	TST	:	AND ABORT TEST		
7290	040644'	104410							TRAP	C\$ESCAPE
7291	040646'	000404							.WORD	L10044-.
7292										
7293	040650'	004737	023434'		JSR	PC,CLRDNI	:	WRITE ONE TO CLEAR DNI		
7294							:	ERROR ?		
7295	040654'	103006			BCC	130\$:	NO		
7296	040656'				ERRHRD	126.,ERR006,MSG003	:	YES, REPORT ERROR		
7297	040656'	104456							TRAP	C\$ERHRD
7298	040660'	000176							.WORD	126
7299	040662'	016206'							.WORD	ERR006
7300	040664'	015114'							.WORD	MSG003
7301	040666'				ESCAPE	TST	:	AND ABORT TEST		
7302	040666'	104410							TRAP	C\$ESCAPE
7303	040670'	000362							.WORD	L10044-.
7304										
7305	040672'	004737	023306'		JSR	PC,CHKTXI	:	TXI ?		
7306	040676'	103006			BCC	140\$:	YES		
7307	040700'				ERRHRD	127.,ERR013,MSG003	:	NO, REPORT ERROR		
7308	040700'	104456							TRAP	C\$ERHRD
7309	040702'	000177							.WORD	127
7310	040704'	016720'							.WORD	ERR013
7311	040706'	015114'							.WORD	MSG003
7312	040710'				ESCAPE	TST	:	AND ABORT TEST		
7313	040710'	104410							TRAP	C\$ESCAPE
7314	040712'	000340							.WORD	L10044-.
7315										
7316	040714'	004737	023616'		JSR	PC,CLRTXI	:	WRITE ONE TO CLEAR TXI		
7317							:	ERROR ?		
7318	040720'	103006			BCC	150\$:	NO		
7319	040722'				ERRHRD	128.,ERR014,MSG003	:	YES, REPORT ERROR		
7320	040722'	104456							TRAP	C\$ERHRD
7321	040724'	000200							.WORD	128
7322	040726'	016751'							.WORD	ERR014
7323	040730'	015114'							.WORD	MSG003
7324	040732'				ESCAPE	TST	:	AND ABORT TEST		
7325	040732'	104410							TRAP	C\$ESCAPE
7326	040734'	000316							.WORD	L10044-.
7327										
7328	040736'	012705	000572'		MOV	#TDRB,R5	:	CHECK TDRB OWNERSHIP		
7329	040742'	004737	022634'		JSR	PC,CHKOWN	:	OWN = PORT DRIVER ?		
7330	040746'	103006			BCC	160\$:	YES		
7331	040750'				ERRHRD	129.,ERR018	:	NO, REPORT ERROR		
7332	040750'	104456							TRAP	C\$ERHRD
7333	040752'	000201							.WORD	129
7334	040754'	017216'							.WORD	ERR018
7335	040756'	000000							.WORD	0
7336	040760'				ESCAPE	TST	:	AND ABORT TEST		

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7337	040760'	104410							TRAP	C\$ESCAPE
7338	040762'	000270							.WORD	L10044-
7339										
7340	040764'	012705	012522'	160\$:	MOV	#TDR15A,R5		:	POINT TO EXPECTED TDRB	
7341	040770'	004737	025140'		JSR	PC,LDXTDR		:	LOAD INTO XTDRB0 TABLE	
7342	040774'	012705	000572'		MOV	#TDRB,R5		:	CHECK TDRB	
7343	041000'	004737	023220'		JSR	PC,CHKTDR		:	ERRORS ?	
7344	041004'	103006			BCC	170\$:	NO	
7345	041006'				ERRHRD	130.,ERR020,MSG005		:	YES, REPORT ERROR	
7346	041006'	104456								
7347	041010'	000202							TRAP	C\$ERHRD
7348	041012'	017376'							.WORD	130
7349	041014'	015220'							.WORD	ERR020
7350	041016'				ESCAPE	TST		:	AND ABORT TEST	MSG005
7351	041016'	104410							TRAP	C\$ESCAPE
7352	041020'	000232							.WORD	L10044-
7353										
7354	041022'	004737	023054'	170\$:	JSR	PC,CHKRXI		:	RXI ?	
7355	041026'	103006			BCC	180\$:	YES	
7356	041030'				ERRHRD	131.,ERR015,MSG003		:	NO, REPORT ERROR	
7357	041030'	104456								
7358	041032'	000203							TRAP	C\$ERHRD
7359	041034'	017017'							.WORD	131
7360	041036'	015114'							.WORD	ERR015
7361	041040'				ESCAPE	TST		:	AND ABORT TEST	MSG003
7362	041040'	104410							TRAP	C\$ESCAPE
7363	041042'	000210							.WORD	L10044-
7364										
7365	041044'	004737	023550'	180\$:	JSR	PC,CLRRXI		:	WRITE ONE TO CLEAR RXI	
7366								:	ERROR ?	
7367	041050'	103006			BCC	190\$:	NO	
7368	041052'				ERRHRD	132.,ERR016,MSG003		:	YES, REPORT ERROR	
7369	041052'	104456								
7370	041054'	000204							TRAP	C\$ERHRD
7371	041056'	011050'							.WORD	132
7372	041060'	015114'							.WORD	ERR016
7373	041062'				ESCAPE	TST		:	AND ABORT TEST	MSG003
7374	041062'	104410							TRAP	C\$ESCAPE
7375	041064'	000166							.WORD	L10044-
7376										
7377	041066'	012705	000632'	190\$:	MOV	#RDRB,R5		:	CHECK RDRB OWNERSHIP	
7378	041072'	004737	022634'		JSR	PC,CHKOWN		:	OWN = PORT DRIVER ?	
7379	041076'	103006			BCC	200\$:	YES	
7380	041100'				ERRHRD	133.,ERR017		:	NO, REPORT ERROR	
7381	041100'	104456								
7382	041102'	000205							TRAP	C\$ERHRD
7383	041104'	017116'							.WORD	133
7384	041106'	000000							.WORD	ERR017
7385	041110'				ESCAPE	TST		:	AND ABORT TEST	0
7386	041110'	104410							TRAP	C\$ESCAPE
7387	041112'	000140							.WORD	L10044-
7388										
7389	041114'	012705	012632'	200\$:	JV	#RDR15A,R5		:	POINT TO EXPECTED RDRB	
7390	041120'	004737	025110'		JSR	PC,LDXRDR		:	LOAD INTO XRDRB0 TABLE	
7391	041124'	012705	000632'		MOV	#RDRB,R5		:	CHECK RDRB	
7392	041130'	004737	022754'		JSR	PC,CHKRDR		:	ERRORS ?	

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7393 041134' 103006          BCC      210$          : NO
7394 041136'                ERRHRD  134.,ERR021,MSG006 : YES, REPORT ERROR
7395 041136' 104456                TRAP   C$ERHRD
7396 041140' 000206                .WORD  134
7397 041142' 017457'                .WORD  ERR021
7398 041144' 015362'                .WORD  MSG006
7399 041146'                ESCAPE  TST          : AND ABORT TEST
7400 041146' 104410                TRAP   C$ESCAPE
7401 041150' 000102                .WORD  L10044-.
7402                                ;COMFARE RBUF WITH TBUF
7403 041152' 012705 000070          210$: MOV      #56.,R5          : COMPARE 56 WORDS OF DATA
7404 041156' 004737 023732'        JSR     PC,CMPDAT      : DATA COMPARE ERROR ?
7405      1162' 103006          BCC     230$          : NO
7406      1164'                ERRHRD  135.,ERR022,MSG007 : YES, REPORT ERROR
7407 041164' 104456                TRAP   C$ERHRD
7408 041166' 000207                .WORD  135
7409 041170' 017540'                .WORD  ERR022
7410 041172' 015524'                .WORD  MSG007
7411 041174'                ESCAPE  TST          : AND ABORT TEST
7412 041174' 104410                TRAP   C$ESCAPE
7413 041176' 000054                .WORD  L10044-.
7414
7415 041200' 012777 000017 137020 230$: MOV      #STOP,@PCSR0    : ISSUF STOP PORT COMMAND
7416 041206' 004737 022546'        JSR     PC,CHKDNI      : DNI ?
7417 041212' 103006          BCC     240$          : YES
7418 041214'                ERRHRL  136.,ERR019,MSG003 : NO, REPORT ERROR
7419 041214' 104456                TRAP   C$ERHRD
7420 041216' 000210                .WORD  136
7421 041220' 017316'                .WORD  ERR019
7422 041222' 015114'                .WORD  MSG003
7423 041224'                ESCAPE  TST          : AND ABORT TEST
7424 041224' 104410                TRAP   C$ESCAPE
7425 041226' 000024                .WORD  L10044-.
7426
7427 041230' 004737 023434'        240$: JSR     PL,CLRDN1    : WRITE ONE TO CLEAR DNI
7428                                : ERROR ?
7429 041234' 103006          BCC     250$          : NO
7430 041236'                ERRHRD  137.,ERR006,MSG003 : YES, REPORT ERROR
7431 041236' 104456                TRAP   C$ERHRD
7432 041240' 000211                .WORD  137
7433 041242' 016206'                .WORD  ERR006
7434 041244' 015114'                .WORD  MSG003
7435 041246'                ESCAPE  TST          : AND ABORT TEST
7436 041246' 104410                TRAP   C$ESCAPE
7437 041250' 000002                .WORD  L10044-.
7438 041252'                250$:
7439 041252'                ENDTST
7440 041252'
7441 041252' 104401                L10044: TRAP   C$ETST

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HARDWARE TESTS MACY11 30(1046)
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TEST 16: FORCE CRC ERROR TEST

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.SBTTL TEST 16: FORCE CRC ERROR TEST

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*****
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
*****

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041254'          BGNTST
041254'          JSR      PC,TINIT          ; IS A DEVICE RESET NEEDED?
041254' 004737 025334' BCC      30$          ; NO
041260' 103025   MOV      #RSET,@PCSR0        ; YES, RESET DEUNA
041262' 012777 000040 136736 JSR      PC,CHKDNI          ; DNI ?
041270' 004737 022546' BCC      20$          ; YES
041274' 103006   ERRHRD  138.,ERR004,MSG003 ; NO, REPORT ERROR
041276' 104456   TRAP      C$ERHRD
041300' 000212   .WORD    138
041302' 016106' .WORD    ERR004
041304' 015114' .WORD    MSG003
041306'          ESCAPE  TST          ; AND ABORT TEST
041306' 104410   TRAP      C$ESCAPE
041310' 001054   .WORD    L10045-
041312' 004737 023434' 20$: JSR      PC,CLR DNI          ; WRITE ONE TO CLEAR DNI
041316' 103006   ; ERROR ?
041320'          BCC      30$          ; NO
041320' 104456   ERRHRD  139.,ERR006,MSG003 ; YES, REPORT ERROR
041322' 000213   TRAP      C$ERHRD
041324' 016206' .WORD    139
041326' 015114' .WORD    ERR006
041330'          ESCAPE  TST          ; AND ABORT TEST
041330' 104410   TRAP      C$ESCAPE
041332' 001032   .WORD    L10045-
041334' 004737 024660' 30$: JSR      PC,LDPCSR          ; ADDRESS OF PCBB -> PCSR2!3
041340' 012777 000001 136660 MOV      #GETPCB,@PCSR0    ; ISSUE GET_PCBB PORT COMMAND
041346' 004737 022546' JSR      PC,CHKDNI          ; DNI?
041352' 103006   BCC      40$          ; YES
041354'          ERRHRD  140.,ERR009,MSG003 ; NO, REPORT ERROR

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HARDWARE TESTS MACY11 30(1046) 11-JAN-83 12:03 PAGE 166
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7498 041354' 104456 TRAP C$ERHRD
7499 041356' 000214 .WORD 140
7500 041360' 016422' .WORD ERRO09
7501 041362' 015114' .WORD MSG003
7502 041364' ESCAPE TST ; AND ABORT TEST
7503 041364' 104410 TRAP C$ESCAPE
7504 041366' 000776 .WORD L10045-.
7505
7506 041370' 004737 023434' 40$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
7507 ; ERROR ?
7508 041374' 103006 BCC 50$ ; NO
7509 041376' ERRHRD 141.,ERR006,MSG003 ; YES, REPORT ERROR
7510 041376' 104456 TRAP C$ERHRD
7511 041400' 000215 .WORD 141
7512 041402' 016206' .WORD ERRO0
7513 041404' 015114' .WORD MSG003
7514 041406' ESCAPE TST ; AND ABORT TEST
7515 041406' 104410 TRAP C$ESCAPE
7516 041410' 000754 .WORD L10045-.
7517 ;WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM AND DISABLE XMIT CRC MODE
7518 041412' 012705 011232' 50$: MOV #WTMODE,R5 ; DEFAULT WRITE MODE FUNCTION
7519 041416' 004737 024630' JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
7520 041422' 013737 013076' 000254' MOV MODE15,PCBB+2 ; LOAD MODE REGISTER
7521 041430' 012777 000002 136570 MOV #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7522 041436' 004737 022546' JSR PC,CHKDNI ; DNI ?
7523 041442' 103006 BCC 60$ ; YES
7524 041444' ERRHRD 142.,ERR010,MSG003 ; NO, REPORT ERROR
7525 041444' 104456 TRAP C$ERHRD
7526 041446' 000216 .WORD 142
7527 041450' 016506' .WORD ERRO10
7528 041452' 015114' .WORD MSG003
7529 041454' ESCAPE TST ; AND ABORT TEST
7530 041454' 104410 TRAP C$ESCAPE
7531 041456' 000706 .WORD L10045-.
7532
7533 041460' 004737 023434' 60$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
7534 ; ERROR ?
7535 041464' 103006 BCC 70$ ; NO
7536 041466' ERRHRD 143.,ERR006,MSG003 ; YES, REPORT ERROR
7537 041466' 104456 TRAP C$ERHRD
7538 041470' 000217 .WORD 143
7539 041472' 016206' .WORD ERRO06
7540 041474' 015114' .WORD MSG003
7541 041476' ESCAPE TST ; AND ABORT TEST
7542 041476' 104410 TRAP C$ESCAPE
7543 041500' 000664 .WORD L10045-.
7544 ;WRITE RING FORMAT
7545 041502' 012705 011172' 70$: MOV #WTRNGS,R5 ; DEFAULT WRITE RING FORMAT FUNCTION
7546 041506' 004737 024630' JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
7547 041512' 012705 011312' MOV #RFRMT,R5 ; DEFAULT RING FORMAT
7548 041516' 012700 000006 MOV #6,R0 ; FORMAT = SIX WORDS
7549 041522' 004737 025030' JSR PC,LDUDBB ; LOAD RING FORMAT -> UDBB
7550 041526' 012777 000002 136472 MOV #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7551 041534' 004737 022546' JSR PC,CHKDNI ; DNI ?
7552 041540' 103006 BCC 80$ ; YES
7553 041542' ERRHRD 144.,ERR010,MSG003 ; NO, REPORT ERROR

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HARDWARE TESTS MACY11 30(1046) 11-JAN-83 12:03 PAGE 167
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7554 041542' 104456 TRAP C$ERHRD
7555 041544' 000220 .WORD 144
7556 041546' 016506' .WORD ERR010
7557 041550' 015114' .WORD MSG003
7558 041552' ESCAPE TST : AND ABORT TEST
7559 041552' 104410 TRAP C$ESCAPE
7560 041554' 000610 .WORD L10045-.
7561
7562 041556' 004737 023434' 80$: JSR PC,CLRDNI : WRITE ONE TO CLEAR DNI
7563 .WORD ERROR ?
7564 041562' 103006 BCC 90$ : NO
7565 041564' ERRHRD 145.,ERR006,MSG003 : YES, REPORT ERROR
7566 041564' 104456 TRAP C$ERHRD
7567 041566' 000221 .WORD 145
7568 041570' 016206' .WORD ERR006
7569 041572' 015114' .WORD MSG003
7570 041574' ESCAPE TST : AND ABORT TEST
7571 041574' 104410 TRAP C$ESCAPE
7572 041576' 000566 .WORD L10045-.
7573
7574 041600' 012705 011132' :WRITE PHYSICAL ADDRESS
7575 041604' 004737 024630' 90$: MOV #WTPHYA,R5 : DEFAULT WRITE PHYSICAL ADDR FUNC
7576 041610' 012777 000002 136410 JSR PC,LDPCCB : LOAD FUNCTION -> PCBB
7577 041616' 004737 022546' MOV #GETCMD,@PCSR0 : ISSUF GET_CMD PORT COMMAND
7578 041622' 103006 JSR PC,CHKDNI : DNI ?
7579 041624' ERRHRD 146.,ERR010,MSG003 : YES
7580 041624' 104456 : NO, REPORT ERROR TRAP C$ERHRD
7581 041626' 000222 .WORD 146
7582 041630' 016506' .WORD ERR010
7583 041632' 015114' .WORD MSG003
7584 041634' ESCAPE TST : AND ABORT TEST
7585 041634' 104410 TRAP C$ESCAPE
7586 041636' 000526 .WORD L10045-.
7587
7588 041640' 004737 023434' 100$: JSR PC,CLRDNI : WRITE ONE TO CLEAR DNI
7589 .WORD ERROR ?
7590 041644' 103006 BCC 110$ : NO
7591 041646' ERRHRD 147.,ERR006,MSG003 : YES, REPORT ERROR
7592 041646' 104456 TRAP C$ERHRD
7593 041650' 000223 .WORD 147
7594 041652' 016206' .WORD ERR006
7595 041654' 015114' .WORD MSG003
7596 041656' ESCAPE TST : AND ABORT TEST
7597 041656' 104410 TRAP C$ESCAPE
7598 041660' 000504 .WORD L10045-.
7599
7600 041662' 012705 011602' :SET UP RINGS FOR ONE BUFFER LOOPBACK
7601 041666' 004737 024734' 110$: MOV #TDRB1B,R5 : DEFAULT ONE BUFFER TRANSMIT RING
7602 041672' 012705 011342' JSR PC,LDTDRB : LOAD TDRB
7603 041676' 004737 024676' MOV #RDRB1A,R5 : DEFAULT ONE BUFFER RECEIVE RING
7604 JSR PC,LDRDRB : LOAD RDRB
7605 041702' 012705 000254' :SET UP BUFFERS AND START MOV #PCBB+2,R5 : POINT TO DESTINATION ADDRESS
7606 041706' 004737 024602' JSR PC,LDDDEST : LOAD DEST
7607 041712' 004737 025230' JSR PC,SETBUF : SET UP BUFFERS
7608 041716' 013737 012722' 001266' MOV CRC16H,TBUF+124. : APPEND BAD CRC VALUE
7609 041724' 013737 012724' 001270' MOV CRC16L,TBUF+126. : TO TRANSMIT DATA

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 CZUABA.MAC 10-JAN-83 12:46 TEST 16: FORCE CRC ERROR TEST

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7610 041732' 012777 000004 136266      MOV      #START,@PCSR0      : ISSUE START PORT COMMAND
7611 041740' 004737 022546'             JSR      PC,CHKDNI         : DNI?
7612 041744' 103006             BCC      120$              : YES
7613 041746'                   ERRHRD  148.,ERR012,MSG003 : NO, REPORT ERROR
7614 041746' 104456                                     TRAP    C$ERHRD
7615 041750' 000224                                     .WORD  148
7616 041752' 016637'                                     .WORD  ERR012
7617 041754' 015114'                                     .WORD  MSG003
7618 041756'                   ESCAPE  TST                : AND ABORT TEST
7619 041756' 104410                                     TRAP    C$ESCAPE
7620 041760' 000404                                     .WORD  L10045-.
7621
7622 041762' 004737 023434'           i20$: JSR      PC,CLRDNI         : WRITE ONE TO CLEAR DNI
7623                                     : ERROR ?
7624 041766' 103006             BCC      130$              : NO
7625 041770'                   ERRHRD  149.,ERR006,MSG003 : YES, REPORT ERROR
7626 041770' 104456                                     TRAP    C$ERHRD
7627 041772' 000225                                     .WORD  149
7628 041774' 016206'                                     .WORD  ERR006
7629 041776' 015114'                                     .WORD  MSG003
7630 042000'                   ESCAPE  TST                : AND ABORT TEST
7631 042000' 104410                                     TRAP    C$ESCAPE
7632 042002' 000752                                     .WORD  L10045-.
7633
7634 042004' 004737 023306'           i30$: JSR      PC,CHKTXI         : TXI ?
7635 042010' 103006             BCC      140$              : YES
7636 042012'                   ERRHRD  150.,ERR013,MSG003 : NO, REPORT ERROR
7637 042012' 104456                                     TRAP    C$ERHRD
7638 042014' 000226                                     .WORD  150
7639 042016' 016720'                                     .WORD  ERR013
7640 042020' 015114'                                     .WORD  MSG003
7641 042022'                   ESCAPE  TST                : AND ABORT TEST
7642 042022' 104410                                     TRAP    C$ESCAPE
7643 042024' 000340                                     .WORD  L10045-.
7644
7645 042026' 004737 023616'           i40$: JSR      PC,CLRTXI         : WRITE ONE TO CLEAR TXI
7646                                     : ERROR ?
7647 042032' 103006             BCC      150$              : NO
7648 042034'                   ERRHRD  151.,ERR014,MSG003 : YES, REPORT ERROR
7649 042034' 104456                                     TRAP    C$ERHRD
7650 042036' 000227                                     .WORD  151
7651 042040' 016751'                                     .WORD  ERR014
7652 042042' 015114'                                     .WORD  MSG003
7653 042044'                   ESCAPE  TST                : AND ABORT TEST
7654 042044' 104410                                     TRAP    C$ESCAPE
7655 042046' 000316                                     .WORD  L10045-.
7656
7657 042050' 012705 000572'           i50$: MOV      #TDRB,R5         : CHECK TDRB OWNERSHIP
7658 042054' 004737 022634'             JSR      PC,CHKOWN        : OWN = PORT DRIVER ?
7659 042060' 103006             BCC      160$              : YES
7660 042062'                   ERRHRD  152.,ERR018        : NO, REPORT ERROR
7661 042062' 104456                                     TRAP    C$ERHRD
7662 042064' 000230                                     .WORD  152
7663 042066' 017216'                                     .WORD  ERR018
7664 042070' 000000                                     .WORD  0
7665 042072'                   ESCAPE  TST                : AND ABORT TEST

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7666	042072'	104410						TRAP	C\$ESCAPE
7667	042074'	000270						.WORD	L10045-.
7668									
7669	042076'	012705	012522'	160\$:	MOV	#TDR15A,R5	:	POINT TO EXPECTED TDRB	
7670	042102'	004737	025140'		JSR	PC,LDXTDR	:	LOAD INTO XTDRB0 TABLE	
7671	042106'	012705	000572'		MOV	#TDRB,R5	:	CHECK TDRB	
7672	042112'	004737	023220'		JSR	PC,CHKTDR	:	ERRORS ?	
7673	042116'	103006			BCC	170\$:	NO	
7674	042120'				ERRHRD	153.,ERR020,MSG005	:	YES, REPORT ERROR	
7675	042120'	104456						TRAP	C\$ERHRD
7676	042122'	000231						.WORD	153
7677	042124'	017376'						.WORD	ERR020
7678	042126'	015220'						.WORD	MSG005
7679	042130'				ESCAPE	TST	:	AND ABORT TEST	
7680	042130'	104410						TRAP	C\$ESCAPE
7681	042132'	000232						.WORD	L10045-.
7682									
7683	042134'	004737	023054'	170\$:	JSR	PC,CHKRXI	:	RXI ?	
7684	042140'	103006			BCC	180\$:	YES	
7685	042142'				ERRHRD	154.,ERR015,MSG003	:	NO, REPORT ERROR	
7686	042142'	104456						TRAP	C\$ERHRD
7687	042144'	000232						.WORD	154
7688	042146'	017017'						.WORD	ERR015
7689	042150'	015114'						.WORD	MSG003
7690	042152'				ESCAPE	TST	:	AND ABORT TEST	
7691	042152'	104410						TRAP	C\$ESCAPE
7692	042154'	000210						.WORD	L10045-.
7693									
7694	042156'	004737	023550'	180\$:	JSR	PC,CLRRXI	:	WRITE ONE TO CLEAR RXI	
7695									
7696	042162'	103006			BCC	190\$:	ERROR ?	
7697	042164'				ERRHRD	155.,ERR016,MSG003	:	NO	
7698	042164'	104456							YES, REPORT ERROR
7699	042166'	000233						TRAP	C\$ERHRD
7700	042170'	017050'						.WORD	155
7701	042172'	015114'						.WORD	ERR016
7702	042174'							.WORD	MSG003
7703	042174'	104410			ESCAPE	TST	:	AND ABORT TEST	
7704	042176'	000166						TRAP	C\$ESCAPE
7705								.WORD	L10045-.
7706	042200'	012705	000632'	190\$:	MOV	#RDRB,R5	:	CHECK RDRB OWNERSHIP	
7707	042204'	004737	022634'		JSR	PC,CHKOWN	:	OWN = PORT DRIVER ?	
7708	042210'	103006			BCC	200\$:	YES	
7709	042212'				ERRHRD	156.,ERR017	:	NO, REPORT ERROR	
7710	042212'	104456						TRAP	C\$ERHRD
7711	042214'	000234						.WORD	156
7712	042216'	017116'						.WORD	ERR017
7713	042220'	000000						.WORD	0
7714	042222'				ESCAPE	TST	:	AND ABORT TEST	
7715	042222'	104410						TRAP	C\$ESCAPE
7716	042224'	000140						.WORD	L10045-.
7717									
7718	042226'	012705	012622'	200\$:	MOV	#RDR14A,R5	:	POINT TO EXPECTED RDRB	
7719	042232'	004737	025110'		JSR	PC,LDXRDR	:	LOAD INTO XRDRB0 TABLE	
7720	042236'	012705	000632'		MOV	#RDRB,R5	:	CHECK RDRB	
7721	042242'	004737	022754'		JSR	PC,CHKRDR	:	ERRORS ?	

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7722	042246'	103006		BCC	210\$: NO		
7723	042250'			ERRHRD	157.,	ERR021,MSG006	: YES,	REPORT ERROR	
7724	042250'	104456						TRAP	C\$ERHRD
7725	042252'	000235						.WORD	157
7726	042254'	017457'						.WORD	ERR021
7727	042256'	015362'						.WORD	MSG006
7728	042260'			ESCAPE	TST		: AND	ABORT TEST	
7729	042260'	104410						TRAP	C\$ESCAPE
7730	042262'	000102						.WORD	L10045-
7731									
7732	042264'	012705	000070						
7733	042270'	004737	023732'						
7734	042274'	103006							
7735	042276'								
7736	042276'	104456						TRAP	C\$ERHRD
7737	042300'	000236						.WORD	158
7738	042302'	017540'						.WORD	ERR022
7739	042304'	015524'						.WORD	MSG007
7740	042306'			ESCAPE	TST		: AND	ABORT TEST	
7741	042306'	104410						TRAP	C\$ESCAPE
7742	042310'	000054						.WORD	L10045-
7743									
7744	042312'	012777	000017						
7745	042320'	004737	022546'						
7746	042324'	103006							
7747	042326'								
7748	042326'	104456						TRAP	C\$ERHRD
7749	042330'	000237						.WORD	159
7750	042332'	017316'						.WORD	ERR019
7751	042334'	015114'						.WORD	MSG003
7752	042336'			ESCAPE	TST		: AND	ABORT TEST	
7753	042336'	104410						TRAP	C\$ESCAPE
7754	042340'	000024						.WORD	L10045-
7755									
7756	042342'	004737	023434'						
7757									
7758	042346'	103006							
7759	042350'								
7760	042350'	104456						TRAP	C\$ERHRD
7761	042352'	000240						.WORD	160
7762	042354'	016206'						.WORD	ERR006
7763	042356'	015114'						.WORD	MSG003
7764	042360'			ESCAPE	TST		: AND	ABORT TEST	
7765	042360'	104410						TRAP	C\$ESCAPE
7766	042362'	000002						.WORD	L10045-
7767	042364'								
7768	042364'								
7769	042364'								
7770	042364'	04401							

L10045:

TRAP C\$ETST

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TEST 17: DISABLE RECEIVE CHAINING TEST

.SBTTL TEST 17: DISABLE RECEIVE CHAINING TEST

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*****
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 PDRB+6
7. ISSUE STOP
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042366'
042366'
042366' 004737 025334'
042372' 103025
042374' 012777 000040 135624
042402' 004737 022546'
042406' 103006
042410'
042410' 104456
042412' 000241
042414' 016106'
042416' 015114'
042420'
042420' 104410
042422' 001050
042424' 004737 023434'
042430' 103006
042432'
042432' 104456
042434' 000242
042436' 016206'
042440' 015114'
042442'
042442' 104410
042444' 001026
042446' 004737 024660'
042452' 012777 000001 35546
042460' 004737 022546'
042464' 103006
042466'
042466' 104456
042470' 000243

```

BGNTST
JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30$ ; NO
MOV #RSET,@PCSR0 ; YES, RESET DEUNA
JSR PC,CHKDNI ; DNI?
BCC 20$ ; YES
ERRHRD 161.,ERR004,MSG003 ; NO, REPORT ERROR
TRAP C$ERHRD
.WORD 161
.WORD ERR004
.WORD MSG003

ESCAPE TST ; AND ABORT TEST
TRAP C$ESCAPE
.WORD L10046-

20$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
; ERROR?
; NO
ERRHRD 162.,ERR006,MSG003 ; YES, REPORT ERROR
TRAP C$ERHRD
.WORD 162
.WORD ERR006
.WORD MSG003

ESCAPE TST ; AND ABORT TEST
TRAP C$ESCAPE
.WORD L10046-

30$: JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2!3
MOV #GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
JSR PC,CHKDNI ; DNI?
BCC 40$ ; YES
ERRHRD 163.,ERR009,MSG003 ; NO, REPORT ERROR
TRAP C$ERHRD
.WORD 163

```

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CZUABA.MAC 10-JAN-83 12:46 TEST 17: DISABLE RECEIVE CHAINING TEST

```

7827 042472' 016422' .WORD ERR009
7828 042474' 015114' .WORD MSG003
7829 042476' ESCAPE TST ; AND ABORT TEST
7830 042476' 104410 TRAP C$ESCAPE
7831 042500' 000772 .WORD L10046-.
7832
7833 042502' 004737 023434' 40$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
7834 ; ERROR ?
7835 042506' 103006 BCC 50$ ; NO
7836 042510' ERRHRD 164.,ERR006,MSG003 ; YES, REPORT ERROR
7837 042510' 104456 TRAP C$ERHRD
7838 042512' 000244 .WORD 164
7839 042514' 016206' .WORD ERR006
7840 042516' 015114' .WORD MSG003
7841 042520' ESCAPE TST ; AND ABORT TEST
7842 042520' 104410 TRAP C$ESCAPE
7843 042522' 000750 .WORD L10046-.
7844
7845 ;WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM AND
7846 ;DISABLE RECEIVE DATA CHAINING MODE
7847 042524' 012705 011232' 50$: MOV #WTMODE,R5 ; DEFAULT WRITE MODE FUNCTION
7848 042530' 004737 024630' JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
7849 042534' 013737 013100' 000254' MOV MODE17,PCBB+2 ; LOAD MODE REGISTER
7850 042542' 012777 000002' 135456 MOV #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7851 042550' 004737 022546' JSR PC,CHKDNI ; DNI ?
7852 042554' 103006 BCC 60$ ; YES
7853 042556' ERRHRD 165.,ERR010,MSG003 ; NO, REPORT ERROR
7854 042556' 104456 TRAP C$ERHRD
7855 042560' 000245 .WORD 165
7856 042562' 016506' .WORD ERR010
7857 042564' 015114' .WORD MSG003
7858 042566' ESCAPE TST ; AND ABORT TEST
7859 042566' 104410 TRAP C$ESCAPE
7860 042570' 000702 .WORD L10046-.
7861
7862 042572' 004737 023434' 60$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
7863 ; ERROR ?
7864 042576' 103006 BCC 70$ ; NO
7865 042600' ERRHRD 166.,ERR006,MSG003 ; YES, REPORT ERROR
7866 042600' 104456 TRAP C$ERHRD
7867 042602' 000246 .WORD 166
7868 042604' 016206' .WORD ERR006
7869 042606' 015114' .WORD MSG003
7870 042610' ESCAPE TST ; AND ABORT TEST
7871 042610' 104410 TRAP C$ESCAPE
7872 042612' 000660 .WORD L10046-.
7873
7874 ;WRITE RING FORMAT
7875 042614' 012705 011172' 70$: MOV #WTRNGS,R5 ; DEFAULT WRITE RING FORMAT FUNCTION
7876 042620' 004737 024630' JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
7877 042624' 012705 011312' MOV #RFRMT,R5 ; DEFAULT RING FORMAT
7878 042630' 012700 000006' MOV #6,R0 ; FORMAT = SIX WORDS
7879 042634' 004737 025030' JSR PC,LDUDBB ; LOAD RING FORMAT -> UDBB
7880 042640' 012777 000002' 135360 MOV #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7881 042646' 004737 022546' JSR PC,CHKDNI ; DNI ?
7882 042652' 103006 BCC 80$ ; YES

```

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```

7883 042654' ERRHRD 167.,ERR010,MSG003 ; NO, REPORT ERROR
7884 042654' 104456 TRAP C$ERHRD
7885 042656' 000247 .WORD 167
7886 042660' 016506' .WORD ERR010
7887 042662' 015114' .WORD MSG003
7888 042664' ESCAPE TST ; AND ABORT TEST
7889 042664' 104410 TRAP C$ESCAPE
7890 042666' 000604 .WORD L10046-
7891
7892 042670' 004737 023434' 80$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
7893 .WORD .WORD ; ERROR ?
7894 042674' 103006 BCC 90$ ; NO
7895 042676' ERRHRD 168.,ERR006,MSG003 ; YES, REPORT ERROR
7896 042676' 104456 TRAP C$ERHRD
7897 042700' 000250 .WORD 168
7898 042702' 016206' .WORD ERR006
7899 042704' 015114' .WORD MSG003
7900 042706' ESCAPE TST ; AND ABORT TEST
7901 042706' 104410 TRAP C$ESCAPE
7902 042710' 000562 .WORD L10046-
7903
7904 ;WRITE PHYSICAL ADDRESS
7905 042712' 012705 011132' 90$: MOV #WTPHYA,R5 ; DEFAULT WRITE PHYSICAL ADDR FUNC
7906 042716' 004737 024630' JSR PC,LDPCCB ; LOAD FUNCTION -> PCBB
7907 042722' 012777 000002' 135276 MOV #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7908 042730' 004737 022546' JSR PC,CHKDNI ; DNI ?
7909 042734' 103006 BCC 100$ ; YES
7910 042736' ERRHRD 169.,ERR010,MSG003 ; NO, REPORT ERROR
7911 042736' 104456 TRAP C$ERHRD
7912 042740' 000251 .WORD 169
7913 042742' 016506' .WORD ERR010
7914 042744' 015114' .WORD MSG003
7915 042746' ESCAPE TST ; AND ABORT TEST
7916 042746' 104410 TRAP C$ESCAPE
7917 042750' 000522 .WORD L10046-
7918
7919 042752' 004737 023434' 100$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
7920 .WORD .WORD ; ERROR ?
7921 042756' 103006 BCC 110$ ; NO
7922 042760' ERRHRD 170.,ERR006,MSG003 ; YES, REPORT ERROR
7923 042760' 104456 TRAP C$ERHRD
7924 042762' 000252 .WORD 170
7925 042764' 016206' .WORD ERR006
7926 042766' 015114' .WORD MSG003
7927 042770' ESCAPE TST ; AND ABORT TEST
7928 042770' 104410 TRAP C$ESCAPE
7929 042772' 000500 .WORD L10046-
7930
7931 ;SET UP RINGS FOR LOOPBACK
7932 042774' 012705 011542' 110$: MOV #TDRB1A,R5 ; DEFAULT ONE BUFFER TRANSMIT RING
7933 043000' 004737 024734' JSR PC,LDTDRB ; LOAD TDRB
7934 043004' 012705 011442' MOV #RDRB2A,R5 ; DEFAULT CHAINED RECEIVE RING
7935 043010' 004737 024676' JSR PC,LDRDRB ; LOAD RDRB
7936
7937 ;SET UP BUFFERS AND START
7938 043014' 012705 000254' MOV #PCBB+2,R5 ; POINT TO DESTINATION ADDRESS

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 CZUABA.MAC 10-JAN-83 12:46 TEST 17: DISABLE RECEIVE CHAINING TEST

7939	043020'	004737	024602'		JSR	PC,LDDEST	:	LOAD DEST				
7940	043024'	004737	025230'		JSR	PC,SETBUF	:	SET UP BUFFERS				
7941	043030'	012777	000004'	135170	MOV	#START,@PCSR0	:	ISSUE START PORT COMMAND				
7942	043036'	004737	022546'		JSR	PC,CHKDNI	:	DNI?				
7943	043042'	103006			BCC	120\$:	YES				
7944	043044'				ERRHRD	171.,ERR012,MSG003	:	NO, REPORT ERROR				
7945	043044'	104456							TRAP	C\$ERHRD		
7946	043046'	000253							.WORD	171		
7947	043050'	016637'							.WORD	ERR012		
7948	043052'	015114'							.WORD	MSG003		
7949	043054'				ESCAPE	TST	:	AND ABORT TEST				
7950	043054'	104410							TRAP	C\$ESCAPE		
7951	043056'	000414							.WORD	L10046-		
7952												
7953	043060'	004737	023434'	i20\$:	JSR	PC,CLRDN1	:	WRITE ONE TO CLEAR DNI				
7954												
7955	043064'	103006			BCC	130\$:	ERROR ?				
7956	043066'				ERRHRD	172.,ERR006,MSG003	:	NO				
7957	043066'	104456										
7958	043070'	000254							TRAP	C\$ERHRD		
7959	043072'	016206'							.WORD	172		
7960	043074'	015114'							.WORD	ERR006		
7961	043076'				ESCAPE	TST	:	AND ABORT TEST				
7962	043076'	104410							TRAP	C\$ESCAPE		
7963	043100'	000372							.WORD	L10046-		
7964												
7965	043102'	004737	023306'	i30\$:	JSR	PC,CHKTXI	:	TXI ?				
7966	043106'	103006			BCC	140\$:	YES				
7967	043110'				ERRHRD	173.,ERR013,MSG003	:	NO, REPORT ERROR				
7968	043110'	104456										
7969	043112'	000255							TRAP	C\$ERHRD		
7970	043114'	016720'							.WORD	173		
7971	043116'	015114'							.WORD	ERR013		
7972	043120'				ESCAPE	TST	:	AND ABORT TEST				
7973	043120'	104410							TRAP	C\$ESCAPE		
7974	043122'	000350							.WORD	L10046-		
7975												
7976	043124'	004737	023616'	i40\$:	JSR	PC,CLRTXI	:	WRITE ONE TO CLEAR TXI				
7977												
7978	043130'	103006			BCC	150\$:	ERROR ?				
7979	043132'				ERRHRD	174.,ERR014,MSG003	:	NO				
7980	043132'	104456										
7981	043134'	000256							TRAP	C\$ERHRD		
7982	043136'	016751'							.WORD	174		
7983	043140'	015114'							.WORD	ERR014		
7984	043142'				ESCAPE	TST	:	AND ABORT TEST				
7985	043142'	104410							TRAP	C\$ESCAPE		
7986	043144'	000326							.WORD	L10046-		
7987												
7988	043146'	012705	000572'	i50\$:	MOV	#TDRB,R5	:	CHECK TDRB OWNERSHIP				
7989	043152'	004737	022634'		JSR	PC,CHKOWN	:	OWN = PORT DRIVER ?				
7990	043156'	103006			BCC	160\$:	YES				
7991	043160'				ERRHRD	175.,ERR018	:	NO, REPORT ERROR				
7992	043160'	104456										
7993	043162'	000257							TRAP	C\$ERHRD		
7994	043164'	017216'							.WORD	175		
									.WORD	ERR018		

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```

7995 043166' 000000
7996 043170'          ESCAPE TST          ; AND ABORT TEST          .WORD 0
7997 043170' 104410
7998 043172' 000300          TRAP C$ESCAPE
7999          .WORD L10046-.
8000 043174' 012705 012512'      i60$: MOV #TDR14A,R5          ; POINT TO EXPECTED TDRB
8001 043200' 004737 025140'      JSR PC,LDXTR          ; LOAD INTO XTDRB0 TABLE
8002 043204' 012705 000572'      MOV #TDRB,R5          ; CHECK TDRB
8003 043210' 004737 023220'      JSR PC,CHKTR          ; ERRORS ?
8004 043214' 103006          BCC 170$              ; NO
8005 043216'          ERRHRD 176.,ERR020,MSG005 ; YES, REPORT ERROR
8006 043216' 104456          TRAP C$ERHRD
8007 043220' 000260          .WORD 176
8008 043222' 017376'          .WORD ERR020
8009 043224' 015220'          .WORD MSG005
8010 043226'          ESCAPE TST          ; AND ABORT TEST          TRAP C$ESCAPE
8011 043226' 104410          .WORD L10046-.
8012 043230' 000242
8013
8014 043232' 004737 023054'      i70$: JSR PC,CHKRXI          ; RXI ?
8015 043236' 103006          BCC 180$              ; YES
8016 043240'          ERRHRD 177.,ERR015,MSG003 ; NO, REPORT ERROR
8017 043240' 104456          TRAP C$ERHRD
8018 043242' 000261          .WORD 177
8019 043244' 017017'          .WORD ERR015
8020 043246' 015114'          .WORD MSG003
8021 043250'          ESCAPE TST          ; AND ABORT TEST          TRAP C$ESCAPE
8022 043250' 104410          .WORD L10046-.
8023 043252' 000220
8024
8025 043254' 004737 023550'      i80$: JSR PC,CLRRXI          ; WRITE ONE TO CLEAR RXI
8026          .WORD 178
8027 043260' 103006          BCC 190$              ; ERROR ?
8028 043262'          ERRHRD 178.,ERR016,MSG003 ; NO
8029 043262' 104456          .WORD 178
8030 043264' 000262          .WORD ERR016
8031 043266' 017050'          .WORD MSG003
8032 043270' 015114'          ESCAPE TST          ; AND ABORT TEST          TRAP C$ESCAPE
8033 043272'          .WORD L10046-.
8034 043272' 104410
8035 043274' 000176
8036          ;CHECK FIRST RING ENTRY
8037 043276' 012705 000632'      i90$: MOV #RDRB,R5          ; CHECK RDRB OWNERSHIP
8038 043302' 004737 022634'      JSR PC,CHKOWN          ; OWN = PORT DRIVER ?
8039 043306' 103006          BCC 200$              ; YES
8040 043310'          ERRHRD 179.,ERR030 ; NO, REPORT ERROR
8041 043310' 104456          TRAP C$ERHRD
8042 043312' 000263          .WORD 179
8043 043314' 020317'          .WORD ERR030
8044 043316' 000000          .WORD 0
8045 043320'          ESCAPE TST          ; AND ABORT TEST          TRAP C$ESCAPE
8046 043320' 104410          .WORD L10046-.
8047 043322' 000150
8048
8049 043324' 012705 012642'      i200$: MOV #RDR17A,R5          ; POINT TO EXPECTED RDRB
8050 043330' 004737 025110'      JSR PC,LDXRDR          ; LOAD INTO XRDRB0 TABLE

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TEST 17: DISABLE RECEIVE CHAINING TEST

```

8051 043334' 012705 000632'      MOV    #RDRB,R5      ; CHECK RDRB
8052 043340' 004737 022757'      JSR    PC,CHKRDR    ; ERRORS ?
8053 043344' 103006                    BCC    210$         ; NO
8054 043346'                    ERRHRD 180.,ERR036,MSG006 ; YES, REPORT ERROR
8055 043346' 104456                    TRAP  C$ERHRD
8056 043350' 000264                    .WORD 180
8057 043352' 021105'                    .WORD ERR036
8058 043354' 015362'                    .WORD MSG006
8059 043356'                    ESCAPE TST          ; AND ABORT TEST
8060 043356' 104410                    TRAP  C$ESCAPE
8061 043360' 000112                    .WORD L10046-.
8062                    ;CHECK SECOND RING ENTRY
8063 043362' 012705 012652'      210$: MOV    #RDR17B,R5 ; POINT TO EXPECTED RDRB
8064 043366' 004737 025110'      JSR    PC,LDXRDR    ; LOAD INTO XRDRBO TABLE
8065 043372' 012705 000642'      MOV    #RDRB+8.,R5 ; CHECK RDRB
8066 043376' 004737 022754'      JSR    PC,CHKRDR    ; ERRORS ?
8067 043402' 103006                    BCC    230$         ; NO
8068 043404'                    ERRHRD 181.,ERR037,MSG006 ; YES, REPORT ERROR
8069 043404' 104456                    TRAP  C$ERHRD
8070 043406' 000265                    .WORD 181
8071 043410' 021173'                    .WORD ERR037
8072 043412' 015362'                    .WORD MSG006
8073 043414'                    ESCAPE TST          ; AND ABORT TEST
8074 043414' 104410                    TRAP  C$ESCAPE
8075 043416' 000054                    .WORD L10046-.
8076
8077 043420' 012777 000017 134600 230$: MOV    #STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
8078 043426' 004737 022546'      JSR    PC,CHKDNI    ; DNI ?
8079 043432' 103006                    BCC    240$         ; YES
8080 043434'                    ERRHRD 182.,ERR019,MSG003 ; NO, REPORT ERROR
8081 043434' 104456                    TRAP  C$ERHRD
8082 043436' 000266                    .WORD 182
8083 043440' 017316'                    .WORD ERR019
8084 043442' 015114'                    .WORD MSG003
8085 043444'                    ESCAPE TST          ; AND ABORT TEST
8086 043444' 104410                    TRAP  C$ESCAPE
8087 043446' 000024                    .WORD L10046-.
8088
8089 043450' 004737 023434'      240$: JSR    PC,CLRDN ; WRITE ONE TO CLEAR DNI
8090                    ; ERROR ?
8091 043454' 103006                    BCC    250$         ; NO
8092 043456'                    ERRHRD 183.,ERR006,MSG003 ; YES, REPORT ERROR
8093 043456' 104456                    TRAP  C$ERHRD
8094 043460' 000267                    .WORD 183
8095 043462' 016206'                    .WORD ERR006
8096 043464' 015114'                    .WORD MSG003
8097 043466'                    ESCAPE TST          ; AND ABORT TEST
8098 043466' 104410                    TRAP  C$ESCAPE
8099 043470' 000002                    .WORD L10046-.
8100 043472'                    250$:
8101 043472'                    ENDTST
8102 043472'
8103 043472' 104401                    L10046: TRAP  C$ETST

```

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TEST 18: TRANSMIT CHAINING ERROR TEST

.SBTTL TEST 18: TRANSMIT CHAINING ERROR TEST

```

*****
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
*****

```

```

8104
8105
8106
8107
8108
8109
8110
8111
8112
8113
8114
8115
8116
8117
8118
8119
8120
8121
8122
8123
8124
8125 043474'
8126 043474'
8127 043474' 004737 025334'
8128 043500' 103025
8129 043502' 012777 000040 134516
8130 043510' 004737 022546'
8131 043514' 103006
8132 043516'
8133 043516' 104456
8134 043520' 000270
8135 043522' 016206'
8136 043524' 015114'
8137 043526'
8138 043526' 104410
8139 043530' 000740
8140
8141 043532' 004737 023434'
8142
8143 043536' 103006
8144 043540'
8145 043540' 104456
8146 043542' 000271
8147 043544' 016206'
8148 043546' 015114'
8149 043550'
8150 043550' 104410
8151 043552' 000716
8152
8153 043554' 004737 024660'
8154 043560' 012777 000001 134440
8155 043566' 004737 022546'
8156 043572' 103006
8157 043574'
8158 043574' 104456
8159 043576' 000272

```

BGNTST

```

                T18::
JSR    PC,TINIT      ; IS A DEVICE RESET NEEDED?
BCC    30$           ; NO
MOV    #RSET,@PCSR0  ; YES, RESET DEUNA
JSR    PC,CHKDNI     ; DNI ?
BCC    20$           ; YES
ERRHRD 184.,ERR004,MSG003 ; NO, REPORT ERROR
                TRAP    C$ERHRD
                .WORD   184
                .WORD   ERR004
                .WORD   MSG003
ESCAPE  TST          ; AND ABORT TEST
                TRAP    C$ESCAPE
                .WORD   L10047-.
20$: JSR    PC,CLRDNI ; WRITE ONE TO CLEAR DNI
                ; ERROR ?
                ; NO
ERRHRD 185.,ERR006,MSG003 ; YES, REPORT ERROR
                TRAP    C$ERHRD
                .WORD   185
                .WORD   ERR006
                .WORD   MSG003
ESCAPE  TST          ; AND ABORT TEST
                TRAP    C$ESCAPE
                .WORD   L10047-.
30$: JSR    PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2!3
MOV    #GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
JSR    PC,CHKDNI     ; DNI?
BCC    40$           ; YES
ERRHRD 186.,ERR009,MSG003 ; NO, REPORT ERROR
                TRAP    C$ERHRD
                .WORD   186

```

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```

8160 043600' 016422' .WORD ERR009
8161 043602' 015114' .WORD MSG003
8162 043604' ESCAPE TST ; AND ABORT TEST
8163 043604' 104410 TRAP C$ESCAPE
8164 043606' 000662 .WORD L10047-.
8165
8166 043610' 004737 023434' 40$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
8167 ; ERROR ?
8168 043614' 103006 BCC 50$ ; NO
8169 043616' ERRHRD 187.,ERR006,MSG003 ; YES, REPORT ERROR
8170 TRAP C$ERHRD
8171 043616' 104456 .WORD 187
8172 043620' 000273 .WORD ERR006
8173 043622' 016206' .WORD MSG003
8174 043624' 015114' ESCAPE TST ; AND ABORT TEST
8175 043626' 104410 TRAP C$ESCAPE
8176 043630' 000640 .WORD L10047-.
8177
8178 ; WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
8179 043632' 012705 011232' 50$: MOV #WTMODE,R5 ; DEFAULT WRITE MODE FUNCTION
8180 043636' 004737 024630' JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
8181 043642' 012777 000002 134356 MOV #GETCMD,@PCSRO ; ISSUE GET_CMD PORT COMMAND
8182 043650' 004737 022546' R PC,CHKDNI ; DNI ?
8183 043654' 103006 b C 60$ ; YES
8184 043656' ERRHRD 188.,ERR010,MSG003 ; NO, REPORT ERROR
8185 043656' 104456 TRAP C$ERHRD
8186 043660' 000274 .WORD 188
8187 043662' 016506' .WORD ERR010
8188 043664' 015114' .WORD MSG003
8189 043666' ESCAPE TST ; AND ABORT TEST
8190 043666' 104410 TRAP C$ESCAPE
8191 043670' 000600 .WORD L10047-.
8192
8193 043672' 004737 023434' 60$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
8194 ; ERROR ?
8195 043676' 103006 BCC 70$ ; NO
8196 043700' ERRHRD 189.,ERR006,MSG003 ; YES, REPORT ERROR
8197 TRAP C$ERHRD
8198 043700' 104456 .WORD 189
8199 043702' 000275 .WORD ERR006
8200 043706' 015114' .WORD MSG003
8201 043710' ESCAPE TST ; AND ABORT TEST
8202 043710' 104410 TRAP C$ESCAPE
8203 043712' 000556 .WORD L10047-.
8204
8205 ; WRITE RING FORMAT
8206 043714' 012705 011172' 70$: MOV #WTRNGS,R5 ; DEFAULT WRITE RING FORMAT FUNCTION
8207 043720' 004737 024630' JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
8208 043724' 012705 011312' MOV #RFRMT,R5 ; DEFAULT RING FORMAT
8209 043730' 012700 000006 MC' #6,R0 ; FORMAT = SIX WORDS
8210 043734' 004737 025030' JSR PC,LDUDBB ; LOAD RING FORMAT -> UDBB
8211 043740' 012777 000002 134260 MOV #GETCMD,@PCSRO ; ISSUE GET_CMD PORT COMMAND
8212 043746' 004737 022546' JSR PC,CHKDNI ; DNI ?
8213 043752' 103006 BCC 80$ ; YES
8214 043754' ERRHRD 190.,ERR010,MSG003 ; NO, REPORT ERROR
8215 043754' 104456 TRAP C$ERHRD

```

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 CZUABA.MAC 10-JAN-83 12:46 TEST 18: TRANSMIT CHAINING ERROR TEST

```

8216 043756' 000276      .WORD 190
8217 043760' 016506'    .WORD ERR010
8218 043762' 015114'    .WORD MSG003
8219 043764'           ESCAPE TST           ; AND ABORT TEST
8220 043764' 104410      TRAP C$ESCAPE
8221 043766' 000502      .WORD L10047-.
8222
8223 043770' 004737 023434' 80$: JSR PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
8224                                     ; ERROR ?
8225 043774' 103006      BCC 90$
8226 043776'           ERRHRD 191.,ERR006,MSG003 ; NO
8227 043776' 104456      ; YES, REPORT ERROR
8228 044000' 000277      TRAP C$ERRHRD
8229 044002' 016206'    .WORD 191
8230 044004' 015114'    .WORD ERR006
8231 044006'           ESCAPE TST           ; AND ABORT TEST
8232 044006' 104410      TRAP C$ESCAPE
8233 044010' 000460      .WORD L10047-.
8234
8235 ;WRITE PHYSICAL ADDRESS
8236 044012' 012705 011132' 90$: MOV #WTPHYA,R5      ; DEFAULT WRITE PHYSICAL ADDR FUNC
8237 044016' 004737 024630' JSR PC,LDPBB          ; LOAD FUNCTION -> PCBB
8238 044022' 012777 000002' 134176 MOV #GETCMD,@PCSR0   ; ISSU# GET_CMD PORT COMMAND
8239 044030' 004737 022546' JSR PC,CHKDNI        ; DNI ?
8240 044034' 103006      BCC 100$
8241 044036'           ERRHRD 192.,ERR010,MSG003 ; YES
8242 044036' 104456      ; NO, REPORT ERROR
8243 044040' 000300      TRAP C$ERRHRD
8244 044042' 016506'    .WORD 192
8245 044044' 015114'    .WORD ERR010
8246 044046'           ESCAPE TST           ; AND ABORT TEST
8247 044046' 104410      TRAP C$ESCAPE
8248 044050' 000420      .WORD L10047-.
8249
8250 044052' 004737 023434' 100$: JSR PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
8251                                     ; ERROR ?
8252 044056' 103006      BCC 110$
8253 044060'           ERRHRD 193.,ERR006,MSG003 ; NO
8254 044060' 104456      ; YES, REPORT ERROR
8255 044062' 000301      TRAP C$ERRHRD
8256 044064' 016206'    .WORD 193
8257 044066' 015114'    .WORD ERR006
8258 044070'           ESCAPE TST           ; AND ABORT TEST
8259 044070' 104410      TRAP C$ESCAPE
8260 044072' 000376      .WORD L10047-.
8261
8262 ;SET UP RINGS
8263 044074' 012705 011702' 110$: MOV #TDRB2A,R5      ; DEFAULT ERROR TRANSMIT RING
8264 044100' 004737 024734' JSR PC,LDTDRB        ; LOAD TDRB
8265 044104' 012705 011342' MOV #RDRB1A,R5      ; DEFAULT ONE BUFFER RECEIVE RING
8266 044110' 004737 024676' JSR PC,LDRDRB       ; LOAD RDRB
8267
8268 ;SET UP BUFFERS AND START
8269 044114' 012705 000254' MOV #PCBB+2,R5      ; POINT TO DESTINATION ADDRESS
8270 044120' 004737 024602' JSR PC,LDDEST       ; LOAD DEST
8271 044124' 004737 025230' JSR PC,SETBUF       ; SET UP BUFFERS

```

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 CZUABA.MAC 10-JAN-83 12:46 TEST 18: TRANSMIT CHAINING ERROR TEST

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8272 044130' 012777 000004' 134070      MOV      #START,@PCSR0      ; ISSUE START PORT COMMAND
8273 044136' 004737 022546'              JSR      PC,CHKDNI          ; DNI?
8274 044142' 103006                      BCC     120$                ; YES
8275 044144'                                ERRHRD  194.,ERR012,MSG003 ; NO, REPORT ERROR
8276 044144' 104456                                TRAP   C$ERHRD
8277 044146' 000302                                .WORD  194
8278 044150' 016637'                                .WORD  ERR012
8279 044152' 015114'                                .WORD  MSG003
8280 044154'                                ESCAPE  TST                  ; AND ABORT TEST
8281 044154' 104410                                TRAP   C$ESCAPE
8282 044156' 000312                                .WORD  L10047-.
8283
8284 044160' 004737 023434'      i20$:  JSR      PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
8285                                ; ERROR ?
8286 044164' 103006                      BCC     130$                ; NO
8287 044166'                                ERRHRD  195.,ERR006,MSG003 ; YES, REPORT ERROR
8288 044166' 104456                                TRAP   C$ERHRD
8289 044170' 000303                                .WORD  195
8290 044172' 016206'                                .WORD  ERR006
8291 044174' 015114'                                .WORD  MSG003
8292 044176'                                ESCAPE  TST                  ; AND ABORT TEST
8293 044176' 104410                                TRAP   C$ESCAPE
8294 044200' 000270                                .WORD  L10047-.
8295
8296 044202' 004737 023306'      i30$:  JSR      PC,CHKTXI          ; TXI ?
8297 044206' 103006                      BCC     140$                ; YES
8298 044210'                                ERRHRD  196.,ERR013,MSG003 ; NO, REPORT ERROR
8299 044210' 104456                                TRAP   C$ERHRD
8300 044212' 000304                                .WORD  196
8301 044214' 016720'                                .WORD  ERR013
8302 044216' 015114'                                .WORD  MSG003
8303 044220'                                ESCAPE  TST                  ; AND ABORT TEST
8304 044220' 104410                                TRAP   C$ESCAPE
8305 044222' 000246                                .WORD  L10047-.
8306
8307 044224' 004737 023616'      i40$:  JSR      PC,CLRTXI          ; WRITE ONE TO CLEAR TXI
8308                                ; ERROR ?
8309 044230' 103006                      BCC     150$                ; NO
8310 044232'                                ERRHRD  197.,ERR014,MSG003 ; YES, REPORT ERROR
8311 044232' 104456                                TRAP   C$ERHRD
8312 044234' 000305                                .WORD  197
8313 044236' 016751'                                .WORD  ERR014
8314 044240' 015114'                                .WORD  MSG003
8315 044242'                                ESCAPE  TST                  ; AND ABORT TEST
8316 044242' 104410                                TRAP   C$ESCAPE
8317 044244' 000224                                .WORD  L10047-.
8318
8319 044246' 012705 000572'      ;CHECK FIRST RING ENTRY
8320 044252' 004737 022634'      i50$:  MOV      #TDRB,R5          ; CHECK TDRB OWNERSHIP
8321 044256' 103006                      JSR      PC,CHKOWN          ; OWN = PORT DRIVER ?
8322 044260'                                BCC     160$                ; YES
8323 044260' 104456                      ERRHRD  198.,ERR027          ; NO, REPORT ERROR
8324 044262' 000306                                TRAP   C$ERHRD
8325 044264' 017777'                                .WORD  198
8326 044266' 000000                                .WORD  ERR027
8327 044270'                                ESCAPE  TST                  ; AND ABORT TEST

```

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8328	044270'	104410					TRAP	C\$ESCAPE
8329	044272'	000176					.WORD	L10047-
8330								
8331	044274'	012705	012532'		160\$:	MOV #TDR18A,R5		: POINT TO EXPECTED TDRB
8332	044300'	004737	025140'			JSR PC,LDXTDR		: LOAD INTO XTDRB0 TABLE
8333	044304'	012705	000572'			MOV #TDRB,R5		: CHECK TDRB
8334	044310'	004737	023220'			JSR PC,CHKTDR		: ERRORS ?
8335	044314'	103006				BCC 162\$: NO
8336	044316'					ERRHRD 199.,ERR033,MSG005		: YES, REPORT ERROR
8337	044316'	104456					TRAP	C\$ERHRD
8338	044320'	000307					.WORD	199
8339	044322'	020637'					.WORD	ERR033
8340	044324'	015220'					.WORD	MSG005
8341	044326'					ESCAPE TST		: AND ABORT TEST
8342	044326'	104410					TRAP	C\$ESCAPE
8343	044330'	000140					.WORD	L10047-
8344						:CHECK SECOND RING ENTRY		
8345	044332'	012705	000602'		162\$:	MOV #TDRB+8.,R5		: CHECK TDRB OWNERSHIP
8346	044336'	004737	022634'			JSR PC,CHKOWN		: OWN = PORT DRIVER ?
8347	044342'	103006				BCC 164\$: YES
8348	044344'					ERRHRD 200.,ERR028		: NO, REPORT ERROR
8349	044344'	104456					TRAP	C\$ERHRD
8350	044346'	000310					.WORD	200
8351	044350'	020104'					.WORD	ERR028
8352	044352'	000000					.WORD	0
8353	044354'					ESCAPE TST		: AND ABORT TEST
8354	044354'	104410					TRAP	C\$ESCAPE
8355	044356'	000112					.WORD	L10047-
8356								
8357	044360'	012705	012542'		164\$:	MOV #TDR18B,R5		: POINT TO EXPECTED TDRB
8358	044364'	004737	025140'			JSR PC,LDXTDR		: LOAD INTO XTDRB0 TABLE
8359	044370'	012705	000602'			MOV #TDRB+8.,R5		: CHECK TDRB
8360	044374'	004737	023220'			JSR PC,CHKTDR		: ERRORS ?
8361	044400'	103006				BCC 230\$: NO
8362	044402'					ERRHRD 201.,ERR034,MSG005		: YES, REPORT ERROR
8363	044402'	104456					TRAP	C\$ERHRD
8364	044404'	000311					.WORD	201
8365	044406'	020726'					.WORD	ERR034
8366	044410'	015220'					.WORD	MSG005
8367	044412'					ESCAPE TST		: AND ABORT TEST
8368	044412'	104410					TRAP	C\$ESCAPE
8369	044414'	000054					.WORD	L10047-
8370								
8371	044416'	012777	000017	133602	230\$:	MOV #STOP,@PCSR0		: ISSUE STOP PORT COMMAND
8372	044424'	004737	022546'			JSR PC,CHKDNI		: DNI ?
8373	044430'	103006				BCC 240\$: YES
8374	044432'					ERRHRD 202.,ERR019,MSG003		: NO, REPORT ERROR
8375	044432'	104456					TRAP	C\$ERHRD
8376	044434'	000312					.WORD	202
8377	044436'	017316'					.WORD	ERR019
8378	044440'	015114'					.WORD	MSG003
8379	044442'					ESCAPE TST		: AND ABORT TEST
8380	044442'	104410					TRAP	C\$ESCAPE
8381	044444'	000024					.WORD	L10047-
8382								
8383	044446'	004737	023434'		240\$:	JSR PC,CLRDN1		: WRITE ONE TO CLEAR DNI

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8384							
8385	044452'	103006	BCC	250\$:	ERROR ?	
8386	044454'		ERRHRD	203.,ERR006,MSG003	:	NO	
8387	044454'	104456			:	YES, REPORT ERROR	
8388	044456'	000313					TRAP C\$ERHRD
8389	044460'	016206'					.WORD 203
8390	044462'	015114'					.WORD ERR006
8391	044464'		ESCAPE	TST	:	AND ABORT TEST	.WORD MSG003
8392	044464'	104410					TRAP C\$ESCAPE
8393	044466'	000002					.WORD L10047-
8394	044470'		250\$:				
8395	044470'		ENDTST				
8396	044470'					L10047:	
8397	044470'	104401					TRAP C\$ETST

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TEST 19: NO RECEIVE BUFFER TEST

.SBTTL TEST 19: NO RECEIVE BUFFER TEST

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*****
THIS TEST VERIFIES THAT A RCBI ERROR CAN BE DETECTED.
AN INTERNAL LOOPBACK IS ATTEMPTED WITH
NO RECEIVE BUFFERS OWNED BY THE DEUNA.
A RCBI (RECEIVE BUFFER UNAVAILABLE) ERROR IS EXPECTED IN PCRRO.

TEST SEQUENCE:
1. WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
2. WRITE RING FORMAT (16 TRANSMIT ENTRIES)
3. WRITE PHYSICAL ADDRESS
4. SET UP RINGS AND BUFFERS
   WITH 16 TRANSMIT PACKETS
   AND NO RECEIVE BUFFERS OWNED BY THE DEUNA
5. ISSUE START
6. CHECK FOR RCBI ERROR IN PCSRO
7. ISSUE STOP
*****

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044472'
044472'
044472' 004737 025334'
044476' 103025
044500' 012777 000040 133520
044506' 004737 022546'
044512' 103006
044514'
044514' 104456
044516' 000314
044520' 016106'
044522' 015114'
044524'
044524' 104410
044526' 000634
044530' 004737 023434'
044534' 103006
044536'
044536' 104456
044540' 000315
044542' 016206'
044544' 015114'
044546'
044546' 104410
044550' 000612
044552' 004737 024660'
044556' 012777 000001 133442
044564' 004737 022546'
044570' 103006
044572'
044572' 104456

```

```

BGNTST
; IS A DEVICE RESET NEEDED?
JSR PC,TINIT ; NO
BCC 30$ ; YES, RESET DEUNA
MOV #RSET,@PCSRO ; DNI ?
JSR PC,CHKDNI ; YES
BCC 20$ ; NO, REPORT ERROR
ERRHRD 204.,ERR004,MSG003 TRAP C$ERHRD
; .WORD 204
; .WORD ERR004
; .WORD MSG003
ESCAPE TST ; AND ABORT TEST TRAP C$ESCAPE
; .WORD L10050-
20$: JSR PC,CLR DNI ; WRITE ONE TO CLEAR DNI
; ERROR ?
; NO
BCC 30$ ; YES, REPORT ERROR
ERRHRD 205.,ERR006,MSG003 TRAP C$ERHRD
; .WORD 205
; .WORD ERR006
; .WORD MSG003
ESCAPE TST ; AND ABORT TEST TRAP C$ESCAPE
; .WORD L10050-
30$: JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2!3
MOV #GETPCB,@PCSRO ; ISSUE GET_PCBB PORT COMMAND
JSR PC,CHKDNI ; DNI?
BCC 40$ ; YES
ERRHRD 206.,ERR009,MSG003 ; NO, REPORT ERROR TRAP C$ERHRD

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8454 044574' 000316 .WORD 206
8455 044576' 016422' .WORD ERR009
8456 044600' 015114' .WORD MSG003
8457 044602' ESCAPE TST ; AND ABORT TEST
8458 044602' 104410 TRAP C$ESCAPE
8459 044604' 000556 .WORD L10050-.
8460
8461 044606' 004737 023434' 40$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
8462 .WORD ERROR ?
8463 044612' 103006 BCC 50$ ; NO
8464 044614' ERRHRD 207.,ERR006,MSG003 ; YES, REPORT ERROR
8465 044614' 104456 TRAP C$ERHRD
8466 044616' 000317 .WORD 207
8467 044620' 016206' .WORD ERR006
8468 044622' 015114' .WORD MSG003
8469 044624' ESCAPE TST ; AND ABORT TEST
8470 044624' 104410 TRAP C$ESCAPE
8471 044626' 000534 .WORD L10050-.
8472
8473 ;WRITE MODE REGISTER = INTERNAL LOOPBACK AND FROM MODE
8474 044630' 012705 011232' 50$: MOV #WTMODE,R5 ; DEFAULT WRITE MODE FUNCTION
8475 044634' 004737 024630' JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
8476 044640' 012777 000002 133360 MOV #GETCMD,@PCSRO ; ISSUF GET_CMD PORT COMMAND
8477 044646' 004737 022546' JSR PC,CHKDNI ; DNI ?
8478 044652' 103006 BCC 60$ ; YES
8479 044654' ERRHRD 208.,ERR010,MSG003 ; NO, REPORT ERROR
8480 044654' 104456 TRAP C$ERHRD
8481 044656' 000320 .WORD 208
8482 044660' 016506' .WORD ERR010
8483 044662' 015114' .WORD MSG003
8484 044664' ESCAPE TST ; AND ABORT TEST
8485 044664' 104410 TRAP C$ESCAPE
8486 044666' 000474 .WORD L10050-.
8487
8488 044670' 004737 C23434' 60$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
8489 .WORD ERROR ?
8490 044674' 103006 BCC 70$ ; NO
8491 044676' ERRHRD 209.,ERR006,MSG003 ; YES, REPORT ERROR
8492 044676' 104456 TRAP C$ERHRD
8493 044700' 000321 .WORD 209
8494 044702' 016206' .WORD ERR006
8495 044704' 015114' .WORD MSG003
8496 044706' ESCAPE TST ; AND ABORT TEST
8497 044706' 104410 TRAP C$ESCAPE
8498 044710' 000452 .WORD L10050-.
8499
8500 ;WRITE RING FORMAT (16 TRANSMIT ENTRIES)
8501 044712' 012705 011172' 70$: MOV #WTRNGS,R5 ; DEFAULT WRITE RING FORMAT FUNCTION
8502 044716' 004737 024630' JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
8503 044722' 012705 011326' MOV #RFRMTX,R5 ; DEFAULT RING FORMAT
8504 044726' 012700 000006 MOV #6,R0 ; FORMAT = SIX WORDS
8505 044732' 004737 025030' JSR PC,LDUDBB ; LOAD RING FORMAT -> UDBB
8506 044736' 012777 000002 133262 MOV #GETCMD,@PCSRO ; ISSUE GET_CMD PORT COMMAND
8507 044744' 004737 022546' JSR PC,CHKDNI ; DNI ?
8508 044750' 103006 BCC 80$ ; YES
8509 044752' ERRHRD 210.,ERR010,MSG003 ; NO, REPORT ERROR

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8510 044752* 104456                                TRAP  C$ERHRD
8511 044754* 000322                                .WORD  '0
8512 044756* 016506*                               .WORD  ERR010
8513 044760* 015114*                               .WORD  MSG003
8514 044762*                                       ESCAPE TST ; AND ABORT TEST
8515 044762* 104410                                TRAP  C$ESCAPE
8516 044764* 000376                                .WORD  L10050-.
8517
8518 044766* 004737 023434*           80$: JSR    PC,CLRDNI ; WRITE ONE TO CLEAR DNI
8519                                       ; ERROR ?
8520 044772* 103006                                BCC    90$ ; NO
8521 044774*                                       ERRHRD 211.,ERR006,MSG003 ; YES, REPORT ERROR
8522 044774* 104456                                TRAP  C$ERHRD
8523 044776* 000323                                .WORD  211
8524 045000* 016206*                               .WORD  ERR006
8525 045002* 015114*                               .WORD  MSG003
8526 045004*                                       ESCAPE TST ; AND ABORT TEST
8527 045004* 104410                                TRAP  C$ESCAPE
8528 045006* 000354                                .WORD  L10050-.
8529
8530                                       ;WRITE PHYSICAL ADDRESS
8531 045010* 012705 011132*           90$: MOV    #WTPHYA,R5 ; DEFAULT WRITE PHYSICAL ADDR FUNC
8532 045014* 004737 024630*           JSR    PC,LDPBB ; LOAD FUNCTION -> PCBB
8533 045020* 012777 000002 133200     MOV    #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
8534 045026* 004737 022546*           JSR    PC,CHKDNI ; DNI ?
8535 045032* 103006                                BCC    100$ ; YES
8536 045034*                                       ERRHRD 212.,ERR010,MSG003 ; NO, REPORT ERROR
8537 045034* 104456                                TRAP  C$ERHRD
8538 045036* 000324                                .WORD  212
8539 045040* 016506*                               .WORD  ERR010
8540 045042* 015114*                               .WORD  MSG003
8541 045044*                                       ESCAPE TST ; AND ABORT TEST
8542 045044* 104410                                TRAP  C$ESCAPE
8543 045046* 000314                                .WORD  L10050-.
8544
8545 045050* 004737 023434*           100$: JSR   PC,CLRDNI ; WRITE ONE TO CLEAR DNI
8546                                       ; ERROR ?
8547 045054* 103006                                BCC    110$ ; NO
8548 045056*                                       ERRHRD 213.,ERR006,MSG003 ; YES, REPORT ERROR
8549 045056* 104456                                TRAP  C$ERHRD
8550 045060* 000325                                .WORD  213
8551 045062* 016206*                               .WORD  ERR006
8552 045064* 015114*                               .WORD  MSG003
8553 045066*                                       ESCAPE TST ; AND ABORT TEST
8554 045066* 104410                                TRAP  C$ESCAPE
8555 045070* 000272                                .WORD  L10050-.
8556
8557                                       ;SET UP RINGS FOR 16 TRANSMIT PACKETS
8558                                       ;AND NO RECEIVE BUFFERS OWNED BY DEUNA
8559 045072* 012705 012002*           110$: MOV    #TDRBXX,R5 ; TRANSMIT RING
8560 045076* 004737 024772*           JSR    PC,LDTDRX ; LOAD TDRBX
8561 045102* 012705 011402*           MOV    #RDRB1B,R5 ; DEFAULT RECEIVE RING (NO BUFFERS)
8562 045106* 004737 024676*           JSR    PC,LDRDRB ; LOAD RDRB
8563
8564                                       ;SET UP BUFFERS AND START
8565 045112* 012705 000254*           MOV    #PCBB+2,R5 ; POINT TO DESTINATION ADDRESS

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 CZUABA.MAC 10-JAN-83 12:46 TEST 19: NO RECEIVE BUFFER TEST

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8566 045116' 004737 024602'      JSR    PC,LDDEST      ; LOAD DEST
8567 045122' 004737 025230'      JSR    PC,SETBUF     ; SET UP BUFFERS
8568 045126' 012777 000004' 133072  MOV    #START,@PCSR0 ; ISSUE START PORT COMMAND
8569 045134' 004737 022546'      JSR    PC,CHKDNI     ; DNI?
8570 045140' 103006                BCC    120$          ; YES
8571 045142'                ERRHRD  214.,ERR012,MSG003 ; NO, REPORT ERROR
8572 045142' 104456                TRAP   C$ERHRD
8573 045144' 000326                .WORD  214
8574 045146' 016637'                .WORD  ERR012
8575 045150' 015114'                .WORD  MSG003
8576 045152'                ESCAPE  TST          ; AND ABORT TEST
8577 045152' 104410                TRAP   C$ESCAPE
8578 045154' 000206                .WORD  L10050-
8579
8580 045156' 004737 023434'      120$: JSR    PC,CLRDNI   ; WRITE ONE TO CLEAR DNI
8581
8582 045162' 103006                BCC    130$          ; ERROR ?
8583 045164'                ERRHRD  215.,ERR006,MSG003 ; NO
8584 045164' 104456                ; YES, REPORT ERROR
8585 045166' 000327                TRAP   C$ERHRD
8586 045170' 016206'                .WORD  215
8587 045172' 015114'                .WORD  ERR006
8588 045174'                .WORD  MSG003
8589 045174' 104410                ESCAPE  TST          ; AND ABORT TEST
8590 045176' 000164                TRAP   C$ESCAPE
8591
8592 045200' 004737 023306'      130$: JSR    PC,CHKTXI  ; TXI ?
8593 045204' 103006                BCC    140$          ; YES
8594 045206'                ERRHRD  216.,ERR013,MSG003 ; NO, REPORT ERROR
8595 045206' 104456                TRAP   C$ERHRD
8596 045210' 000330                .WORD  216
8597 045212' 016720'                .WORD  ERR013
8598 045214' 015114'                .WORD  MSG003
8599 045216'                ESCAPE  TST          ; AND ABORT TEST
8600 045216' 104410                TRAP   C$ESCAPE
8601 045220' 000142                .WORD  L10050-
8602
8603 045222' 004737 023616'      140$: JSR    PC,CLRTXI  ; WRITE ONE TO CLEAR TXI
8604
8605 045226' 103006                BCC    170$          ; ERROR ?
8606 045230'                ERRHRD  217.,ERR014,MSG003 ; NO
8607 045230' 104456                ; YES, REPORT ERROR
8608 045232' 000331                TRAP   C$ERHRD
8609 045234' 016751'                .WORD  217
8610 045236' 015114'                .WORD  ERR014
8611 045240'                .WORD  MSG003
8612 045240' 104410                ESCAPE  TST          ; AND ABORT TEST
8613 045242' 000120                TRAP   C$ESCAPE
8614
8615                ;CHECK FOR RCBI SET IN PCSR0
8616
8617 045244' 004737 022666'      170$: JSR    PC,CHKRCE  ; RCBI ?
8618 045250' 103006                BCC    180$          ; YES
8619 045252'                ERRHRD  218.,ERR025,MSG003 ; NO, REPORT ERROR
8620 045252' 104456                TRAP   C$ERHRD
8621 045254' 000332                .WORD  218

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 CZUABA.MAC 10-JAN-83 12:46 TEST 19: NO RECEIVE BUFFER TEST

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8622 045256' 017676' .WORD ERR025
8623 045260' 015114' .WORD MSG003
8624 045262' ESCAPE TST ; AND ABORT TEST
8625 045262' 104410 TRAP C$ESCAPE
8626 045264' 000076 .WORD L10050-
8627
8628 045266' 004737 023502' 180$: JSR PC,CLRRCE ; WRITE ONE TO CLEAR RCBI
8629 ; ERROR ?
8630 045272' 103006 BCC 230$ ; NO
8631 045274' ERRHRD 219.,ERR026,MSG003 ; YES, REPORT ERROR
8632 045274' 104456 TRAP C$ERHRD
8633 045276' 000333 .WORD 219
8634 045300' 017730' .WORD ERR026
8635 045302' 015114' .WORD MSG003
8636 045304' ESCAPE TST ; AND ABORT TEST
8637 045304' 104410 TRAP C$ESCAPE
8638 045306' 000054 .WORD L10050-
8639
8640 045310' 012777 000017 132710 230$: MOV #STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
8641 045316' 004737 022546' JSR PC,CHKDNI ; DNI ?
8642 045322' 103006 BCC 240$ ; YES
8643 045324' ERRHRD 220.,ERR019,MSG003 ; NO, REPORT ERROR
8644 045324' 104456 TRAP C$ERHRD
8645 045326' 000334 .WORD 220
8646 045330' 017316' .WORD ERR019
8647 045332' 015114' .WORD MSG003
8648 045334' ESCAPE TST ; AND ABORT TEST
8649 045334' 104410 TRAP C$ESCAPE
8650 045336' 000024 .WORD L10050-
8651
8652 045340' 004737 023434' 240$: JSR PC,CLR DNI ; WRITE ONE TO CLEAR DNI
8653 ; ERROR ?
8654 045344' 103006 BCC 250$ ; NO
8655 045346' ERRHRD 221.,ERR006,MSG003 ; YES, REPORT ERROR
8656 045346' 104456 TRAP C$ERHRD
8657 045350' 000335 .WORD 221
8658 045352' 016206' .WORD ERR006
8659 045354' 015114' .WORD MSG003
8660 045356' ESCAPE TST ; AND ABORT TEST
8661 045356' 104410 TRAP C$ESCAPE
8662 045360' 000002 .WORD L10050-
8663 045362' 250$:
8664 045362' ENDTST
8665 045362'
8666 045362' 104401 L10050: TRAP C$ETST

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.SBTTL TEST 20: DATA CHAINING TEST

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*****
THIS TEST VERIFIES TRANSMIT AND RECEIVE DATA CHAINING.
AN INTERNAL OR EXTERNAL LOOPBACK IS PERFORMED
WITH THREE TRANSMIT AND THREE RECEIVE BUFFERS CHAINED.
INTERNAL LOOPBACK IS DEFAULT WITH EXTERNAL LOOPBACK BEING
SELECTED VIA A SOFTWARE QUESTION.

TEST SEQUENCE:
1. WRITE MODE REGISTER = PROM MODE AND EITHER
   INTERNAL(D) OR EXTERNAL LOOPBACK MODE
2. WRITE RING FORMAT
3. WRITE PHYSICAL ADDRESS
4. SET UP RINGS AND BUFFERS
   THREE TRANSMIT AND RECEIVE BUFFERS
5. ISSUE START
6. CHECK FOR ERRORS
7. ISSUE STOP
*****

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045364'
045364'
045364' 004737 025334'
045370' 103025
045372' 012777 000040 132626
045400' 004737 022546'
045404' 103006
045406'
045406' 104456
045410' 000336
045412' 016106'
045414' 015114'
045416'
045416' 104410
045420' 001536
045422' 004737 023434'
045426' 103006
045430'
045430' 104456
045432' 000337
045434' 016206'
045436' 015114'
045440'
045440' 104410
045442' 001514
045444' 004737 024660'
045450' 012777 000001 132550
045456' 004737 022546'
045462' 103006
045464'

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BGNTST
T20::
1$: JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
    BCC 30$ ; NO
    MOV #RSET,@PCSR0 ; YES, RESET DEUNA
    JSR PC,CHKDNI ; DNI ?
    BCC 20$ ; YES
    ERRHRD 222.,ERR004,MSG003 ; NO, REPORT ERROR
                                TRAP C$ERHRD
                                .WORD 222
                                .WORD ERR004
                                .WORD MSG003
    ESCAPE TST ; AND ABORT TEST
                                TRAP C$ESCAPE
                                .WORD L10051-.

20$: JSR PC,CLR DNI ; WRITE ONE TO CLEAR DNI
     ; ERROR ?
     BCC 30$ ; NO
     ERRHRD 223.,ERR006,MSG003 ; YES, REPORT ERROR
                                TRAP C$ERHRD
                                .WORD 223
                                .WORD ERR006
                                .WORD MSG003
     ESCAPE TST ; AND ABORT TEST
                                TRAP C$ESCAPE
                                .WORD L10051-.

30$: JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2!3
     MOV #GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
     JSR PC,CHKDNI ; DNI?
     BCC 40$ ; YES
     ERRHRD 224.,ERR009,MSG003 ; NO, REPORT ERROR

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8723 045464' 104456 TRAP C$ERHRD
8724 045466' 000340 .WORD 224
8725 045470' 016422' .WORD ERR009
8726 045472' 015114' .WORD MSG003
8727 045474' ESCAPE TST ; AND ABORT TEST
8728 045474' 104410 TRAP C$ESCAPE
8729 045476' 001460 .WORD L10051-.
8730
8731 045500' 004737 023434' 40$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
8732 .WORD ; ERROR ?
8733 045504' 103006 BCC 50$ ; NO
8734 045506' ERRHRD 225.,ERR006,MSG003 ; YES, REPORT ERROR
8735 045506' 104456 TRAP C$ERHRD
8736 045510' 000341 .WORD 225
8737 045512' 016206' .WORD ERR006
8738 045514' 015114' .WORD MSG003
8739 045516' ESCAPE TST ; AND ABORT TEST
8740 045516' 104410 TRAP C$ESCAPE
8741 045520' 001436 .WORD L10051-.
8742
8743 ;CHECK IF EXTERNAL LOOPBACK
8744 045522' 005737 000224' 50$: TST EXLOOP ; EXTERNAL LOOPBACK SELECTED ?
8745 045526' 001005 BNE 55$ ; YES
8746
8747 ;WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
8748 045530' 012705 011232' MOV #WTMODE,R5 ; DEFAULT WRITE MODE FUNCTION
8749 045534' 004737 024630' JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
8750 045540' 000407 BR 56$
8751 ;WRITE MODE REGISTER = PROM MODE ONLY (EXTERNAL LOOPBACK)
8752 045542' 012705 011232' 55$: MOV #WTMODE,R5 ; DEFAULT WRITE MODE FUNCTION
8753 045546' 004737 024630' JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
8754 045552' 013737 013102' 000254' MOV MODE20,PCBB+2 ; PROM MODE ONLY
8755 045560' 012777 000002 132440 56$: MOV #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
8756 045566' 004737 022546' JSR PC,CHKDNI ; DNI ?
8757 045572' 103006 BCC 60$ ; YES
8758 045574' ERRHRD 226.,ERR010,MSG003 ; NO, REPORT ERROR
8759 045574' 104456 TRAP C$ERHRD
8760 045576' 000342 .WORD 226
8761 045600' 016506' .WORD ERR010
8762 045602' 015114' .WORD MSG003
8763 045604' ESCAPE TST ; AND ABORT TEST
8764 045604' 104410 TRAP C$ESCAPE
8765 045606' 001350 .WORD L10051-.
8766
8767 045610' 004737 023434' 60$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
8768 .WORD ; ERROR ?
8769 045614' 103006 BCC 70$ ; NO
8770 045616' ERRHRD 227.,ERR006,MSG003 ; YES, REPORT ERROR
8771 045616' 104456 TRAP C$ERHRD
8772 045620' 000343 .WORD 227
8773 045622' 016206' .WORD ERR006
8774 045624' 015114' .WORD MSG003
8775 045626' ESCAPE TST ; AND ABORT TEST
8776 045626' 104410 TRAP C$ESCAPE
8777 045630' 001326 .WORD L10051-.
8778

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8779
8780 045632' 012705 011172'      ;WRITE RING FORMAT
8781 045636' 004737 024630'      70$:  MOV   #WTRNGS,R5      ; DEFAULT WRITE RING FORMAT FUNCTION
8782 045642' 012705 011312'      JSR   PC,LDPCBB          ; LOAD FUNCTION -> PCBB
8783 045646' 012700 000006'      MOV   #RFRMT,R5        ; DEFAULT RING FORMAT
8784 045652' 004737 025030'      MOV   #6,R0            ; FORMAT = SIX WORDS
8785 045656' 012777 000002' 132342 JSR   PC,LDUDBB         ; LOAD RING FORMAT -> UDBB
8786 045664' 004737 022546'      MOV   #GETCMD,@PCSR0   ; ISSUE GET_CMD PORT COMMAND
8787 045670' 103006                JSR   PC,CHKDNI        ; DNI ?
8788 045672'                BCC   80$              ; YES
8789 045672' 104456                ERRHRD 228.,ERR010,MSG003 ; NO, REPORT ERROR
8790 045674' 000344                ;
8791 045676' 016506'                ;
8792 045700' 015114'                ;
8793 045702'                ESCAPE TST              ; AND ABORT TEST
8794 045702' 104410                ;
8795 045704' 001252                ;
8796
8797 045706' 004737 023434'      ;
8798
8799 045712' 103006                80$:  JSR   PC,CLRDNI    ; WRITE ONE TO CLEAR DNI
8800 045714'                BCC   90$              ; ERROR ?
8801 045714' 104456                ERRHRD 229.,ERR006,MSG003 ; NO
8802 045716' 000345                ; YES, REPORT ERROR
8803 045720' 016206'                ;
8804 045722' 015114'                ;
8805 045724'                ESCAPE TST              ; AND ABORT TEST
8806 045724' 104410                ;
8807 045726' 001230                ;
8808
8809
8810 045730' 012705 011132'      ;WRITE PHYSICAL ADDRESS
8811 045734' 004737 024630'      90$:  MOV   #WTPHYA,R5    ; DEFAULT WRITE PHYSICAL ADDR FUNC
8812 045740' 012777 000002' 132260 JSR   PC,LDPCBB         ; LOAD FUNCTION -> PCBB
8813 045746' 004737 022546'      MOV   #GETCMD,@PCSR0   ; ISSUE GET_CMD PORT COMMAND
8814 045752' 103006                JSR   PC,CHKDNI        ; DNI ?
8815 045754'                BCC   100$             ; YES
8816 045754' 104456                ERRHRD 230.,ERR010,MSG003 ; NO, REPORT ERROR
8817 045756' 000346                ;
8818 045760' 016506'                ;
8819 045762' 015114'                ;
8820 045764'                ESCAPE TST              ; AND ABORT TEST
8821 045764' 104410                ;
8822 045766' 001170                ;
8823
8824 045770' 004737 023434'      ;
8825
8826 045774' 103006                100$: JSR   PC,CLRDNI    ; WRITE ONE TO CLEAR DNI
8827 045776'                BCC   110$             ; ERROR ?
8828 045776' 104456                ERRHRD 231.,ERR006,MSG003 ; NO
8829 046000' 000347                ; YES, REPORT ERROR
8830 046002' 016206'                ;
8831 046004' 015114'                ;
8832 046006'                ESCAPE TST              ; AND ABORT TEST
8833 046006' 104410                ;
8834 046010' 001146                ;

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8835
8836      ;SET UP RINGS FOR THREE BUFFERS CHAINED LOOPBACK
8837 046012' 012705 011742' 110$: MOV #TDRB3A,R5 ; DEFAULT THREE BUFFER TRANSMIT RING
8838 046016' 004737 024734' JSR PC,LDTDRB ; LOAD TDRB
8839 046022' 012705 011502' MOV #RDRB3A,R5 ; DEFAULT THREE BUFFER RECEIVE RING
8840 046026' 004737 024676' JSR PC,LDRDRB ; LOAD RDRB
8841
8842      ;SET UP BUFFERS AND START
8843 046032' 012705 000254' MOV #PCBB+2,R5 ; POINT TO DESTINATION ADDRESS
8844 046036' 004737 024602' JSR PC,LDDEST ; LOAD DEST
8845 046042' 004737 025230' JSR PC,SETBUF ; SET UP BUFFERS
8846      ;LOAD TYPE FIELD = DIAGNOSTIC TYPE
8847 046046' 012705 001106' MOV #TBUF+12,R5 ; POINT TO TYPE FIELD
8848 046052' 012715 002540' MOV #DTYPE,(R5) ; LOAD DIAGNOSTIC TYPE
8849
8850 046056' 012777 000004' 132142 : MOV #START,@PCSR0 ; ISSUE START PORT COMMAND
8851 046064' 004737 022546' JSR PC,CHKDNI ; DNI?
8852 046070' 103006 BCC 120$ ; YES
8853 046072' ERRHRD 232.,ERR012,MSG003 ; NO, REPORT ERROR
8854 046072' 104456 TRAP C$ERHRD
8855 046074' 000350 .WORD 232
8856 046076' 016637' .WORD ERR012
8857 046100' 015114' .WORD MSG003
8858 046102' ESCAPE TST ; AND ABORT TEST
8859 046102' 104410 TRAP C$ESCAPE
8860 046104' 001052 .WORD L10051-.
8861
8862 046106' 004737 023434' 120$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
8863 BCC 130$ ; ERROR ?
8864 046112' 103006 ERRHRD 233.,ERR006,MSG003 ; NO
8865 ; YES, REPORT ERROR
8866 046114' 104456 TRAP C$ERHRD
8867 046116' 000351 .WORD 233
8868 046120' 016206' .WORD ERR006
8869 046122' 015114' .WORD MSG003
8870 046124' ESCAPE TST ; AND ABORT TEST
8871 046124' 104410 TRAP C$ESCAPE
8872 046126' 001030 .WORD L10051-.
8873
8874 046130' 004737 023306' 130$: JSR PC,CHKTXI ; TXI ?
8875 046134' 103006 BCC 140$ ; YES
8876 046136' ERRHRD 234.,ERR013,MSG003 ; NO, REPORT ERROR
8877 046136' 104456 TRAP C$ERHRD
8878 046140' 000352 .WORD 234
8879 046142' 016720' .WORD ERR013
8880 046144' 015114' .WORD MSG003
8881 046146' ESCAPE TST ; AND ABORT TEST
8882 046146' 104410 TRAP C$ESCAPE
8883 046150' 001006 .WORD L10051-.
8884
8885 046152' 004737 023616' 140$: JSR PC,CLRTXI ; WRITE ONE TO CLEAR TXI
8886 BCC 150$ ; ERROR ?
8887 046156' 103006 ERRHRD 235.,ERR014,MSG003 ; NO
8888 ; YES, REPORT ERROR
8889 046160' 104456 TRAP C$ERHRD
8890 046162' 000353 .WORD 235
    
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8891	046164'	016751'					.WORD	ERR014
8892	046166'	015114'					.WORD	MSG003
8893	046170'			ESCAPE	TST	: AND ABORT TEST		
8894	046170'	104410					TRAP	C\$ESCAPE
8895	046172'	000764					.WORD	L10051-.
8896				:CHECK	FIRST RING ENTRY			
8897	046174'	012705	000572'	150\$:	MOV #TDRB,R5	: CHECK TDRB OWNERSHIP		
8898	046200'	004737	022634'		JSR PC,CHKOWN	: OWN = PORT DRIVER ?		
8899	046204'	103006			BCC 160\$: YES		
8900	046206'				ERRHRD 236.,ERR027	: NO, REPORT ERROR		
8901	046206'	104456					TRAP	C\$ERHRD
8902	046210'	000354					.WORD	236
8903	046212'	017777'					.WORD	ERR027
8904	046214'	000000					.WORD	0
8905	046216'			ESCAPE	TST	: AND ABORT TEST		
8906	046216'	104410					TRAP	C\$ESCAPE
8907	046220'	000736					.WORD	L10051-.
8908								
8909	046222'	012705	012552'	160\$:	MOV #TDR20A,R5	: POINT TO EXPECTED TDRB		
8910	046226'	004737	025140'		JSR PC,LDXTDR	: LOAD INTO XTDRB0 TABLE		
8911	046232'	012705	000572'		MOV #TDRB,R5	: CHECK TDRB		
8912	046235'	004737	023220'		JSR PC,CHKTDR	: ERRORS ?		
8913	046242'	103006			BCC 162\$: NO		
8914	046244'				ERRHRD 237.,ERR033,MSG005	: YES, REPORT ERROR		
8915	046244'	104456					TRAP	C\$ERHRD
8916	046246'	000355					.WORD	237
8917	046250'	020637'					.WORD	ERR033
8918	046252'	015220'					.WORD	MSG005
8919	046254'			ESCAPE	TST	: AND ABORT TEST		
8920	046254'	104410					TRAP	C\$ESCAPE
8921	046256'	000700					.WORD	L10051-.
8922				:CHECK	SECOND RING ENTRY			
8923	046260'	012705	000602'	162\$:	MOV #TDRB+8.,R5	: CHECK TDRB OWNERSHIP		
8924	046264'	004737	022634'		JSR PC,CHKOWN	: OWN = PORT DRIVER ?		
8925	046270'	103006			BCC 164\$: YES		
8926	046272'				ERRHRD 238.,ERR028	: NO, REPORT ERROR		
8927	046272'	104456					TRAP	C\$ERHRD
8928	046274'	000356					.WORD	238
8929	046276'	020104'					.WORD	ERR028
8930	046300'	000000					.WORD	0
8931	046302'			ESCAPE	TST	: AND ABORT TEST		
8932	046302'	104410					TRAP	C\$ESCAPE
8933	046304'	000652					.WORD	L10051-.
8934								
8935	046306'	012705	012562'	164\$:	MOV #TDR20B,R5	: POINT TO EXPECTED TDRB		
8936	046312'	004737	025140'		JSR PC,LDXTDR	: LOAD INTO XTDRB0 TABLE		
8937	046316'	012705	000602'		MOV #TDRB+8.,R5	: CHECK TDRB		
8938	046322'	004737	023220'		JSR PC,CHKTDR	: ERRORS ?		
8939	046326'	103006			BCC 166\$: NO		
8940	046330'				ERRHRD 239.,ERR034,MSG005	: YES, REPORT ERROR		
8941	046330'	104456					TRAP	C\$ERHRD
8942	046332'	000357					.WORD	239
8943	046334'	020726'					.WORD	ERR034
8944	046336'	015220'					.WORD	MSG005
8945	046340'			ESCAPE	TST	: AND ABORT TEST		
8946	046340'	104410					TRAP	C\$ESCAPE

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TEST 20: DATA CHAINING TEST

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8947 046342' 000614                                .WORD  L10051-.
8948
8949 046344' 012705 000612'                       ;CHECK THIRD RING ENTRY
8950 046350' 004737 022634'                       166$:  MOV    #TDRB+16.,R5           ; CHECK TDRB OWNERSHIP
8951 046354' 103006                               JSR    PC,CHKOWN           ; OWN = PORT DRIVER ?
8952 046356' 104456                               BCC   168$                ; YES
8953 046356' 104456                               ERRHRD 240.,ERR029        ; NO, REPORT ERROR
8954 046360' 000360                                TRAP  C$ERHRD
8955 046362' 020212'                                .WORD 240
8956 046364' 000000                                .WORD ERR029
8957 046366'                                .WORD 0
8958 046366' 104410                               ESCAPE TST                ; AND ABORT TEST
8959 046370' 000566                                TRAP  C$ESCAPE
8960                                .WORD L10051-.
8961 046372' 012705 012572'                       ;168$: MOV    #TDR20C,R5           ; POINT TO EXPECTED TDRB
8962 046376' 004737 025140'                       JSR    PC,LDXTDR           ; LOAD INTO XTDRB0 TABLE
8963 046402' 012705 000612'                       MOV    #TDRB+16.,R5       ; CHECK TDRB
8964 046406' 004737 023220'                       JSR    PC,CHKTDR           ; ERRORS ?
8965 046412' 103006                               BCC   170$                ; NO
8966 046414' 104456                               ERRHRD 241.,ERR035,MSG005 ; YES, REPORT ERROR
8967 046414' 104456                                TRAP  C$ERHRD
8968 046416' 000361                                .WORD 241
8969 046420' 021016'                                .WORD ERR035
8970 046422' 015220'                                .WORD MSG005
8971 046424'                                ESCAPE TST                ; AND ABORT TEST
8972 046424' 104410                               TRAP  C$ESCAPE
8973 046426' 000530                                .WORD L10051-.
8974
8975 046430' 004737 023054'                       ;170$: JSR    PC,CHKRXI           ; RXI ?
8976 046434' 103006                               BCC   180$                ; YES
8977 046436' 104456                               ERRHRD 242.,ERR015,MSG003 ; NO, REPORT ERROR
8978 046436' 104456                                TRAP  C$ERHRD
8979 046440' 000362                                .WORD 242
8980 046442' 017017'                                .WORD ERR015
8981 046444' 015114'                                .WORD MSG003
8982 046446'                                ESCAPE TST                ; AND ABORT TEST
8983 046446' 104410                               TRAP  C$ESCAPE
8984 046450' 000506                                .WORD L10051-.
8985
8986 046452' 004737 023550'                       ;180$: JSR    PC,CLRRXI           ; WRITE ONE TO CLEAR RXI
8987                                .WORD 0                     ; ERROR ?
8988 046456' 103006                               BCC   182$                ; NO
8989 046460' 104456                               ERRHRD 243.,ERR016,MSG003 ; YES, REPORT ERROR
8990 046460' 104456                                TRAP  C$ERHRD
8991 046462' 000363                                .WORD 243
8992 046464' 017050'                                .WORD ERR016
8993 046466' 015114'                                .WORD MSG003
8994 046470'                                ESCAPE TST                ; AND ABORT TEST
8995 046470' 104410                               TRAP  C$ESCAPE
8996 046472' 000464                                .WORD L10051-.
8997
8998 046474' 005737 00022' '                       ;182.: TST    EXLOOP           ; EXTERNAL LOOPBACK
8999 046500' 001431                               BEQ   190$                ; NO, SKIP EXTERNAL CHECKS
9000 ;EXTERNAL LOOPBACK CHECKS
9001 ;CHECK SOURCE ADDRESS = DESTINATION ADDRESS
9002 046502' 012703 005100'                       MOV    #RBUF+6,R3         ; R3 POINTS TO SOURCE ADDRESS

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TEST 20: DATA CHAINING TEST

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9003 046506' 012704 005072'      MOV      #RBUF,R4      ; R4 POINTS TO DESTINATION ADDRESS
9004 046512' 022324              CMP      (P3)+,(R4)+  ; FIRST WORD COMPARE ?
9005 046514' 001006              BNE     184$          ; NO, GO CHECK TYPE FIELD
9006 046516' 022324              CMP      (R3)+,(R4)+  ; SECOND WORD COMPARE ?
9007 046520' 001004              BNE     184$          ; NO, GO CHECK TYPE FIELD
9008 046522' 021314              CMP      (R3),(R4)    ; THIRD AND LAST COMPARE ?
9009 046524' 001002              BNE     184$          ; NO, CHECK TYPE FIELD
9010 046526' 000137 046564'      JMP      190$        ; SCR = DST, GO CHECK RINGS
9011                               ;SOURCE NOT EQUAL TO DESTINATION
9012                               ;CHECK IF DIAGNOSTIC TYPE
184$: MOV      #RBUF+12.,R4      ; POINT TO TYPE FIELD RECEIVED
9013 046532' 012704 005106'      CMP      #DTYPE,(R4)  ; DIAGNOSTIC TYPE ?
9014 046536' 022714 002540              BEQ     186$          ; YES, REPORT ERROR
9015 046542' 001402              JMP      1$           ; NO, RESTART TEST
9016 046544' 000137 045364'      ERRHRD  244.,ERR047  ; REPORT ERROR
9017 046550'                               TRAP    C$ERRHRD
9018 046550' 104456                               .WORD  244
9019 046552' 000364                               .WORD  ERR047
9020 046554' 022162'                               .WORD  0
9021 046556' 000000
9022 046560'                               ESCAPE  TST          ; AND ABORT TEST
9023 046560' 104410                               TRAP    C$ESCAPE
9024 046562' 000374                               .WORD  L10051-.
9025
9026                               ;CHECK FIRST RING ENTRY
190$: MOV      #RDRB,R5      ; CHECK RDRB OWNERSHIP
9027 046564' 012705 000632'      JSR     PC,CHKOWN     ; OWN = PORT DRIVER ?
9028 046570' 004737 022634'      BCC    200$          ; YES
9029 046574' 103006              ERRHRD  245.,ERR030  ; NO, REPORT ERROR
9030 046576'
9031 046576' 104456                               TRAP    C$ERRHRD
9032 046600' 000365                               .WORD  245
9033 046602' 020317'                               .WORD  ERR030
9034 046604' 000000                               .WORD  0
9035 046606'                               ESCAPE  TST          ; AND ABORT TEST
9036 046606' 104410                               TRAP    C$ESCAPE
9037 046610' 000346                               .WORD  L10051-.
9038
9039                               ;
200$: MOV      #RDR20A,R5   ; POINT TO EXPECTED RDRB
9040 046612' 012705 012662'      JSR     PC,LXRDR      ; LOAD INTO XRDRB0 TABLE
9041 046616' 004737 025110'      MOV     #RDRB,R5     ; CHECK RDRB
9042 046622' 012705 000632'      JSR     PC,CHKRDR    ; ERRORS ?
9043 046626' 004737 022754'      BCC    202$          ; NO
9044 046632' 103006              ERRHRD  246.,ERR036,MSG006 ; YES, REPORT ERROR
9045 046634' 104456                               TRAP    C$ERRHRD
9046 046636' 000366                               .WORD  246
9047 046640' 021105'                               .WORD  ERR036
9048 046642' 015362'                               .WORD  MSG006
9049 046644'                               ESCAPE  TST          ; AND ABORT TEST
9050 046644' 104410                               TRAP    C$ESCAPE
9051 046646' 000310                               .WORD  L10051-.
9052
9053                               ;CHECK SECOND RING ENTRY
202$: MOV      #RDRB+8.,R5  ; CHECK RDRB OWNERSHIP
9054 046650' 012705 000642'      JSR     PC,CHKOWN     ; OWN = PORT DRIVER ?
9055 046654' 004737 022634'      BCC    204$          ; YES
9056 046660' 103006              ERRHRD  247.,ERR031  ; NO, REPORT ERROR
9057 046662' 104456                               TRAP    C$ERRHRD
9058 046664' 000367                               .WORD  247

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 CZUABA.MAC 10-JAN-83 12:46 TEST 20: DATA CHAINING TEST

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9059 046666' 020424' .WORD ERRO31
9060 046670' 000000 .WORD 0
9061 046672' ESCAPE TST ; AND ABORT TEST
9062 046672' 104410 TRAP C$ESCAPE
9063 046674' 000262 .WORD L10051-.
9064
9065 046676' 012705 012672' 204$: MOV #RDR20B,R5 ; POINT TO EXPECTED RDRB
9066 046702' 004737 025110' JSR PC,LDXRDR ; LOAD INTO XRDRBO TABLE
9067 046706' 012705 000642' MOV #RDRB+8.,R5 ; CHECK RDRB
9068 046712' 004737 022754' JSR PC,CHKRDR ; ERRORS ?
9069 046716' 103006 BCC 206$ ; NO
9070 046720' ERRHRD 248.,ERR037,MSG006 ; YES, REPORT ERROR
9071 046720' 104456 TRAP C$ERHRD
9072 046722' 000370 .WORD 248
9073 046724' 021173' .WORD ERRO37
9074 046726' 015362' .WORD MSG006
9075 046730' ESCAPE TST ; AND ABORT TEST
9076 046730' 104410 TRAP C$ESCAPE
9077 046732' 000224 .WORD L10051-.
9078
9079 046734' 012705 ( )0652' ;CHECK THIRD RING ENTRY
9080 046740' 004737 022634' 206$: MOV #RDRB+16.,R5 ; CHECK RDRB OWNERSHIP
9081 046744' 103006 JSR PC,CHKOWN ; OWN = PORT DRIVER ?
9082 046746' BCC 208$ ; YES
9083 046746' 104456 ERRHRD 249.,ERR032 ; NO, REPORT ERROR
9084 046750' 000371 TRAP C$ERHRD
9085 046752' 020532' .WORD 249
9086 046754' 000000 .WORD ERRO32
9087 046756' ESCAPE TST ; AND ABORT TEST
9088 046756' 104410 TRAP C$ESCAPE
9089 046760' 000176 .WORD L10051-.
9090
9091 046762' 012705 012702' 208$: MOV #RDR20C,R5 ; POINT TO EXPECTED RDRB
9092 046766' 004737 025110' JSR PC,LDXRDR ; LOAD INTO XRDRBO TABLE
9093 046772' 012705 000652' MOV #RDRB+16.,R5 ; CHECK RDRB
9094 046776' 004737 022754' JSR PC,CHKRDR ; ERRORS ?
9095 047002' 103006 BCC 210$ ; NO
9096 047004' ERRHRD 250.,ERR038,MSG006 ; YES, REPORT ERROR
9097 047004' 104456 TRAP C$ERHRD
9098 047006' 000372 .WORD 250
9099 047010' 021262' .WORD ERRO38
9100 047012' 015362' .WORD MSG006
9101 047014' ESCAPE TST ; AND ABORT TEST
9102 047014' 104410 TRAP C$ESCAPE
9103 047016' 000140 .WORD L10051-.
9104
9105 ;COMPARE RBUF WITH TBUF
9106 047020' 012705 000570 210$: MOV #376.,R5 ; COMPARE 376 WORDS OF DATA
9107 047024' 004737 023732' JSR PC,CMPDAT ; DATA COMPARE ERROR ?
9108 047030' 103006 BCC 220$ ; NO
9109 047032' ERRHRD 251.,ERR022,MSG007 ; YES, REPORT ERROR
9110 047032' 104456 TRAP C$ERHRD
9111 047034' 000373 .WORD 251
9112 047036' 017540' .WORD ERRO22
9113 047040' 015524' .WORD MSG007
9114 047042' ESCAPE TST ; AND ABORT TEST

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TEST 21: PHYSICAL ADDRESS TEST

.SBTTL TEST 21: PHYSICAL ADDRESS TEST

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047160'
047160'
047160' 004737 025334'
047164' 103025
047166' 012777 000040 131052
047174' 004737 022546'
047200' 103006
047202'
047202' 104456
047204' 000377
047206' 016106'
047210' 015114'
047212'
047212' 104410
047214' 002624
047216' 004737 023434'
047222' 103006
047224'
047224' 104456
047226' 000400
047230' 016206'

THIS TEST VERIFIES THAT PHYSICAL ADDRESS DETECTION IS OPERATIONAL.
A WRITE PHYSICAL ADDRESS FUNCTION IS USED TO SET THE DEUNA'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

BGNTST

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #RSET,@PCSR0 ; YES, RESET DEUNA
JSR PC,CHKDNI ; DNI ?
BCC 20\$; YES
ERRHRD 255.,ERR004,MSG003 ; NO, REPORT ERROR

ESCAPE TST ; AND ABORT TEST

20\$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 30\$; NO
ERRHRD 256.,ERR006,MSG003 ; YES, REPORT ERROR

T21::
TRAP C\$ERHRD
.WORD 255
.WORD ERR004
.WORD MSG003
TRAP C\$ESCAPE
.WORD L10052-
TRAP C\$ERHRD
.WORD 256
.WORD ERR006

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9215 047232' 015114'
9216 047234'
9217 047234' 104410
9218 047236' 002602
9219
9220 047240' 004737 024660'
9221 047244' 012777 000001 130754 30$: JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2!3
9222 047252' 004737 022546' MOV #GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
9223 047256' 103006 JSR PC,CHKDNI ; DNI?
9224 047260' ERRHRD 257.,ERR009,MSG003 ; YES
9225 047260' 104456 ; NO, REPORT ERROR
9226 047262' 000401 TRAP C$ERHRD
9227 047264' 016422' .WORD 257
9228 047266' 015114' .WORD ERR009
9229 047270' ESCAPE TST ; AND ABORT TEST .WORD MSG003
9230 047270' 104410 TRAP C$ESCAPE
9231 047272' 002546 .WORD L10052-.
9232
9233 047274' 004737 023434' 40$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
9234 BCC 50$ ; ERROR ?
9235 047300' 103006 ERRHRD 258.,ERR006,MSG003 ; NO
9236 047302' ; YES, REPORT ERROR
9237 047302' 104456 TRAP C$ERHRD
9238 047304' 000402 .WORD 258
9239 047306' 016206' .WORD ERR006
9240 047310' 015114' .WORD MSG003
9241 047312' ESCAPE TST ; AND ABORT TEST
9242 047312' 104410 TRAP C$ESCAPE
9243 047314' 002524 .WORD L10052-.
9244
9245 ;WRITE MODE REGISTER = INTERNAL LOOPBACK
9246 047316' 012705 011232' 50$: MOV #WIMODE,R5 ; DEFAULT WRITE MODE FUNCTION
9247 047322' 004737 024630' JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
9248 047326' 013737 013104' 000254' MOV MODE21,PCBB+2 ; MODE = INTL LOOPBACK ONLY
9249 047334' 012777 000002 130664 MOV #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
9250 047342' 004737 022546' JSR PC,CHKDNI ; DNI ?
9251 047346' 103006 BCC 60$ ; YES
9252 047350' ERRHRD 259.,ERR010,MSG003 ; NO, REPORT ERROR
9253 047350' 104456 TRAP C$ERHRD
9254 047352' 000403 .WORD 259
9255 047354' 016506' .WORD ERR010
9256 047356' 015114' .WORD MSG003
9257 047360' ESCAPE TST ; AND ABORT TEST
9258 047360' 104410 TRAP C$ESCAPE
9259 047362' 002456 .WORD L10052-.
9260
9261 047364' 004737 023434' 60$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
9262 BCC 70$ ; ERROR ?
9263 047370' 103006 ERRHRD 260.,ERR006,MSG003 ; NO
9264 047372' ; YES, REPORT ERROR
9265 047372' 104456 TRAP C$ERHRD
9266 047374' 000404 .WORD 260
9267 047376' 016206' .WORD ERR006
9268 047400' 015114' .WORD MSG003
9269 047402' ESCAPE TST ; AND ABORT TEST
9270 047402' 104410 TRAP C$ESCAPE

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 CZUABA.MAC 10-JAN-83 12:46 TEST 21: PHYSICAL ADDRESS TEST

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9271 047404' 002434 .WORD L10052-.
9272
9273 ;WRITE RING FORMAT
9274 047406' 012705 011172' 70$: MOV #WTRNGS,R5 ; DEFAULT WRITE RING FORMAT FUNCTION
9275 047412' 004737 024630' JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
9276 047416' 012705 011312' MOV #RFRMT,R5 ; DEFAULT RING FORMAT
9277 047422' 012700 000006 MOV #6,R0 ; FORMAT = SIX WORDS
9278 047426' 004737 025030' JSR PC,LDUDBB ; LOAD RING FORMAT -> UDBB
9279 047432' 012777 000002 130566 MOV #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
9280 047440' 004737 022546' JSR PC,CHKDNI ; DNI ?
9281 047444' 103006 BCC 80$ ; YES
9282 047446' ERRHRD 261.,ERR010,MSG003 ; NO, REPORT ERROR
9283 047446' 104456 TRAP C$ERHRD
9284 047450' 000405 .WORD 261
9285 047452' 016506' .WORD ERR010
9286 047454' 015114' .WORD MSG003
9287 047456' ESCAPE TST ; AND ABORT TEST
9288 047456' 104410 TRAP C$ESCAPE
9289 047460' 002360 .WORD L10052-.
9290
9291 047462' 004737 023434' 80$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
9292 BCC 90$ ; ERROR ?
9293 047466' 103006 BCC 90$ ; NO
9294 047470' ERRHRD 262.,ERR006,MSG003 ; YES, REPORT ERROR
9295 047470' 104456 TRAP C$ERHRD
9296 047472' 000406 .WORD 262
9297 047474' 016206' .WORD ERR006
9298 047476' 015114' .WORD MSG003
9299 047500' ESCAPE TST ; AND ABORT TEST
9300 047500' 104410 TRAP C$ESCAPE
9301 047502' 002336 .WORD L10052-.
9302
9303 ;WRITE PHYSICAL ADDRESS
9304 047504' 012705 011132' 90$: MOV #WTPHYA,R5 ; DEFAULT WRITE PHYSICAL ADDR FUNC
9305 047510' 004737 024630' JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
9306 ;LOAD DEFAULT PHYSICAL ADDRESS
9307 047514' 012703 012306' MOV #ADR21,R3 ; POINT TO PHYSICAL ADDRESS
9308 047520' 012704 000254' MOV #PCBB+2,R4 ; POINT TO PCBB + 2
9309 047524' 012324 MOV (R3)+,(R4)+ ; LOAD ADDRESS
9310 047526' 012324 MOV (R3)+,(R4)+
9311 047530' 012324 MOV (R3)+,(R4)+
9312 047532' 012777 000002 130466 MOV #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
9313 047540' 004737 022546' JSR PC,CHKDNI ; DNI ?
9314 047544' 103006 BCC 100$ ; YES
9315 047546' ERRHRD 263.,ERR010,MSG003 ; NO, REPORT ERROR
9316 047546' 104456 TRAP C$ERHRD
9317 047550' 000407 .WORD 263
9318 047552' 016506' .WORD ERR010
9319 047554' 015114' .WORD MSG003
9320 047556' ESCAPE TST ; AND ABORT TEST
9321 047556' 104410 TRAP C$ESCAPE
9322 047560' 002260 .WORD L10052-.
9323
9324 047562' 004737 023434' 100$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
9325 BCC 110$ ; ERROR ?
9326 047566' 103006 BCC 110$ ; NO

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9327 047570'          ERRHRD 264.,ERR006,MSG003      : YES, REPORT ERROR
9328 047570' 104456
9329 047572' 000410
9330 047574' 016206'
9331 047576' 015114'
9332 047600'          ESCAPE TST                      : AND ABORT TEST
9333 047600' 104410
9334 047602' 002236
9335
9336          ;SET UP RINGS FOR ONE BUFFER LOOPBACK
9337 047604' 012705 011542' 110$: MOV #TDRB1A,R5      : DEFAULT ONE BUFFER TRANSMIT RING
9338 047610' 004737 024734' JSR PC,LDTDRB      : LOAD TDRB
9339 047614' 012705 011342' MOV #RDRB1A,R5    : DEFAULT ONE BUFFER RECEIVE RING
9340 047620' 004737 024676' JSR PC,LDRDRB    : LOAD RDRB
9341
9342          ;SET UP BUFFERS AND START
9343 047624' 012705 000254' MOV #PCBB+2,R5    : POINT TO DESTINATION ADDRESS
9344 047630' 004737 024602' JSR PC,LDDEST    : LOAD DEST
9345 047634' 004737 025230' JSR PC,SETBUF    : SET UP BUFFERS
9346 047640' 012777 000004' 130360 MOV #START,@PCSRO : ISSUE START PORT COMMAND
9347 047646' 004737 022546' JSR PC,CHKDNI   : DNI?
9348 047652' 103006 BCC 120$        : YES
9349 047654'          ERRHRD 265.,ERR012,MSG003      : NO, REPORT ERROR
9350 047654' 104456
9351 047656' 000411
9352 047660' 016637'
9353 047662' 015114'
9354 047664'          ESCAPE TST                      : AND ABORT TEST
9355 047664' 104410
9356 047666' 002152
9357
9358 047670' 004737 023434' 120$: JSR PC,CLRDN1  : WRITE ONE TO CLEAR DNI
9359
9360 047674' 103006 BCC 130$        : ERROR ?
9361 047676'          ERRHRD 266.,ERR006,MSG003      : YES, REPORT ERROR
9362 047676' 104456
9363 047700' 000412
9364 047702' 016206'
9365 047704' 015114'
9366 047706'          ESCAPE TST                      : AND ABORT TEST
9367 047706' 104410
9368 047710' 002130
9369
9370 047712' 004737 023306' 130$: JSR PC,CHKTXI  : TXI ?
9371 047716' 103006 BCC 140$        : YES
9372 047720'          ERRHRD 267.,ERR013,MSG003      : NO, REPORT ERROR
9373 047720' 104456
9374 047722' 000413
9375 047724' 016720'
9376 047726' 015114'
9377 047730'          ESCAPE TST                      : AND ABORT TEST
9378 047730' 104410
9379 047732' 002106
9380
9381 047734' 004737 023616' 140$: JSR PC,CLRTXI  : WRITE ONE TO CLEAR TXI
9382

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 TEST 21: PHYSICAL ADDRESS TEST

9383	047740'	103006		BCC	150\$: NO		
9384	047742'			ERRHRD	268.,	ERR014,MSG003	: YES,	REPORT ERROR	
9385	047742'	104456							TRAP
9386	047744'	000414							.WORD
9387	047746'	016751'							.WORD
9388	047750'	0 5114'							.WORD
9389	047752'			ESCAPE	TST		: AND	ABORT TEST	
9390	047752'	104410							TRAP
9391	047754'	002064							.WORD
9392									C\$ESCAPE
9393	047756'	012705	000572'	150\$:	MOV	#TDRB,R5	: CHECK	TDRB OWNERSHIP	
9394	047762'	004737	022634'		JSR	PC,CHKOWN	: OWN =	PORT DRIVER ?	
9395	047766'	103006			BCC	160\$: YES		
9396	047770'				ERRHRD	269.,	ERR018	: NO,	REPORT ERROR
9397	047770'	104456							TRAP
9398	047772'	000415							.WORD
9399	047774'	017216'							.WORD
9400	047776'	000000							.WORD
9401	050000'			ESCAPE	TST		: AND	ABORT TEST	
9402	050000'	104410							TRAP
9403	050002'	002036							.WORD
9404									C\$ESCAPE
9405	050004'	012705	012512'	160\$:	MOV	#TDR14A,R5	: POINT	TO EXPECTED TDRB	
9406	050010'	004737	025140'		JSR	PC,LDXTDR	: LOAD	INTO XTDRB TABLE	
9407	050014'	012705	000572'		MOV	#TDRB,R5	: CHECK	TDRB	
9408	050020'	004737	023220'		JSR	PC,CHKTDR	: ERRORS ?		
9409	050024'	103006			BCC	170\$: NO		
9410	050026'				ERRHRD	270.,	ERR020,MSG005	: YES,	REPORT ERROR
9411	050026'	104456							TRAP
9412	050030'	000416							.WORD
9413	050032'	017376'							.WORD
9414	050034'	015220'							.WORD
9415	050036'			ESCAPE	TST		: AND	ABORT TEST	
9416	050036'	104410							TRAP
9417	050040'	002000							.WORD
9418									C\$ESCAPE
9419	050042'	004737	023054'	170\$:	JSR	PC,CHKRXI	: RXI ?		
9420	050046'	103006			BCC	180\$: YES		
9421	050050'				ERRHRD	271.,	ERR015,MSG003	: NO,	REPORT ERROR
9422	050050'	104456							TRAP
9423	050052'	000417							.WORD
9424	050054'	017017'							.WORD
9425	050056'	015114'							.WORD
9426	050060'			ESCAPE	TST		: AND	ABORT TEST	
9427	050060'	104410							TRAP
9428	050062'	001756							.WORD
9429									C\$ESCAPE
9430	050064'	004737	023550'	180\$:	JSR	PC,CLRRXI	: WRITE	ONE TO CLEAR RXI	
9431									: ERROR ?
9432	050070'	103006			BCC	190\$: NO		
9433	050072'				ERRHRD	272.,	ERR016,MSG003	: YES,	REPORT ERROR
9434	050072'	104456							TRAP
9435	050074'	000420							.WORD
9436	050076'	017050'							.WORD
9437	050100'	015114'							.WORD
9438	050102'			ESCAPE	TST		: AND	ABORT TEST	

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9439 050102' 104410                                TRAP  C$ESCAPE
9440 050104' 001734                                .WORD L10052-.
9441
9442 050106' 012705 000632'                ;190$:  MOV    #RDRB,R5                : CHECK RDRB OWNERSHIP
9443 050112' 004737 022634'                JSR    PC,CHKOWN                : OWN = PORT DRIVER ?
9444 050116' 103006                BCC   200$                      : YES
9445 050120'                                ERRHRD 273.,ERR017              : NO, REPORT ERROR
9446 050120' 104456                                TRAP  C$ERHRD
9447 050122' 000421                                .WORD 273
9448 050124' 017116'                                .WORD ERR017
9449 050126' 000000                                .WORD 0
9450 050130'                                ESCAPE TST                        ; AND ABORT TEST
9451 050130' 104410                                TRAP  C$ESCAPE
9452 050132' 001706                                .WORD L10052-.
9453
9454 050134' 012705 012622'                ;200$:  MOV    #RDR14A,R5           : POINT TO EXPECTED RDRB
9455 050140' 004737 025110'                JSR    PC,LDXRDR                : LOAD INTO XRDRBO TABLE
9456 050144' 012705 000632'                MOV    #RDRB,R5                 : CHECK RDRB
9457 050150' 004737 022754'                JSR    PC,CHKRDR                : ERRORS ?
9458 050154' 103006                BCC   210$                      : NO
9459 050156'                                ERRHRD 274.,ERR021,MSG006      : YES, REPORT ERROR
9460 050156' 104456                                TRAP  C$ERHRD
9461 050160' 000422                                .WORD 274
9462 050162' 017457'                                .WORD ERR021
9463 050164' 015362'                                .WORD MSG006
9464 050166'                                ESCAPE TST                        ; AND ABORT TEST
9465 050166' 104410                                TRAP  C$ESCAPE
9466 050170' 001650                                .WORD L10052-.
9467
9468
9469 050172' 012705 000070                ;COMPARE RBUF WITH TBUF
9470 050176' 004737 023732'                ;210$:  MOV    #56.,R5             : COMPARE 56 WORDS OF DATA
9471 050202' 103006                JSR    PC,CMPDAT                : DATA COMPARE ERROR ?
9472 050204'                                BCC   220$                      : NO
9473 050204' 104456                ERRHRD 275.,ERR022,MSG007      : YES, REPORT ERROR
9474 050206' 000423                                TRAP  C$ERHRD
9475 050210' 017540'                                .WORD 275
9476 050212' 015524'                                .WORD ERR022
9477 050214'                                .WORD MSG007
9478 050214' 104410                                ESCAPE TST                        ; AND ABORT TEST
9479 050216' 001622                                TRAP  C$ESCAPE
9480                                .WORD L10052-.
9481 050220' 012705 012732'                ;220$:  MOV    #CRC21A,R5          : POINT TO EXPECTED CRC
9482 050224' 004737 025064'                JSR    PC,LDXCRC                : LOAD INTO XCRC TABLE
9483 050230' 012705 005266'                MOV    #RBUF+124.,R5           : CHECK CRC
9484 050234' 004737 024012'                JSR    PC,CMPCRC                : ERRORS ?
9485 050240' 103006                BCC   230$                      : NO
9486 050242'                                ERRHRD 276.,ERR023,MSG008      : YES, REPORT ERROR
9487 050242' 104456                                TRAP  C$ERHRD
9488 050244' 000424                                .WORD 276
9489 050246' 017607'                                .WORD ERR023
9490 050250' 015556'                                .WORD MSG008
9491 050252'                                ESCAPE TST                        ; AND ABORT TEST
9492 050252' 104410                                TRAP  C$ESCAPE
9493 050254' 001564                                .WORD L10052-.
9494

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9495 050256' 012777 000017 127742 230$: MOV #STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
9496 050264' 004737 022546' JSR PC,CHKDNI ; DNI ?
9497 050270' 103006 BCC 240$ ; YES
9498 050272' ERRHRD 277.,ERR019,MSG003 ; NO, REPORT ERROR
9499 050272' 104456 TRAP C$ERHRD
9500 050274' 000425 .WORD 277
9501 050276' 017316' .WORD ERR019
9502 050300' 015114' .WORD MSG003
9503 050302' ESCAPE TST ; AND ABORT TEST
9504 050302' 104410 TRAP C$ESCAPE
9505 050304' 001534 .WORD L10052-.
9506
9507 050306' 004737 023434' 240$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
9508 BCC 250$ ; ERROR ?
9509 050312' 103006 ERRHRD 278.,ERR006,MSG003 ; YES, REPORT ERROR
9510 050314' TRAP C$ERHRD
9511 050314' 104456 .WORD 278
9512 050316' 000426 .WORD ERR006
9513 050320' 016206' .WORD MSG003
9514 050322' 015114' ESCAPE TST ; AND ABORT TEST
9515 050324' TRAP C$ESCAPE
9516 050324' 104410 .WORD L10052-.
9517 050326' 001512
9518
9519 ;:DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
9520
9521 ;:SET UP RINGS FOR ONE BUFFER LOOPBACK
9522 050330' 012705 011542' 250$: MOV #TDRB1A,R5 ; DEFAULT ONE BUFFER TRANSMIT RING
9523 050334' 004737 024734' JSR PC,LDTDRB ; LOAD TDRB
9524 050340' 012705 011342' MOV #RDRB1A,R5 ; DEFAULT ONE BUFFER RECEIVE RING
9525 050344' 004737 024676' JSR PC,LDRDRB ; LOAD RDRB
9526
9527 ;:SET UP BUFFERS AND START
9528 050350' 012705 012314' MOV #ADR21C,R5 ; POINT TO COMPLEMENTED ADDRESS
9529 050354' 004737 024602' JSR PC,LDDEST ; LOAD DEST
9530 050360' 004737 025230' JSR PC,SETBUF ; SET UP BUFFERS
9531 050364' 012777 000004 127634 MOV #START,@PCSR0 ; ISSUE START PORT COMMAND
9532 050372' 004737 022546' JSR PC,CHKDNI ; DNI?
9533 050376' 103006 BCC 260$ ; YES
9534 050400' ERRHRD 279.,ERR012,MSG003 ; NO, REPORT ERROR
9535 050400' 104456 TRAP C$ERHRD
9536 050402' 000427 .WORD 279
9537 050404' 016637' .WORD ERR012
9538 050406' 015114' .WORD MSG003
9539 050410' ESCAPE TST ; AND ABORT TEST
9540 050410' 104410 TRAP C$ESCAPE
9541 050412' 001426 .WORD L10052-.
9542
9543 050414' 004737 023434' 260$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
9544 BCC 270$ ; ERROR ?
9545 050420' 103006 ERRHRD 280.,ERR006,MSG003 ; YES, REPORT ERROR
9546 050422' TRAP C$ERHRD
9547 050422' 104456 .WORD 280
9548 050424' 000430 .WORD ERR006
9549 050426' 016206' .WORD MSG003
9550 050430' 015114'

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9551 050432'          ESCAPE TST          ; AND ABORT TEST
9552 050432' 104410          TRAP      C$ESCAPE
9553 050434' 001404          .WORD    L10052-.
9554
9555 050436' 004737 023306'  270$: JSR      PC,CHKTXI          ; TXI ?
9556 050442' 103006          BCC      280$          ; YES
9557 050444'          ERRHRD  281.,ERR013,MSG003 ; NO, REPORT ERROR
9558 050444' 104456          TRAP      C$ERRHRD
9559 050446' 000431          .WORD    281
9560 050450' 016720'          .WORD    ERR013
9561 050452' 015114'          .WORD    MSG003
9562 050454'          ESCAPE TST          ; AND ABORT TEST
9563 050454' 104410          TRAP      C$ESCAPE
9564 050456' 001362          .WORD    L10052-.
9565
9566 050460' 004737 023616'  280$: JSR      PC,CLRTXI          ; WRITE ONE TO CLEAR TXI
9567
9568 050464' 103006          BCC      290$          ; ERROR ?
9569 050466'          ERRHRD  282.,ERR014,MSG003 ; NO
9570 050466' 104456          ; YES, REPORT ERROR
9571 050470' 000432          TRAP      C$ERRHRD
9572 050472' 016751'          .WORD    282
9573 050474' 015114'          .WORD    ERR014
9574 050476'          ESCAPE TST          ; AND ABORT TEST
9575 050476' 104410          TRAP      C$ESCAPE
9576 050500' 001340          .WORD    L10052-.
9577
9578 050502' 012705 000572'  290$: MOV      #TDRB,R5          ; CHECK TDRB OWNERSHIP
9579 050506' 004737 022634'  JSR      PC,CHKOWN          ; OWN = PORT DRIVER ?
9580 050512' 103006          BCC      300$          ; YES
9581 050514'          ERRHRD  283.,ERR018          ; NO, REPORT ERROR
9582 050514' 104456          TRAP      C$ERRHRD
9583 050516' 000433          .WORD    283
9584 050520' 017216'          .WORD    ERR018
9585 050522' 000000          .WORD    0
9586 050524'          ESCAPE TST          ; AND ABORT TEST
9587 050524' 104410          TRAP      C$ESCAPE
9588 050526' 001312          .WORD    L10052-.
9589
9590 050530' 012705 012602'  300$: MOV      #TDR21X,R5         ; POINT TO EXPECTED TDRB
9591 050534' 004737 025140'  JSR      PC,LDXTDR          ; LOAD INTO XTDRB0 TABLE
9592 050540' 012705 000572'  MOV      #TDRB,R5          ; CHECK TDRB
9593 050544' 004737 023220'  JSR      PC,CHKTDR          ; ERRORS ?
9594 050550' 103006          BCC      310$          ; NO
9595 050552'          ERRHRD  284.,ERR020,MSG005 ; YES, REPORT ERROR
9596 050552' 104456          TRAP      C$ERRHRD
9597 050554' 000434          .WORD    284
9598 050556' 017376'          .WORD    ERR020
9599 050560' 015220'          .WORD    MSG005
9600 050562'          ESCAPE TST          ; AND ABORT TEST
9601 050562' 104410          TRAP      C$ESCAPE
9602 050564' 001254          .WORD    L10052-.
9603
9604 050566' 004737 025170'  310$: JSR      PC,NORXi          ; RXI ?
9605 050572' 103006          BCC      320$          ; NO
9606 050574'          ERRHRD  285.,ERR039          ; YES, REPORT ERROR

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9607	050574'	104456						TRAP	C\$ERHRD
9608	050576'	000435						.WORD	285
9609	050600'	021350'						.WORD	ERR039
9610	050602'	000000						.WORD	0
9611	050604'			ESCAPE	TST				: AND ABORT TEST
9612	050604'	104410						TRAP	C\$ESCAPE
9613	050606'	001232						.WORD	L10052-
9614									
9615	050610'	012777	000017	127410	320\$:	MOV	#STOP,@PCSR0		: ISSUE STOP PORT COMMAND
9616	050616'	004737	022546'			JSR	PC,CHKDNI		: DNI ?
9617	050622'	103006				BCC	330\$: YES
9618	050624'					ERRHRD	286.,ERR019,MSG003		: NO, REPORT ERROR
9619	050624'	104456						TRAP	C\$ERHRD
9620	050626'	000436						.WORD	286
9621	050630'	017316'						.WORD	ERR019
9622	050632'	015114'						.WORD	MSG003
9623	050634'			ESCAPE	TST				: AND ABORT TEST
9624	050634'	104410						TRAP	C\$ESCAPE
9625	050636'	001202						.WORD	L10052-
9626									
9627	050640'	004737	023434'		330\$:	JSR	PC,CLRDNI		: WRITE ONE TO CLEAR DNI
9628									: ERRCR ?
9629	050644'	103006				BCC	340\$: NO
9630	050646'					ERRHRD	287.,ERR006,MSG003		: YES, REPORT ERROR
9631	050646'	104456						TRAP	C\$ERHRD
9632	050650'	000437						.WORD	287
9633	050652'	016206'						.WORD	ERR006
9634	050654'	015114'						.WORD	MSG003
9635	050656'			ESCAPE	TST				: AND ABORT TEST
9636	050658'	104410						TRAP	C\$ESCAPE
9637	050660'	001160						.WORD	L10052-
9638									
9639									: REPEAT WITH COMPLEMENTED PHYSICAL ADDRESS
9640									
9641									: WRITE PHYSICAL ADDRESS
9642	050662'	012705	011132'		340\$:	MOV	#WTPHYA,R5		: DEFAULT WRITE PHYSICAL ADDR FUNC
9643	050666'	004737	024630'			JSR	PC,LDPCBB		: LOAD FUNCTION -> PCBB
9644									: LOAD COMPLIMENTED PHYSICAL ADDRESS
9645	050672'	012703	012314'			MOV	#ADR21C,R3		: POINT TO PHYSICAL ADDRESS
9646	050676'	012704	000254'			MOV	#PCBB+2,R4		: POINT TO PCBB + 2
9647	050702'	012324				MOV	(R3)+,(R4)+		: LOAD ADDRESS
9648	050704'	012324				MOV	(R3)+,(R4)+		
9649	050706'	012324				MOV	(R3)+,(R4)+		
9650	050710'	012777	000002	127310		MOV	#GETCMD,@PCSR0		: ISSUE GET_CMD PORT COMMAND
9651	050716'	004737	022546'			JSR	PC,CHKDNI		: DNI ?
9652	050722'	103006				BCC	350\$: YES
9653	050724'					ERRHRD	288.,ERR010,MSG003		: NO, REPORT ERROR
9654	050724'	104456						TRAP	C\$ERHRD
9655	050726'	000440						.WORD	288
9656	050730'	016506'						.WORD	ERR010
9657	050732'	015114'						.WORD	MSG003
9658	050734'			ESCAPE	TST				: AND ABORT TEST
9659	050734'	104410						TRAP	C\$ESCAPE
9660	050736'	001160						.WORD	L10052-
9661									
9662	050740'	004737	023434'		350\$:	JSR	PC,CLRDNI		: WRITE ONE TO CLEAR DNI

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9663                                     ; ERROR ?
9664 050744' 103006                     BCC 360$
9665 050746'                             ERRHRD 289.,ERR006,MSG003
9666 050746' 104456
9667 050750' 000441
9668 050752' 016206'
9669 050754' 015114'
9670 050756'
9671 050756' 104410
9672 050760' 001060
9673
9674                                     ;SET UP RINGS FOR ONE BUFFER LOOPBACK
9675 050762' 012705 011542' 360$: MOV #TDRB1A,R5
9676 050766' 004737 024734' JSR PC,LDTDRB
9677 050772' 012705 011342' MOV #RDRB1A,R5
9678 050776' 004737 024676' JSR PC,LDRDRB
9679
9680                                     ;SET UP BUFFERS AND START
9681 051002' 012705 000254' MOV #PCBB+2,R5
9682 051006' 004737 024602' JSR PC,LDDEST
9683 051012' 004737 025230' JSR PC,SETBUF
9684 051016' 012777 000004' 127202 MOV #START,@PCSR0
9685 051024' 004737 022546' JSR PC,CHKDNI
9686 051030' 103006 BCC 370$
9687 051032' ERRHRD 290.,ERR012,MSG003
9688 051032' 104456
9689 051034' 000442
9690 051036' 016637'
9691 051040' 015114'
9692 051042'
9693 051042' 104410
9694 051044' 000774
9695
9696 051046' 004737 023434' 370$: JSR PC,CLR DNI
9697
9698 051052' 103006 BCC 380$
9699 051054' ERRHRD 291.,ERR006,MSG003
9700 051054' 104456
9701 051056' 000443
9702 051060' 016206'
9703 051062' 015114'
9704 051064'
9705 051064' 104410
9706 051066' 000752
9707
9708 051070' 004737 023306' 380$: JSR PC,CHKTXI
9709 051074' 103006 BCC 390$
9710 051076' ERRHRD 292.,ERR013,MSG003
9711 051076' 104456
9712 051100' 000444
9713 051102' 016720'
9714 051104' 015114'
9715 051106'
9716 051106' 104410
9717 051110' 000730
9718

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```

; NO
; YES, REPORT ERROR
TRAP C$ERHRD
.WORD 289
.WORD ERR006
.WORD MSG003
; AND ABORT TEST
TRAP C$ESCAPE
.WORD L10052-.
; DEFAULT ONE BUFFER TRANSMIT RING
; LOAD TDRB
; DEFAULT ONE BUFFER RECEIVE RING
; LOAD RDRB
; POINT TO DESTINATION ADDRESS
; LOAD DEST
; SET UP BUFFERS
; ISSUE START PORT COMMAND
; DNI?
; YES
; NO, REPORT ERROR
TRAP C$ERHRD
.WORD 290
.WORD ERR012
.WORD MSG003
; AND ABORT TEST
TRAP C$ESCAPE
.WORD L10052-.
; WRITE ONE TO CLEAR DNI
; ERROR ?
; NO
; YES, REPORT ERROR
TRAP C$ERHRD
.WORD 291
.WORD ERR006
.WORD MSG003
; AND ABORT TEST
TRAP C$ESCAPE
.WORD L10052-.
; TXI ?
; YES
; NO, REPORT ERROR
TRAP C$ERHRD
.WORD 292
.WORD ERR013
.WORD MSG003
; AND ABORT TEST
TRAP C$ESCAPE
.WORD L10052-.

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9719	051112'	004737	023616'	390\$:	JSR	PC,CLRTXI	:	WRITE ONE TO CLEAR TXI		
9720							:	ERROR ?		
9721	051116'	103006			BCC	400\$:	NO		
9722	051120'				ERRHRD	293.,ERR014,MSG003	:	YES, REPORT ERROR		
9723	051120'	104456							TRAP	C\$ERHRD
9724	051122'	000445							.WORD	293
9725	051124'	016751'							.WORD	ERR014
9726	051126'	015114'							.WORD	MSG003
9727	051130'				ESCAPE	TST	:	AND ABORT TEST		
9728	051130'	104410							TRAP	C\$ESCAPE
9729	051132'	000706							.WORD	L10052-
9730										
9731	051134'	012705	000572'	400\$:	MOV	#TDRB,R5	:	CHECK TDRB OWNERSHIP		
9732	051140'	004737	022634'		JSR	PC,CHKOWN	:	OWN = PORT DRIVER ?		
9733	051144'	103006			BCC	410\$:	YES		
9734	051146'				ERRHRD	294.,ERR018	:	NO, REPORT ERROR		
9735	051146'	104456							TRAP	C\$ERHRD
9736	051150'	000446							.WORD	294
9737	051152'	017216'							.WORD	ERR018
9738	051154'	000000							.WORD	0
9739	051156'				ESCAPE	TST	:	AND ABORT TEST		
9740	051156'	104410							TRAP	C\$ESCAPE
9741	051160'	000660							.WORD	L10052-
9742										
9743	051162'	012705	012512'	410\$:	MOV	#TDR14A,R5	:	POINT TO EXPECTED TDRB		
9744	051166'	004737	025140'		JSR	PC,LDXTDR	:	LOAD INTO XTDRB0 TABLE		
9745	051172'	012705	000572'		MOV	#TDRB,R5	:	CHECK TDRB		
9746	051176'	004737	023220'		JSR	PC,CHKTDR	:	ERRORS ?		
9747	051202'	103006			BCC	420\$:	NO		
9748	051204'				ERRHRD	295.,ERR020,MSG005	:	YES, REPORT ERROR		
9749	051204'	104456							TRAP	C\$ERHRD
9750	051206'	000447							.WORD	295
9751	051210'	017376'							.WORD	ERR020
9752	051212'	015220'							.WORD	MSG005
9753	051214'				ESCAPE	TST	:	AND ABORT TEST		
9754	051214'	104410							TRAP	C\$ESCAPE
9755	051216'	000622							.WORD	L10052-
9756										
9757	051220'	004737	023054'	420\$:	JSR	PC,CHKRXI	:	RXI ?		
9758	051224'	103006			BCC	430\$:	YES		
9759	051226'				ERRHRD	296.,ERR015,MSG003	:	NO, REPORT ERROR		
9760	051226'	104456							TRAP	C\$ERHRD
9761	051230'	000450							.WORD	296
9762	051232'	017017'							.WORD	ERR015
9763	051234'	015114'							.WORD	MSG003
9764	051236'				ESCAPE	TST	:	AND ABORT TEST		
9765	051236'	104410							TRAP	C\$ESCAPE
9766	051240'	000600							.WORD	L10052-
9767										
9768	051242'	004737	023550'	430\$:	JSR	PC,CLRRXI	:	WRITE ONE TO CLEAR RXI		
9769									:	ERROR ?
9770	051246'	103006			BCC	440\$:	NO		
9771	051250'				ERRHRD	297.,ERR016,MSG003	:	YES, REPORT ERROR		
9772	051250'	104456							TRAP	C\$ERHRD
9773	051252'	000451							.WORD	297
9774	051254'	017050'							.WORD	ERR016

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9775 051256' 015114'
9776 051260'          ESCAPE TST          ; AND ABORT TEST          .WORD  MSG003
9777 051260' 104410          ;                               TRAP  C$ESCAPE
9778 051262' 000556          ;                               .WORD  L10052-.
9779
9780 051264' 012705 000632' 440$: MOV    #RDRB,R5          ; CHECK RDRB OWNERSHIP
9781 051270' 004737 022634' JSR    PC,CHKOWN          ; OWN = PORT DRIVER ?
9782 051274' 103006          BCC   450$                ; YES
9783 051276'          ERRHRD 298.,ERR017      ; NO, REPORT ERROR
9784 051276' 104456          ;                               TRAP  C$ERHRD
9785 051300' 000452          ;                               .WORD  298
9786 051302' 017116'          ;                               .WORD  ERR017
9787 051304' 000000          ;                               .WORD  0
9788 051306'          ESCAPE TST          ; AND ABORT TEST
9789 051306' 104410          ;                               TRAP  C$ESCAPE
9790 051310' 000530          ;                               .WORD  L10052-.
9791
9792 051312' 012705 012622' 450$: MOV    #RDR14A,R5       ; POINT TO EXPECTED RDRB
9793 051316' 004737 025110' JSR    PC,LDXRDR          ; LOAD INTO XRDRBO TABLE
9794 051322' 012705 000632' MOV    #RDRB,R5          ; CHECK RDRB
9795 051326' 004737 022754' JSR    PC,CHKRDR          ; ERRORS ?
9796 051332' 103006          BCC   460$                ; NO
9797 051334'          ERRHRD 299.,ERR021,MSG006 ; YES, REPORT ERROR
9798 051334' 104456          ;                               TRAP  C$ERHRD
9799 051336' 000453          ;                               .WORD  299
9800 051340' 017457'          ;                               .WORD  ERR021
9801 051342' 015362'          ;                               .WORD  MSG006
9802 051344'          ESCAPE TST          ; AND ABORT TEST
9803 051344' 104410          ;                               TRAP  C$ESCAPE
9804 051346' 000472          ;                               .WORD  L10052-.
9805
9806          ; COMPARE RBUF WITH TBUF
9807 051350' 012705 000070 460$: MOV    #56.,R5          ; COMPARE 56 WORDS OF DATA
9808 051354' 004737 023732' JSR    PC,CMPDAT          ; DATA COMPARE ERROR ?
9809 051360' 103006          BCC   470$                ; NO
9810 051362'          ERRHRD 300.,ERR022,MSG007 ; YES, REPORT ERROR
9811 051362' 104456          ;                               TRAP  C$ERHRD
9812 051364' 000454          ;                               .WORD  300
9813 051366' 017540'          ;                               .WORD  ERR022
9814 051370' 015524'          ;                               .WORD  MSG007
9815 051372'          ESCAPE TST          ; AND ABORT TEST
9816 051372' 104410          ;                               TRAP  C$ESCAPE
9817 051374' 000444          ;                               .WORD  L10052-.
9818
9819 051376' 012705 012736' 470$: MOV    #CRC21B,R5       ; POINT TO EXPECTED CRCB
9820 051402' 004737 025064' JSR    PC,LDXCRC          ; LOAD INTO XCRC TABLE
9821 051406' 012705 005266' MOV    #RBUF+124.,R5      ; CHECK CRC
9822 051412' 004737 024012' JSR    PC,CMPCRC          ; ERRORS ?
9823 051416' 103006          BCC   480$                ; NO
9824 051420'          ERRHRD 301.,ERR023,MSG008 ; YES, REPORT ERROR
9825 051420' 104456          ;                               TRAP  C$ERHRD
9826 051422' 000455          ;                               .WORD  301
9827 051424' 017607'          ;                               .WORD  ERR023
9828 051426' 015556'          ;                               .WORD  MSG008
9829 051430'          ESCAPE TST          ; AND ABORT TEST
9830 051430' 104410          ;                               TRAP  C$ESCAPE

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 CZUABA.MAC 10-JAN-83 12:46 TEST 21: PHYSICAL ADDRESS TEST

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9831 051432' 000406                                .WORD  L10052-.
9832
9833 051434' 012777 000017 126564 480$:  MOV    #STOP,@PCSR0      ; ISSUE STOP PORT COMMAND
9834 051442' 004737 022546'                JSR    PC,CHKDNI          ; DNI ?
9835 051446' 103006                          BCC    490$              ; YES
9836 051450'                                ERRHRD 302.,ERR019,MSG003 ; NO, REPORT ERROR
9837 051450' 104456                                TRAP  C$ERHRD
9838 051452' 000456                                .WORD 302
9839 051454' 017316'                                .WORD ERR019
9840 051456' 015114'                                .WORD MSG003
9841 051460'                                ESCAPE TST                ; AND ABORT TEST
9842 051460' 104410                                TRAP  C$ESCAPE
9843 051462' 000356                                .WORD L10052-.
9844
9845 051464' 004737 023434'                490$:  JSR    PC,CLRDN1      ; WRITE ONE IO CLEAR DNI
9846                                ; ERROR ?
9847 051470' 103006                          BCC    500$              ; NO
9848 051472'                                ERRHRD 303.,ERR006,MSG003 ; YES, REPORT ERROR
9849 051472' 104456                                TRAP  C$ERHRD
9850 051474' 000457                                .WORD 303
9851 051476' 016206'                                .WORD ERR006
9852 051500' 015114'                                .WORD MSG003
9853 051502'                                ESCAPE TST                ; AND ABORT TEST
9854 051502' 104410                                TRAP  C$ESCAPE
9855 051504' 000334                                .WORD L10052-.
9856
9857                                ; DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
9858
9859                                ; SET UP RINGS FOR ONE BUFFER LOOPBACK
9860 051506' 012705 011542'                500$:  MOV    #TDRB1A,R5    ; DEFAULT ONE BUFFER TRANSMIT RING
9861 051512' 004737 024734'                JSR    PC,LDTDRB         ; LOAD TDRB
9862 051516' 012705 011342'                MOV    #RDRB1A,R5       ; DEFAULT ONE BUFFER RECEIVE RING
9863 051522' 004737 024676'                JSR    PC,LDRDRB         ; LOAD RDRB
9864
9865                                ; SET UP BUFFERS AND START
9866 051526' 012705 012306'                MOV    #ADR21,R5        ; COMPLIMENT DESTINATION ADDRESS
9867 051532' 004737 024602'                JSR    PC,LDDDEST       ; LOAD DEST
9868 051536' 004737 025230'                JSR    PC,SETBUF        ; SET UP BUFFERS
9869 051542' 012777 000004 126456          MOV    #START,@PCSR0    ; ISSUE START PORT COMMAND
9870 051550' 004737 022546'                JSR    PC,CHKDNI        ; DNI?
9871 051554' 103006                          BCC    510$              ; YES
9872 051556'                                ERRHRD 304.,ERR012,MSG003 ; NO, REPORT ERROR
9873 051556' 104456                                TRAP  C$ERHRD
9874 051560' 000460                                .WORD 304
9875 051562' 016637'                                .WORD ERR012
9876 051564' 015114'                                .WORD MSG003
9877 051566'                                ESCAPE TST                ; AND ABORT TEST
9878 051566' 104410                                TRAP  C$ESCAPE
9879 051570' 000250                                .WORD L10052-.
9880
9881 051572' 004737 023434'                510$:  JSR    PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
9882                                ; ERROR ?
9883 051576' 103006                          BCC    520$              ; NO
9884 051600'                                ERRHRD 305.,ERR006,MSG003 ; YES, REPORT ERROR
9885 051600' 104456                                TRAP  C$ERHRD
9886 051602' 000461                                .WORD 305

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9887	051604'	016206'					.WORD	ERR006
9888	051606'	015114'					.WORD	MSG003
9889	051610'			ESCAPE	TST	: AND ABORT TEST		
9890	051610'	104410					TRAP	C\$ESCAPE
9891	051612'	000226					.WORD	L10052-
9892								
9893	051614'	004737	023306'	520\$:	JSR	PC,CHKTXI		: TXI ?
9894	051620'	103006			BCC	530\$: YES
9895	051622'				ERRHRD	306.,ERR013,MSG003		: NO, REPORT ERROR
9896	051622'	104456					TRAP	C\$ERHRD
9897	051624'	000462					.WORD	306
9898	051626'	016720'					.WORD	ERR013
9899	051630'	015114'					.WORD	MSG003
9900	051632'			ESCAPE	TST	: AND ABORT TEST		
9901	051632'	104410					TRAP	C\$ESCAPE
9902	051634'	000204					.WORD	L10052-
9903								
9904	051636'	004737	023616'	530\$:	JSR	PC,CLRXTI		: WRITE ONE TO CLEAR TXI
9905								: ERROR ?
9906	051642'	103006			BCC	540\$: NO
9907	051644'				ERRHRD	307.,ERR014,MSG003		: YES, REPORT ERROR
9908	051644'	104456					TRAP	C\$ERHRD
9909	051646'	000463					.WORD	307
9910	051650'	016751'					.WORD	ERR014
9911	051652'	015114'					.WORD	MSG003
9912	051654'			ESCAPE	TST	: AND ABORT TEST		
9913	051654'	104410					TRAP	C\$ESCAPE
9914	051656'	000162					.WORD	L10052-
9915								
9916	051660'	012705	000572'	540\$:	MOV	#TDRB,R5		: CHECK TDRB OWNERSHIP
9917	051664'	004737	022634'		JSR	PC,CHKOWN		: OWN = PORT DRIVER ?
9918	051670'	103006			BCC	550\$: YES
9919	051672'				ERRHRD	308.,ERR018		: NO, REPORT ERROR
9920	051672'	104456					TRAP	C\$ERHRD
9921	051674'	000464					.WORD	308
9922	051676'	017216'					.WORD	ERR018
9923	051700'	000000					.WORD	0
9924	051702'			ESCAPE	TST	: AND ABORT TEST		
9925	051702'	104410					TRAP	C\$ESCAPE
9926	051704'	000134					.WORD	L10052-
9927								
9928	051706'	012705	012602'	550\$:	MOV	#TDR21X,R5		: POINT TO EXPECTED TDRB
9929	051712'	004737	025140'		JSR	PC,LDXTDR		: LOAD INTO XTDRB0 TABLE
9930	051716'	012705	000572'		MOV	#TDRB,R5		: CHECK TDRB
9931	051722'	004737	023220'		JSR	PC,CHKTDR		: ERRORS ?
9932	051726'	103006			BCC	560\$: NO
9933	051730'				ERRHRD	309.,ERR020,MSG005		: YES, REPORT ERROR
9934	051730'	104456					TRAP	C\$ERHRD
9935	051732'	000465					.WORD	309
9936	051734'	017376'					.WORD	ERR020
9937	051736'	015220'					.WORD	MSG005
9938	051740'			ESCAPE	TST	: AND ABORT TEST		
9939	051740'	104410					TRAP	C\$ESCAPE
9940	051742'	000076					.WORD	L10052-
9941								
9942	051744'	004737	025170'	560\$:	JSR	PC,NORXI		: RXI ?

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9943 051750' 103006          BCC      570$          : NO
9944 051752'          ERRHRD  310.,ERR039   : YES, REPORT ERROR
9945 051752' 104456          :
9946 051754' 000466          TRAP    C$ERHRD
9947 051756' 021350'        .WORD   310
9948 051760' 000000          .WORD   ERR039
9949 051762'          .WORD   0
9950 051762' 104410          ESCAPE  TST          : AND ABORT TEST
9951 051764' 000054          TRAP    C$ESCAPE
9952          .WORD   L10052-.
9953 051766' 012777 000017 126232 570$: MOV      #STOP,@PCSR0  : ISSUE STOP PORT COMMAND
9954 051774' 004737 022546' JSR      PC,CHKDNI    : DNI ?
9955 052000' 103006          BCC      580$          : YES
9956 052002'          ERRHRD  311.,ERR019,MSG003 : NO, REPORT ERROR
9957 052002' 104456          TRAP    C$ERHRD
9958 052004' 000467          .WORD   311
9959 052006' 017316'        .WORD   ERR019
9960 052010' 015114'        .WORD   MSG003
9961 052012'          ESCAPE  TST          : AND ABORT TEST
9962 052012' 104410          TRAP    C$ESCAPE
9963 052014' 000024          .WORD   L10052-.
9964          .
9965 052016' 004737 023434' 580$: JSR      PC,CLRDN1  : WRITE ONE TO CLEAR DNI
9966          .
9967 052022' 103006          BCC      590$          : ERROR ?
9968 052024'          ERRHRD  312.,ERR006,MSG003 : NO
9969 052024' 104456          : YES, REPORT ERROR
9970 052026' 000470          TRAP    C$ERHRD
9971 052030' 016206'        .WORD   312
9972 052032' 015114'        .WORD   ERR006
9973 052034'          .WORD   MSG003
9974 052034' 104410          ESCAPE  TST          : AND ABORT TEST
9975 052036' 000002          TRAP    C$ESCAPE
9976 052040'          .WORD   L10052-.
9977 052040'          590$:
9978 052040'          ENDTST
9979 052040' 104401          L10052: TRAP    C$ETST

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.SBTTL TEST 22: MULTICAST ADDRESS TEST

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9997
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9999
10000
10001
10002
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THIS TEST VERIFIES THAT MULTICAST ADDRESSING IS OPERATIONAL.
A WRITE MULTICAST ADDRESS LIST FUNCTION IS USED TO SET THE DEUNA'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

052042*
052042*
052042* 004737 025334*
052046* 103025
052050* 012777 000040 126150
052056* 004737 022546*
052062* 103006
052064*
052064* 104456
052066* 000471
052070* 016106*
052072* 015114*
052074*
052074* 104410
052076* 003016
052100* 004737 023434*
052104* 103006
052106*

BGNTST
T22::
JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #RSET,@PCSR0 ; YES, RESET DEUNA
JSR PC,CHKDNI ; DNI ?
BCC 20\$; YES
ERRHRD 313.,ERR004,MSG003 ; NO, REPORT ERROR
TRAP C\$ERHRD
.WORD 313
.WORD ERR004
.WORD MSG003
ESCAPE TST ; AND ABORT TEST
TRAP C\$ESCAPE
.WORD L10053-
20\$: JSR PC,CLRDNi ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 30\$; NO
ERRHRD 314.,ERR006,MSG003 ; YES, REPORT ERROR

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10036	052106'	104456						TRAP	C\$ERHRD
10037	052110'	000472						.WORD	314
10038	052112'	016206'						.WORD	ERR006
10039	052114'	015114'						.WORD	MSG003
10040	052116'			ESCAPE	TST			:	AND ABORT TEST
10041	052116'	104410						TRAP	C\$ESCAPE
10042	052120'	002774						.WORD	L10053-
10043									
10044	052122'	004737	024660'	30\$:	JSR	PC,LDPCSR		:	ADDRESS OF PCBB -> PCSR2!3
10045	052126'	012777	000001	126072	MOV	#GETPCB,@PCSR0		:	ISSUE GET_PCBB PORT COMMAND
10046	052134'	004737	022546'		JSR	PC,CHKDNI		:	DNI?
10047	052140'	103006			BCC	40\$:	YES
10048	052142'				ERRHRD	315.,ERR009,MSG003		:	NO, REPORT ERROR
10049	052142'	104456						TRAP	C\$ERHRD
10050	052144'	000473						.WORD	315
10051	052146'	016422'						.WORD	ERR009
10052	052150'	015114'						.WORD	MSG003
10053	052152'			ESCAPE	TST			:	AND ABORT TEST
10054	052152'	104410						TRAP	C\$ESCAPE
10055	052154'	002740						.WORD	L10053-
10056									
10057	052156'	004737	023434'	40\$:	JSR	PC,CLRDNI		:	WRITE ONE TO CLEAR DNI
10058								:	ERROR ?
10059	052162'	103006			BCC	50\$:	NO
10060	052164'				ERRHRD	316.,ERR006,MSG003		:	YES, REPORT ERROR
10061	052164'	104456						TRAP	C\$ERHRD
10062	052166'	000474						.WORD	316
10063	052170'	016206'						.WORD	ERR006
10064	052172'	015114'						.WORD	MSG003
10065	052174'			ESCAPE	TST			:	AND ABORT TEST
10066	052174'	104410						TRAP	C\$ESCAPE
10067	052176'	002716						.WORD	L10053-
10068									
10069									
10070	052200'	012705	011232'	50\$:	MOV	#WTMODE,R5		:	DEFAULT WRITE MODE FUNCTION
10071	052204'	004737	024630'		JSR	PC,LDPCBB		:	LOAD FUNCTION -> PCBB
10072	052210'	013737	013104'	000254'	MOV	MODE21,PCBB+2		:	MODE = INTL LOOPBACK ONLY
10073	052216'	012777	000002	126002	MOV	#GETCMD,@PCSR0		:	ISSUE GET_CMD PORT COMMAND
10074	052224'	004737	022546'		JSR	PC,CHKDNI		:	DNI ?
10075	052230'	103006			BCC	60\$:	YES
10076	052232'				ERRHRD	317.,ERR010,MSG003		:	NO REPORT ERROR
10077	052232'	104456						TRAP	C\$ERHRD
10078	052234'	000475						.WORD	317
10079	052236'	016506'						.WORD	ERR010
10080	052240'	015114'						.WORD	MSG003
10081	052242'			ESCAPE	TST			:	AND ABORT TEST
10082	052242'	104410						TRAP	C\$ESCAPE
10083	052244'	002650						.WORD	L10053-
10084									
10085	052246'	004737	023434'	60\$:	JSR	PC,CLRDNI		:	WRITE ONE TO CLEAR DNI
10086								:	ERROR ?
10087	052252'	103006			BCC	70\$:	NO
10088	052254'				ERRHRD	318.,ERR006,MSG003		:	YES, REPORT ERROR
10089	052254'	104456						TRAP	C\$ERHRD
10090	052256'	000476						.WORD	318
10091	052260'	016206'						.WORD	ERR006

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10092 052262' 015114'                                     .WORD  MSG003
10093 052264'                                     ESCAPE  TST                                     ; AND ABORT TEST
10094 052264' 104410                                     TRAP    C$ESCAPE
10095 052266' 002626                                     .WORD  L10053-.
10096
10097                                     ;WRITE RING FORMAT
10098 052270' 012705 011172' 70$:  MOV    #WTRNGS,R5                       ; DEFAULT WRITE RING FORMAT FUNCTION
10099 052274' 004737 024630' JSR    PC,LDPCBB                          ; LOAD FUNCTION -> PCBB
10100 052300' 012705 011312' MOV    #RFRMT,R5                          ; DEFAULT RING FORMAT
10101 052304' 012700 000006 MOV    #6,R0                              ; FORMAT = SIX WORDS
10102 052310' 004737 025030' JSR    PC,LDUDBB                          ; LOAD RING FORMAT -> UDBB
10103 052314' 0'2777 000002 125704 MOV    #GETCMD,@PCSRO                     ; ISSUE GET_CMD PORT COMMAND
10104 052322' 004737 022546' JSR    PC,CHKDNI                          ; DNI ?
10105 052326' 103006 BCC    80$                                ; YES
10106 052330' ERRHRD 319.,ERR010,MSG003      ; NO, REPORT ERROR
10107 052330' 104456 TRAP    C$ERHRD
10108 052332' 000477 .WORD  319
10109 052334' 016506' .WORD  ERR010
10110 052336' 015114' .WORD  MSG003
10111 052340' ESCAPE  TST                                     ; AND ABORT TEST
10112 052340' 104410 TRAP    C$ESCAPE
10113 052342' 002552 .WORD  L10053-.
10114
10115 052344' 004737 023434' 80$: JSR    PC,CLRDNI                       ; WRITE ONE TO CLEAR DNI
10116 BCC    90$                                ; ERROR ?
10117 052350' 103006 ERRHRD 320.,ERR006,MSG003      ; NO
10118 052352' .WORD  320
10119 052352' 104456 .WORD  ERR006
10120 052354' 000500 .WORD  MSG003
10121 052356' 016206'
10122 052360' 015114'
10123 052362' ESCAPE  TST                                     ; AND ABORT TEST
10124 052362' 104410 TRAP    C$ESCAPE
10125 052364' 002530 .WORD  L10053-.
10126
10127                                     ;WRITE PHYSICAL ADDRESS
10128 052366' 012705 011132' 90$:  MOV    #WTPHYA,R5                       ; DEFAULT WRITE PHYSICAL ADDR FUNC
10129 052372' 004737 024630' JSR    PC,LDPCBB                          ; LOAD FUNCTION -> PCBB
10130 052376' 012777 000002 125622 MOV    #GETCMD,@PCSRO                     ; ISSUE GET_CMD PORT COMMAND
10131 052404' 004737 022546' JSR    PC,CHKDNI                          ; DNI ?
10132 052410' 103006 BCC    100$                               ; YES
10133 052412' ERRHRD 321.,ERR010,MSG003      ; NO, REPORT ERROR
10134 052412' 104456 TRAP    C$ERHRD
10135 052414' 000501 .WORD  321
10136 052416' 016506' .WORD  ERR010
10137 052420' 015114' .WORD  MSG003
10138 052422' ESCAPE  TST                                     ; AND ABORT TEST
10139 052422' 104410 TRAP    C$ESCAPE
10140 052424' 002470 .WORD  L10053-.
10141
10142 052426' 004737 023434' 100$: JSR    PC,CLRDNI                       ; WRITE ONE TO CLEAR DNI
10143 BCC    102$                               ; ERROR ?
10144 052432' 103006 ERRHRD 322.,ERR006,MSG003      ; NO
10145 052434' .WORD  322
10146 052434' 104456 .WORD  ERR006
10147 052436' 000502 .WORD  MSG003

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TEST 22: MULTICAST ADDRESS TEST

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10148 052440' 016206' .WORD ERRO06
10149 052442' 015114' .WORD MSG003
10150 052444'          ESCAPE TST          ; AND ABORT TEST
10151 052444' 104410          TRAP C$ESCAPE
10152 052446' 002446          .WORD L10053-.
10153
10154          ;WRITE MULTICAST ADDRESS LIST
10155 052450' 012705 011152' 102$: MOV #WTMULA,R5          ; DEFAULT WRITE MULTICAST ADDR FUNC
10156 052454' 004737 024630' .SR PC,LDPCBB          ; LOAD FUNCTION -> PCBB
10157 052460' 012705 012322' MOV #MULTL,R5          ; LOAD LIST INTO UDBB
10158 052464' 012700 000036 MOV #30.,R0          ; LOAD 30 ENTRIES
10159 052470' 004737 025030' JSR PC,LDUDBB          ; MULTICAST LIST -> UDBB
10160 052474' 012777 000002 125524 MOV #GETCMD,@PCSR0    ; ISSUE GET_CMD PORT COMMAND
10161 052502' 004737 022546' JSR PC,CHKDNI          ; DNI ?
10162 052506' 103006          BCC 104$             ; YES
10163 052510'          ERRHRD 323.,ERR010,MSG003 ; NO, REPORT ERROR
10164 052510' 104456          TRAP C$ERHRD
10165 052512' 000503          .WORD 323
10166 052514' 016506'          .WORD ERR010
10167 052516' 015114'          .WORD MSG003
10168 052520'          ESCAPE TST          ; AND ABORT TEST
10169 052520' 104410          TRAP C$ESCAPE
10170 052522' 002372          .WORD L10053-.
10171
10172 052524' 004737 023434' 104$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
10173          ; ERROR ?
10174 052530' 103006          BCC 106$             ; NO
10175 052532'          ERRHRD 324.,ERR006,MSG003 ; YES, REPORT ERROR
10176 052532' 104456          TRAP C$ERHRD
10177 052534' 000504          .WORD 324
10178 052536' 016206'          .WORD ERRO06
10179 052540' 015114'          .WORD MSG003
10180 052542'          ESCAPE TST          ; AND ABORT TEST
10181 052542' 104410          TRAP C$ESCAPE
10182 052544' 002350          .WORD L10053-.
10183
10184          ;DO TEN LOOPS WITH DEST ADDR = MULTICAST ADDRESS
10185
10186 052546' 012701 000012 106$: MOV #10.,R1          ; DO LOOP = TEN
10187 052552' 012702 012322' MOV #MULTL,R2          ; R2 POINTS TO MULTICAST LIST
10188 052556' 012703 012742' MOV #CRC22A,R3          ; R3 POINTS TO EXPECTED CRC TABLE
10189
10190          ;SET UP RINGS FOR ONE BUFFER LOOPBACK
10191 052562' 012705 011542' 110$: MOV #TDRB1A,R5          ; DEFAULT ONE BUFFER TRANSMIT RING
10192 052566' 004737 024734' JSR PC,LDTDRB          ; LOAD TDRB
10193 052572' 012705 011342' MOV #RDRB1A,P5          ; DEFAULT ONE BUFFER RECEIVE RING
10194 052576' 004737 024676' JSR PC,LDRDRB          ; LOAD RDRB
10195
10196          ;SET UP BUFFERS AND START
10197 052602' 010205          MOV R2,R5          ; POINT TO DESTINATION ADDRESS
10198 052604' 004737 024602' JSR PC,LDDEST          ; LOAD DEST
10199 052610' 004737 025230' JSR PC,SETBUF          ; SET UP BUFFERS
10200 052614' 012777 000004 125404 MOV #START,@PCSR0    ; ISSUE START PORT COMMAND
10201 052622' 004737 022546' JSR PC,CHKDNI          ; DNI?
10202 052626' 103006          BCC 120$             ; YES
10203 052630'          ERRHRD 325.,ERR012,MSG003 ; NO, REPORT ERROR

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10260	052764'	004737	025140'		JSR	PC,LDXTDR	:	LOAD INTO XTDRBO TABLE		
10261	052770'	012705	000572'		MOV	#TDRB,R5	:	CHECK TDRB		
10262	052774'	004737	023220'		JSR	PC,CHKTDR	:	ERRORS ?		
10263	053000'	103006			BCC	170\$:	NO		
10264	053002'				ERRHRD	330.,ERR020,MSG005	:	YES, REPORT ERROR		
10265	053002'	104456							TRAP	C\$ERHRD
10266	053004'	000517							.WORD	330
10267	053006'	017376'							.WORD	ERR020
10268	053010'	015220'							.WORD	MSG005
10269	053012'				ESCAPE	TST	:	AND ABORT TEST		
10270	053012'	104410							TRAP	C\$ESCAPE
10271	053014'	002100							.WORD	L10053-
10272										
10273	053016'	004737	023054'	170\$:	JSR	PC,CHKRXI	:	RXI ?		
10274	053022'	103006			BCC	180\$:	YES		
10275	053024'				ERRHRD	331.,ERR015,MSG003	:	NO, REPORT ERROR		
10276	053024'	104456							TRAP	C\$ERHRD
10277	053026'	000513							.WORD	331
10278	053030'	017017'							.WORD	ERR015
10279	053032'	015114'							.WORD	MSG003
10280	053034'				ESCAPE	TST	:	AND ABORT TEST		
10281	053034'	104410							TRAP	C\$ESCAPE
10282	053036'	002056							.WORD	L10053-
10283										
10284	053040'	004737	023550'	180\$:	JSR	PC,CLRRXI	:	WRITE ONE TO CLEAR RXI		
10285										
10286	053044'	103006			BCC	190\$:	ERROR ?		
10287	053046'				ERRHRD	332.,ERR016,MSG003	:	NO		
10288	053046'	104456								
10289	053050'	000514							TRAP	C\$ERHRD
10290	053052'	017050'							.WORD	332
10291	053054'	015114'							.WORD	ERR016
10292	053056'								.WORD	MSG003
10293	053056'	104410			ESCAPE	TST	:	AND ABORT TEST		
10294	053060'	002034							TRAP	C\$ESCAPE
10295									.WORD	L10053-
10296	053062'	012705	000632'	190\$:	MOV	#RDRB,R5	:	CHECK RDRB OWNERSHIP		
10297	053066'	004737	022634'		JSR	PC,CHKOWN	:	OWN = PORT DRIVER ?		
10298	053072'	103006			BCC	200\$:	YES		
10299	053074'				ERRHRD	333.,ERR017	:	NO, REPORT ERROR		
10300	053074'	104456							TRAP	C\$ERHRD
10301	053076'	000515							.WORD	333
10302	053100'	017116'							.WORD	ERR017
10303	053102'	000000							.WORD	0
10304	053104'				ESCAPE	TST	:	AND ABORT TEST		
10305	053104'	104410							TRAP	C\$ESCAPE
10306	053106'	002006							.WORD	L10053-
10307										
10308	053110'	012705	012622'	200\$:	MOV	#RDR14A,R5	:	POINT TO EXPECTED RDRB		
10309	053114'	004737	025110'		JSR	PC,LDXRDR	:	LOAD INTO XRDRBO TABLE		
10310	053120'	012705	000632'		MOV	#RDRB,R5	:	CHECK RDRB		
10311	053124'	004737	022754'		JSR	PC,CHKRDR	:	ERRORS ?		
10312	053130'	103006			BCC	210\$:	NO		
10313	053132'				ERRHRD	334.,ERR021,MSG006	:	YES, REPORT ERROR		
10314	053132'	104456							TRAP	C\$ERHRD
10315	053134'	000516							.WORD	334

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10316	053136'	017457'				.WORD	ERR021
10317	053140'	015362'				.WORD	MSG006
10318	053142'			ESCAPE TST	; AND ABORT TEST		
10319	053142'	104410				TRAP	C\$ESCAPE
10320	053144'	001750				.WORD	L10053-
10321							
10322				: COMPARE RBUF WITH TBUF			
10323	053146'	012705	000070	210\$: MOV #56.,R5	; COMPARE 56 WORDS OF DATA		
10324	053152'	004737	023732'	JSR PC,CMPDAT	; DATA COMPARE ERROR ?		
10325	053156'	103006		BCC 220\$; NO		
10326	053160'			ERRHRD 335.,ERR022,MSG007	; YES, REPORT ERROR		
10327	053160'	104456				TRAP	C\$ERHRD
10328	053162'	000517				.WORD	335
10329	053164'	017540'				.WORD	ERR022
10330	053166'	015524'				.WORD	MSG007
10331	053170'			ESCAPE TST	; AND ABORT TEST		
10332	053170'	104410				TRAP	C\$ESCAPE
10333	053172'	001722				.WORD	L10053-
10334							
10335	053174'	010305		220\$: MOV R3,R5	; POINT TO EXPECTED CRC TABLE		
10336	053176'	004737	025064'	JSR PC,LDXCRC	; LOAD INTO XCRC TABLE		
10337	053202'	012705	005266'	MOV #RBUF+124.,R5	; CHECK CRC		
10338	053206'	004737	024012'	JSR PC,CMPCRC	; ERRORS ?		
10339	053212'	103006		BCC 230\$; NO		
10340	053214'			ERRHRD 336.,ERR023,MSG008	; YES, REPORT ERROR		
10341	053214'	104456				TRAP	C\$ERHRD
10342	053216'	000520				.WORD	336
10343	053220'	017607'				.WORD	ERR023
10344	053222'	015556'				.WORD	MSG008
10345	053224'			ESCAPE TST	; AND ABORT TEST		
10346	053224'	104410				TRAP	C\$ESCAPE
10347	053226'	001666				.WORD	L10053-
10348							
10349	053230'	012777	000017	124770 230\$: MOV #STOP,@PCSR0	; ISSUE STOP PORT COMMAND		
10350	053236'	004737	022546'	JSR PC,CHKDNI	; DNI ?		
10351	053242'	103006		BCC 240\$; YES		
10352	053244'			ERRHRD 337.,ERR019,MSG003	; NO, REPORT ERROR		
10353	053244'	104456				TRAP	C\$ERHRD
10354	053246'	000521				.WORD	337
10355	053250'	017316'				.WORD	ERR019
10356	053252'	015114'				.WORD	MSG003
10357	053254'			ESCAPE TST	; AND ABORT TEST		
10358	053254'	104410				TRAP	C\$ESCAPE
10359	053256'	001636				.WORD	L10053-
10360							
10361	053260'	004737	023434'	240\$: JSR PC,CLRDNI	; WRITE ONE TO CLEAR DNI		
10362					; ERROR ?		
10363	053264'	103006		BCC 245\$; NO		
10364	053266'			ERRHRD 338.,ERR006,MSG003	; YES, REPORT ERROR		
10365	053266'	104456				TRAP	C\$ERHRD
10366	053270'	000522				.WORD	338
10367	053272'	016206'				.WORD	ERR006
10368	053274'	015114'				.WORD	MSG003
10369	053276'			ESCAPE TST	; AND ABORT TEST		
10370	053276'	104410				TRAP	C\$ESCAPE
10371	053300'	001614				.WORD	L10053-

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10372
10373 053302' 062702 000006      245$:  ADD      #6,R2      ; UPDATE R2
10374 053306' 062703 000004      ADD      #4,R3      ; UPDATE R3
10375 053312' 005301      DEC      R1         ; DONE TEN LOOPBACKS
10376 053314' 001402      BEQ     246$       ; YES
10377 053316' 000137 052562'  JMP     110$       ; NO
10378
10379
10380      ; DO TEN LOOPS WITH DEST ADDRESS = COMPLIMENTED MULTICAST ADDRESS
10381
10382 053322' 012701 000012      246$:  MOV     #10.,R1    ; DO LOOP = TEN
10383 053326' 012702 012416'  MOV     #MULTLC,R2  ; R2 POINTS TO COMPLIMENTED LIST
10384
10385      ; SET UP RINGS FOR ONE BUFFER LOOPBACK
10386 053332' 012705 011542'  250$:  MOV     #TDRB1A,R5 ; DEFAULT ONE BUFFER TRANSMIT RING
10387 053336' 004737 024734'  JSR    PC,LDTDRB   ; LOAD TDRB
10388 053342' 012705 011342'  MOV     #RDRB1A,R5 ; DEFAULT ONE BUFFER RECEIVE RING
10389 053346' 004737 024676'  JSR    PC,LDRDRB   ; LOAD RDRB
10390
10391      ; SET UP BUFFERS AND START
10392 053352' 010205      MOV     R2,R5      ; POINT TO COMPLEMENTED ADDRESS
10393 053354' 004737 024602'  JSR    PC,LDDEST   ; LOAD DEST
10394 053360' 004737 025230'  JSR    PC,SETBUF   ; SET UP BUFFERS
10395 053364' 012777 000004 124634  MOV     #START,@PCSR0 ; ISSUE START PORT COMMAND
10396 053372' 004737 022546'  JSR    PC,CHKDNI   ; DNI?
10397 053376' 103006      BCC    260$       ; YES
10398 053400'      ERRHRD 339.,ERR012,MSG003 ; NO, REPORT ERROR
10399 053400' 104456      TRAP   C$ERHRD
10400 053402' 000523      .WORD 339
10401 053404' 016637'      .WORD ERR012
10402 053406' 015114'      .WORD MSG003
10403 053410'      ESCAPE TST        ; AND ABORT TEST
10404 053410' 104410      TRAP   C$ESCAPE
10405 053412' 001502      .WORD L10053-.
10406
10407 053414' 004737 023434'  260$:  JSR    PC,CLRDNI   ; WRITE ONE TO CLEAR DNI
10408      ; ERROR ?
10409 053420' 103006      BCC    270$       ; NO
10410 053422'      ERRHRD 340.,ERR006,MSG003 ; YES, REPORT ERROR
10411 053422' 104456      TRAP   C$ERHRD
10412 053424' 000524      .WORD 340
10413 053426' 016206'      .WORD ERR006
10414 053430' 015114'      .WORD MSG003
10415 053432'      ESCAPE TST        ; AND ABORT TEST
10416 053432' 104410      TRAP   C$ESCAPE
10417 053434' 001460      .WORD L10053-.
10418
10419 053436' 004737 023306'  270$:  JSR    PC,CHKTXI   ; TXI ?
10420 053442' 103006      BCC    280$       ; YES
10421 053444'      ERRHRD 341.,ERR013,MSG003 ; NO, REPORT ERROR
10422 053444' 104456      TRAP   C$ERHRD
10423 053446' 000525      .WORD 341
10424 053450' 016720'      .WORD ERR013
10425 053452' 015114'      .WORD MSG003
10426 053454'      ESCAPE TST        ; AND ABORT TEST
10427 053454' 104410      TRAP   C$ESCAPE

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10428	053456'	001436						.WORD	L10053-
10429									
10430	053460'	004737	023616'	280\$:	JSR	PC,CLRTXI			: WRITE ONE TO CLEAR TXI
10431									: ERROR ?
10432	053464'	103006			BCC	290\$: NO
10433	053466'				ERRHRD	342.,ERR014,MSG003			: YES, REPORT ERROR
10434	053466'	104456						TRAP	C\$ERHRD
10435	053470'	000526						.WORD	342
10436	053472'	016751'						.WORD	ERR014
10437	053474'	015114'						.WORD	MSG003
10438	053476'				ESCAPE	TST			: AND ABORT TEST
10439	053476'	104410						TRAP	C\$ESCAPE
10440	053500'	001414						.WORD	L10053-
10441									
10442	053502'	012705	000572'	290\$:	MOV	#TDRB,R5			: CHECK TDRB OWNERSHIP
10443	053506'	004737	022634'		JSR	PC,CHKOWN			: OWN = PORT DRIVER ?
10444	053512'	103006			BCC	300\$: YES
10445	053514'				ERRHRD	343.,ERR018			: NO, REPORT ERROR
10446	053514'	104456						TRAP	C\$ERHRD
10447	053516'	000527						.WORD	343
10448	053520'	017216'						.WORD	ERR018
10449	053522'	000000						.WORD	0
10450	053524'				ESCAPE	TST			: AND ABORT TEST
10451	053524'	104410						TRAP	C\$ESCAPE
10452	053526'	001366						.WORD	L10053-
10453									
10454	053530'	012705	012602'	300\$:	MOV	#TDR21X,R5			: POINT TO EXPECTED TDRB
10455	053534'	004737	025140'		JSR	PC,LDXTDR			: LOAD INTO XTDRB0 TABLE
10456	053540'	012705	000572'		MOV	#TDRB,R5			: CHECK TDRB
10457	053544'	004737	023220'		JSR	PC,CHKTDR			: ERRORS ?
10458	053550'	103006			BCC	310\$: NO
10459	053552'				ERRHRD	344.,ERR020,MSG005			: YES, REPORT ERROR
10460	053552'	104456						TRAP	C\$ERHRD
10461	053554'	000530						.WORD	344
10462	053556'	017376'						.WORD	ERR020
10463	053560'	015220'						.WORD	MSG005
10464	053562'				ESCAPE	TST			: AND ABORT TEST
10465	053562'	104410						TRAP	C\$ESCAPE
10466	053564'	001330						.WORD	L10053-
10467									
10468	053566'	004737	025170'	310\$:	JSR	PC,NORXI			: RXI ?
10469	053572'	103006			BCC	320\$: NO
10470	053574'				ERRHRD	345.,ERR039			: YES, REPORT ERROR
10471	053574'	104456						TRAP	C\$ERHRD
10472	053576'	000531						.WORD	345
10473	053600'	021350'						.WORD	ERR039
10474	053602'	000000						.WORD	0
10475	053604'				ESCAPE	TST			: AND ABORT TEST
10476	053604'	104410						TRAP	C\$ESCAPE
10477	053606'	001306						.WORD	L10053-
10478									
10479	053610'	012777	000017	124410	320\$:	MOV	#STOP,@PCSR0		: ISSUE STOP PORT COMMAND
10480	053616'	004737	022546'		JSR	PC,CHKDNI			: DNI ?
10481	053622'	103006			BCC	330\$: YES
10482	053624'				ERRHRD	346.,ERR019,MSG003			: NO, REPORT ERROR
10483	053624'	104456						TRAP	C\$ERHRD

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10484 053626' 000532          .WORD 346
10485 053630' 017316'        .WORD ERRO19
10486 053632' 015114'        .WORD MSG003
10487 053634'                ESCAPE TST          ; AND ABORT TEST
10488 053634' 104410          TRAP C$ESCAPE
10489 053636' 001256          .WORD L10053-.
10490
10491 053640' 004737 023434' 330$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
10492                                ; ERROR ?
10493 053644' 103006          BCC 335$
10494 053646'                ERRHRD 347.,ERR006,MSG003 ; YES, REPORT ERROR
10495 053646' 104456          TRAP C$ERHRD
10496 053650' 000533          .WORD 347
10497 053652' 016206'        .WORD ERRO06
10498 053654' 015114'        .WORD MSG003
10499 053656'                ESCAPE TST          ; AND ABORT TEST
10500 053656' 104410          TRAP C$ESCAPE
10501 053660' 001234          .WORD L10053-.
10502
10503 053662' 062702 000006 335$: ADD #6,R2          ; UPDATE R2
10504 053666' 005301          DEC R1          ; DONE 10 LOOPBACKS
10505 053670' 001220          BNE 250$        ; NO
10506
10507                ;REPEAT WITH COMPLEMENTED MULTICAST ADDRESS LIST
10508
10509                ;WRITE MULTICAST ADDRESS LIST
10510 053672' 012705 011152' 340$: MOV #WTMULA,R5          ; DEFAULT WRITE MULTICAST ADDR FUNC
10511 053676' 004737 024630' JSR PC,LDPCBB    ; LOAD FUNCTION -> PCBB
10512 053702' 012705 012416' MOV #MULTLC,R5  ; LOAD LIST INTO UDBB
10513 053706' 012700 000036 MOV #30.,R0     ; LOAD 30 ENTRIES
10514 053712' 004737 025030' JSR PC,LDUDBB   ; MULTICAST LIST -> UDBB
10515 053716' 012777 000002' 124302 MOV #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
10516 053724' 004737 022546' JSR PC,CHKDNI   ; D:I ?
10517 053730' 103006          BCC 350$        ; YES
10518 053732'                ERRHRD 348.,ERR010,MSG003 ; NO, REPORT ERROR
10519 053732' 104456          TRAP C$ERHRD
10520 053734' 000534          .WORD 348
10521 053736' 016506'        .WORD ERRO10
10522 053740' 015114'        .WORD MSG003
10523 053742'                ESCAPE TST          ; AND ABORT TEST
10524 053742' 104410          TRAP C$ESCAPE
10525 053744' 001150          .WORD L10053-.
10526
10527 053746' 004737 023434' 350$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
10528                                ; ERROR ?
10529 053752' 103006          BCC 355$
10530 053754'                ERRHRD 349.,ERR006,MSG003 ; YES, REPORT ERROR
10531 053754' 104456          TRAP C$ERHRD
10532 053756' 000535          .WORD 349
10533 053760' 016206'        .WORD ERRO06
10534 053762' 015114'        .WORD MSG003
10535 053764'                ESCAPE TST          ; AND ABORT TEST
10536 053764' 104410          TRAP C$ESCAPE
10537 053766' 001126          .WORD L10053-.
10538
10539                ;DO TEN LOOPS WITH DEST ADDR = NEW COMPLEMENTED MULTICAST ADDRESS
    
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10540
10541 053770' 012701 000012'
10542 053774' 012702 012416'
10543 054000' 012703 013012'
10544
10545
10546 054004' 012705 011542'
10547 054010' 004737 024734'
10548 054014' 012705 011342'
10549 054020' 004737 024676'
10550
10551
10552 054024' 010205
10553 054026' 004737 024602'
10554 054032' 004737 025230'
10555 054036' 012777 000004' 124162
10556 054044' 004737 022546'
10557 054050' 103006
10558 054052'
10559 054052' 104456
10560 054054' 000536
10561 054056' 016637'
10562 054060' 015114'
10563 054062'
10564 054062' 104410
10565 054064' 001030
10566
10567 054066' 004737 023434'
10568
10569 054072' 103006
10570 054074'
10571 054074' 104456
10572 054076' 000537
10573 054100' 016206'
10574 054102' 015114'
10575 054104'
10576 054104' 104410
10577 054106' 001006
10578
10579 054110' 004737 023306'
10580 054114' 103006
10581 054116'
10582 054116' 104456
10583 054120' 000540
10584 054122' 016720'
10585 054124' 015114'
10586 054126'
10587 054126' 104410
10588 054130' 000764
10589
10590 054132' 004737 023616'
10591
10592 054136' 103006
10593 054140'
10594 054140' 104456
10595 054142' 000541

355$: MOV #10.,R1 ; DO LOOP = TEN
      MOV #MULTLC,R2 ; R2 = COMPLIMENTED ADDRESS LIST
      MOV #CRC22B,R3 ; R3 POINTS TO EXPECTED CRC TABLE

;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 R2,R5 ; POINT TO DESTINATION ADDRESS
      JSR PC,LDDEST ; LOAD DEST
      JSR PC,SETBUF ; SET UP BUFFERS
      MOV #START,@PCSR0 ; ISSUE START PORT COMMAND
      JSR PC,CHKDNI ; DNI?
      BCC 370$ ; YES
      ERRHRD 350.,ERR012,MSG003 ; NO, REPORT ERROR

TRAP C$ERHRD
.WORD 350
.WORD ERR012
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C$ESCAPE
.WORD L10053-.

370$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
      ; ERROR ?
      BCC 380$ ; NO
      ERRHRD 351.,ERR006,MSG003 ; YES, REPORT ERROR

TRAP C$ERHRD
.WORD 351
.WORD ERR006
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C$ESCAPE
.WORD L10053-.

380$: JSR PC,CHKTXI ; TXI ?
      BCC 390$ ; YES
      ERRHRD 352.,ERR013,MSG003 ; NO, REPORT ERROR

TRAP C$ERHRD
.WORD 352
.WORD ERR013
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C$ESCAPE
.WORD L10053-.

390$: JSR PC,CLRTXI ; WRITE ONE TO CLEAR TXI
      ; ERROR ?
      BCC 400$ ; NO
      ERRHRD 353.,ERR014,MSG003 ; YES, REPORT ERROR

TRAP C$ERHRD
.WORD 353
  
```

HARDWARE TESTS MACY11 30(1046) 11-JAN-83 12:03 PAGE 223
CZUABA.MAC 10-JAN-83 12:46 TEST 22: MULTICAST ADDRESS TEST

```

10596 054144' 016751' .WORD ERR014
10597 054146' 015114' .WORD MSG003
10598 054150' ESCAPE TST ; AND ABORT TEST
10599 054150' 104410 TRAP C$ESCAPE
10600 054152' 000742 .WORD L10053-.
10601
10602 054154' 012705 000572' 400$: MOV #TDRB,R5 ; CHECK TDRB OWNERSHIP
10603 054160' 004737 022634' JSR PC,CHKOWN ; OWN = PORT DRIVER ?
10604 054164' 103006 BCC 410$ ; YES
10605 054166' ERRHRD 354.,ERR018 ; NO, REPORT ERROR
10606 054166' 104456 TRAP C$ERRHD
10607 054170' 000542 .WORD 354
10608 054172' 017216' .WORD ERR018
10609 054174' 000000 .WORD 0
10610 054176' ESCAPE TST ; AND ABORT TEST
10611 054176' 104410 TRAP C$ESCAPE
10612 054200' 000714 .WORD L10053-.
10613
10614 054202' 012705 012512' 410$: MOV #TDR14A,R5 ; POINT TO EXPECTED TDRB
10615 054206' 004737 025140' JSR PC,LDXTDR ; LOAD INTO XTDRBO YABLE
10616 054212' 012705 000572' MOV #TDRB,R5 ; CHECK TDRB
10617 054216' 004737 023220' JSR PC,CHKTDR ; ERRORS ?
10618 054222' 103006 BCC 420$ ; NO
10619 054224' ERRHRD 355.,ERR020,MSG005 ; YES, REPORT ERROR
10620 054224' 104456 TRAP C$ERRHD
10621 054226' 000543 .WORD 355
10622 054230' 017376' .WORD ERR020
10623 054232' 015220' .WORD MSG005
10624 054234' ESCAPE TST ; AND ABORT TEST
10625 054234' 104410 TRAP C$ESCAPE
10626 054236' 000656 .WORD L10053-.
10627
10628 054240' 004737 023054' 420$: JSR PC,CHKRXI ; RXI ?
10629 054244' 103006 BCC 430$ ; YES
10630 054246' ERRHRD 356.,ERR015,MSG003 ; NO, REPORT ERROR
10631 054246' 104456 TRAP C$ERRHD
10632 054250' 000544 .WORD 356
10633 054252' 017017' .WORD ERR015
10634 054254' 015114' .WORD MSG003
10635 054256' ESCAPE TST ; AND ABORT TEST
10636 054256' 104410 TRAP C$ESCAPE
10637 054260' 000634 .WORD L10053-.
10638
10639 054262' 004737 023550' 430$: JSR PC,CLRRXI ; WRITE ONE TO CLEAR RXI
10640 BCC 440$ ; ERROR ?
10641 054266' 103006 ERRHRD 357.,ERR016,MSG003 ; NO
10642 054270' ; YES, REPORT ERROR
10643 054270' 104456 TRAP C$ERRHD
10644 054272' 000545 .WORD 357
10645 054274' 017050' .WORD ERR016
10646 054276' 015114' .WORD MSG003
10647 054300' ESCAPE TST ; AND ABORT TEST
10648 054300' 104410 TRAP C$ESCAPE
10649 054302' 000612 .WORD L10053-.
10650
10651 054304' 012705 000632' 440$: MOV #RDRB,R5 ; CHECK RDRB OWNERSHIP

```


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 CZUABA.MAC 10-JAN-83 12:46 TEST 22: MULTICAST ADDRESS TEST

10652	054310'	004737	022634'		JSR	PC,CHKOWN		: OWN = PORT DRIVER ?		
10653	054314'	103006			BCC	450\$: YES		
10654	054316'				ERRHRD	358.,ERR017		: NO, REPORT ERROR		
10655	054316'	104456							TRAP	C\$ERHRD
10656	054320'	000546							.WORD	358
10657	054322'	017116'							.WORD	ERR017
10658	054324'	000000							.WORD	0
10659	054326'				ESCAPE	TST		: AND ABORT TEST		
10660	054326'	104410							TRAP	C\$ESCAPE
10661	054330'	000564							.WORD	L10053-
10662										
10663	054332'	012705	012622'	450\$:	MOV	#RDR14A,R5		: POINT TO EXPECTED RDRB		
10664	054336'	004737	025110'		JSR	PC,LDXRDR		: LOAD INTO XRDRB0 TABLE		
10665	054342'	012705	000632'		MOV	#RDRB,R5		: CHECK RDRB		
10666	054346'	004737	022754'		JSR	PC,CHKRDR		: ERRORS ?		
10667	054352'	103006			BCC	460\$: NO		
10668	054354'				ERRHRD	359.,ERR021,MSG006		: YES, REPORT ERROR		
10669	054354'	104456							TRAP	C\$ERHRD
10670	054356'	000547							.WORD	359
10671	054360'	017457'							.WORD	ERR021
10672	054362'	015362'							.WORD	MSG006
10673	054364'				ESCAPE	TST		: AND ABORT TEST		
10674	054364'	104410							TRAP	C\$ESCAPE
10675	054366'	000526							.WORD	L10053-
10676										
10677										
10678	054370'	012705	000070	460\$:	MOV	#56.,R5		: COMPARE 56 WORDS OF DATA		
10679	054374'	004737	023732'		JSR	PC,CMPCAT		: DATA COMPARE ERROR ?		
10680	054400'	103006			BCC	470\$: NO		
10681	054402'				ERRHRD	360.,ERR022,MSG007		: YES, REPORT ERROR		
10682	054402'	104456							TRAP	C\$ERHRD
10683	054404'	000550							.WORD	360
10684	054406'	017540'							.WORD	ERR022
10685	054410'	015524'							.WORD	MSG007
10686	054412'				ESCAPE	TST		: AND ABORT TEST		
10687	054412'	104410							TRAP	C\$ESCAPE
10688	054414'	000500							.WORD	L10053-
10689										
10690	054416'	010305		470\$:	MOV	R3,R5		: POINT TO EXPECTED CRC TABLE		
10691	054420'	004737	025064'		JSR	PC,LDXCRC		: LOAD INTO XCRC TABLE		
10692	054424'	012705	005266'		MOV	#RBUF+124.,R5		: CHECK CRC		
10693	054430'	004737	024012'		JSR	PC,CMPCRC		: ERRORS ?		
10694	054434'	103006			BCC	480\$: NO		
10695	054436'				ERRHRD	361.,ERR023,MSG008		: YES, REPORT ERROR		
10696	054436'	104456							TRAP	C\$ERHRD
10697	054440'	000551							.WORD	361
10698	054442'	017607'							.WORD	ERR023
10699	054444'	015556'							.WORD	MSG008
10700	054446'				ESCAPE	TST		: AND ABORT TEST		
10701	054446'	104410							TRAP	C\$ESCAPE
10702	054450'	000444							.WORD	L10053-
10703										
10704	054452'	012777	000017	123546	480\$:	MOV	#STOP,@PCSR0		: ISSUE STOP PORT COMMAND	
10705	054460'	004737	022546'		JSR	PC,CHKDNI		: DNI ?		
10706	054464'	103006			BCC	490\$: YES		
10707	054466'				ERRHRD	362.,ERR019,MSG003		: NO, REPORT ERROR		

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10708	054466'	104456				TRAP	C\$ERHRD
10709	054470'	000552				.WORD	362
10710	054472'	017316'				.WORD	ERR019
10711	054474'	015114'				.WORD	MSG003
10712	054476'			ESCAPE	TST	:	AND ABORT TEST
10713	054476'	104410				TRAP	C\$ESCAPE
10714	054500'	000414				.WORD	L10053-
10715							
10716	054502'	004737	023434'	490\$:	JSR	PC,CLRDN1	: WRITE ONE TO CLEAR DNI
10717							: ERROR ?
10718	054506'	103006			BCC	495\$: NO
10719	054510'				ERRHRD	363.,ERR006,MSG003	: YES, REPORT ERROR
10720	054510'	104456					TRAP
10721	054512'	000553				.WORD	363
10722	054514'	016206'				.WORD	ERR006
10723	054516'	015114'				.WORD	MSG003
10724	054520'			ESCAPE	TST	:	AND ABORT TEST
10725	054520'	104410				TRAP	C\$ESCAPE
10726	054522'	000372				.WORD	L10053-
10727							
10728	054524'	062702	000006	495\$:	ADD	#6,R2	: UPDATE R2
10729	054530'	062703	000004		ADD	#4,R3	: UPDATE R3
10730	054534'	005301			DEC	R1	: DONE TEN LOOPBACKS ?
10731	054536'	001402			BEQ	496\$: YES
10732	054540'	000137	054004'		JMP	360\$: NO
10733							
10734							: DO TEN LOOPS WITH DEST ADDR = COMPLIMENT OF NEW COMPLIMENTED ADDRESS LIST
10735							
10736	054544'	012701	000012	496\$:	MOV	#10.,R1	: DO LOOP = TEN
10737	054550'	012702	012322'		MOV	#MULTL,R2	: POINT TO MULTICAST LIST
10738							
10739							: SET UP RINGS FOR ONE BUFFER LOOPBACK
10740	054554'	012705	011542'	500\$:	MOV	#TDRB1A,R5	: DEFAULT ONE BUFFER TRANSMIT RING
10741	054560'	004737	024734'		JSR	PC,LDTDRB	: LOAD TDRB
10742	054564'	012705	011342'		MOV	#RDRB1A,R5	: DEFAULT ONE BUFFER RECEIVE RING
10743	054570'	004737	024676'		JSR	PC,LDRDRB	: LOAD RDRB
10744							
10745							: SET UP BUFFERS AND START
10746	054574'	010205			MOV	R2,R5	: COMPLIMENT DESTINATION ADDRESS
10747	054576'	004737	024602'		JSR	PC,LDDDEST	: LOAD DEST
10748	054602'	004737	025230'		JSR	PC,SETBUF	: SET UP BUFFERS
10749	054606'	012777	000004'	123412	MOV	#START,@PCSR0	: ISSUE START PORT COMMAND
10750	054614'	004737	022546'		JSR	PC,CHKDNI	: DNI?
10751	054620'	103006			BCC	510\$: YES
10752	054622'				ERRHRD	364.,ERR012,MSG003	: NO, REPORT ERROR
10753	054622'	104456					TRAP
10754	054624'	000554				.WORD	364
10755	054626'	016637'				.WORD	ERR012
10756	054630'	015114'				.WORD	MSG003
10757	054632'			ESCAPE	TST	:	AND ABORT TEST
10758	054632'	104410				TRAP	C\$ESCAPE
10759	054634'	000260				.WORD	L10053-
10760							
10761	054636'	004737	023434'	510\$:	JSR	PC,CLRDN1	: WRITE ONE TO CLEAR DNI
10762							: ERROR ?
10763	054642'	103006			BCC	520\$: NO

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10764	054644'			ERRHRD	365.,ERP006,MSG003	:	YES, REPORT ERROR		
10765	054644'	104456						TRAP	C\$ERHRD
10766	054646'	000555						.WORD	365
10767	054650'	016206'						.WORD	ERR006
10768	054652'	015114'						.WORD	MSG003
10769	054654'			ESCAPE	TST	:	AND ABORT TEST		
10770	054654'	104410						TRAP	C\$ESCAPE
10771	054656'	000236						.WORD	L10053-
10772									
10773	054660'	004737	023306'	§20\$:	JSR	PC,CHKTXI	:	TXI ?	
10774	054664'	103006			BCC	530\$:	YES	
10775	054666'				ERRHRD	366.,ERR013,MSG003	:	NO, REPORT ERROR	
10776	054666'	104456						TRAP	C\$ERHRD
10777	054670'	000556						.WORD	366
10778	054672'	016720'						.WORD	ERR013
10779	054674'	015114'						.WORD	MSG003
10780	054676'			ESCAPE	TST	:	AND ABORT TEST		
10781	054676'	104410						TRAP	C\$ESCAPE
10782	054700'	000214						.WORD	L10053-
10783									
10784	054702'	004737	023616'	§30\$:	JSR	PC,CLRTXI	:	WRITE ONE TO CLEAR TXI	
10785							:	ERROR ?	
10786	054706'	103006			BCC	540\$:	NO	
10787	054710'				ERRHRD	367.,ERR014,MSG003	:	YES, REPORT ERROR	
10788	054710'	104456						TRAP	C\$ERHRD
10789	054712'	000557						.WORD	367
10790	054714'	016751'						.WORD	ERR014
10791	054716'	015114'						.WORD	MSG003
10792	054720'			ESCAPE	TST	:	AND ABORT TEST		
10793	054720'	104410						TRAP	C\$ESCAPE
10794	054722'	000172						.WORD	L10053-
10795									
10796	054724'	012705	000572'	§40\$:	MOV	#TDRB,R5	:	CHECK TDRB OWNERSHIP	
10797	054730'	004737	022634'		JSR	PC,OWN	:	OWN = PORT DRIVER ?	
10798	054734'	103006			BCC	550\$:	YES	
10799	054736'				ERRHRD	368.,ERR018	:	NO, REPORT ERROR	
10800	054736'	104456						TRAP	C\$ERHRD
10801	054740'	000560						.WORD	368
10802	054742'	017216'						.WORD	ERR018
10803	054744'	000000						.WORD	0
10804	054746'			ESCAPE	TST	:	AND ABORT TEST		
10805	054746'	104410						TRAP	C\$ESCAPE
10806	054750'	000144						.WORD	L10053-
10807									
10808	054752'	012705	012602'	§50\$:	MOV	#TDR21X,R5	:	POINT TO EXPECTED TDRB	
10809	054756'	004737	025140'		JSR	PC,LDXTDR	:	LOAD INTO XTDRB0 TABLE	
10810	054762'	012705	000572'		MOV	#TDRB,R5	:	CHECK TDRB	
10811	054766'	004737	023220'		JSR	PC,CHKTDR	:	ERRORS ?	
10812	054772'	103006			BCC	560\$:	NO	
10813	054774'				ERRHRD	369.,ERR020,MSG005	:	YES, REPORT ERROR	
10814	054774'	104456						TRAP	C\$ERHRD
10815	054776'	000561						.WORD	369
10816	055000'	017376'						.WORD	ERR020
10817	055002'	015220'						.WORD	MSG005
10818	055004'			ESCAPE	TST	:	AND ABORT TEST		
10819	055004'	104410						TRAP	C\$ESCAPE

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TEST 23: PROMISCUOUS ADDRESS MODE TEST

.SBTTL TEST 23: PROMISCUOUS ADDRESS MODE TEST

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055116'
055116'
055116' 004737 025334'
055122' 103025
055124' 012777 000040 123074
055132' 004737 022546'
055136' 103006
055140'
055140' 104456
055142' 000565
055144' 016106'
055146' 015114'

THIS TEST VERIFIES THAT PROMISCUOUS ADDRESSING MODE IS OPERATIONAL.
A WRITE PHYSICAL ADDRESS FUNCTION IS USED TO SET THE DEUNA'S PHYSICAL ADDRESS.
A WRITE MULTICAST ADDRESS LIST FUNCTION IS USED TO SET THE DEUNA'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

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #RSET,@PCSR0 ; YES, RESET DEUNA
JSR PC,CHKDNI ; DNI ?
BCC 20\$; YES
ERRHRD 373.,ERR004,MSG003 ; NO, REPORT ERROR

TRAP CSER4RD
.WORD 373
.WORD ERRJ04
.WORD MSG003

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10920 055150'          ESCAPE TST          : AND ABORT TEST
10921 055150' 104410          TRAP      C$ESCAPE
10922 055152' 003342          .WORD    L10054-.
10923
10924 055154' 004737 023434' 20$: JSR      PC,CLRDNI          : WRITE ONE TO CLEAR DNI
10925                                     : ERROR ?
10926 055160' 103006          BCC      30$
10927 055162'          ERRHRD 374.,ERR006,MSG003 : NO
10928 055162' 104456          : YES, REPORT ERROR
10929 055164' 000566          TRAP      C$ERHRD
10930 055166' 016206'          .WORD    374
10931 055170' 015114'          .WORD    ERR006
10932 055172'          ESCAPE TST          : AND ABORT TEST
10933 055172' 104410          TRAP      C$ESCAPE
10934 055174' 003320          .WORD    L10054-.
10935
10936 055176' 004737 024660' 30$: JSR      PC,LDPCSR          : ADDRESS OF PCBB -> PCSR2!3
10937 055202' 012777 000001 123016 MOV      #GETPCB,@PCSR0 : ISSUE GET_PCBB PORT COMMAND
10938 055210' 004737 022546' JSR      PC,CHKDNI          : DNI?
10939 055214' 103006          BCC      40$
10940 055216'          ERRHRD 375.,ERR009,MSG003 : YES
10941 055216' 104456          : NO, REPORT ERROR
10942 055220' 000567          TRAP      C$ERHRD
10943 055222' 016422'          .WORD    375
10944 055224' 015114'          .WORD    ERR009
10945 055226'          ESCAPE TST          : AND ABORT TEST
10946 055226' 104410          TRAP      C$ESCAPE
10947 055230' 003264          .WORD    L10054-.
10948
10949 055232' 004737 023434' 40$: JSR      PC,CLRDNI          : WRITE ONE TO CLEAR DNI
10950                                     : ERROR ?
10951 055236' 103006          BCC      50$
10952 055240'          ERRHRD 376.,ERR006,MSG003 : NO
10953 055240' 104456          : YES, REPORT ERROR
10954 055242' 000570          TRAP      C$ERHRD
10955 055244' 016206'          .WORD    376
10956 055246' 015114'          .WORD    ERR006
10957 055250'          ESCAPE TST          : AND ABORT TEST
10958 055250' 104410          TRAP      C$ESCAPE
10959 055252' 003242          .WORD    L10054-.
10960
10961                                     : WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
10962 055254' 012705 011232' 50$: MOV      #WTMODE,R5          : DEFAULT WRITE MODE FUNCTION
10963 055260' 004737 024630' JSR      PC,LDPCBB          : LOAD FUNCTION -> PCBB
10964 055264' 012777 000002 122734 MOV      #GETCMD,@PCSR0 : ISSUE GET_CMD PORT COMMAND
10965 055272' 004737 022546' JSR      PC,CHKDNI          : DNI ?
10966 055276' 103006          BCC      60$
10967 055300'          ERRHRD 377.,ERR010,MSG003 : YES
10968 055300' 104456          : NO, REPORT ERROR
10969 055302' 000571          TRAP      C$ERHRD
10970 055304' 016506'          .WORD    377
10971 055306' 015114'          .WORD    ERR010
10972 055310'          ESCAPE TST          : AND ABORT TEST
10973 055310' 104410          TRAP      C$ESCAPE
10974 055312' 003202          .WORD    L10054-.
10975

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 CZUABA.MAC 10-JAN-83 12:46 TEST 23: PROMISCUOUS ADDRESS MODE TEST

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10976 055314' 004737 023434' 60$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
10977 ; ERROR ?
10978 055320' 103006 BCC 70$ ; NO
10979 055322' ERRHRD 378.,ERR006,MSG003 ; YES, REPORT ERROR
10980 055322' 104456 TRAP C$ERHRD
10981 055324' 000572 .WORD 378
10982 055326' 016206' .WORD ERR006
10983 055330' 015114' .WORD MSG003
10984 055332' ESCAPE TST ; AND ABORT TEST
10985 055332' 104410 TRAP C$ESCAPE
10986 055334' 003160 .WORD L10054-.
10987
10988 ;WRITE RING FORMAT
10989 055336' 012705 011172' 70$: MOV #WTRNGS,R5 ; DEFAULT WRITE RING FORMAT FUNCTION
10990 055342' 004737 024630' JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
10991 055346' 012705 011312' MOV #RFRMT,R5 ; DEFAULT RING FORMAT
10992 055352' 012700 000006 MOV #6,R0 ; FORMAT = SIX WORDS
10993 055356' 004737 025030' JSR PC,LDUDBB ; LOAD RING FORMAT -> UDBB
10994 055362' 012777 000002' 122636 MOV #GETCMD,@PCSRO ; ISSUE GET_CMD PORT COMMAND
10995 055370' 00' 37 022546' JSR PC,CHKDNI ; DNI ?
10996 055374' 10,J06 BCC 80$ ; YES
10997 055376' ERRHRD 379.,ERR010,MSG003 ; NO, REPORT ERROR
10998 055376' 104456 TRAP C$ERHRD
10999 055400' 000573 .WORD 379
11000 055402' 016506' .WORD ERR010
11001 055404' 015114' .WORD MSG003
11002 055406' ESCAPE TST ; AND ABORT TEST
11003 055406' 104410 TRAP C$ESCAPE
11004 055410' 003104 .WORD L10054-.
11005
11006 055412' 004737 023434' 80$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
11007 ; ERROR ?
11008 055416' 103006 BCC 90$ ; NO
11009 055420' ERRHRD 380.,ERR006,MSG003 ; YES, REPORT ERROR
11010 055420' 104456 TRAP C$ERHRD
11011 055422' 000574 .WORD 380
11012 055424' 016206' .WORD ERR006
11013 055426' 015114' .WORD MSG003
11014 055430' ESCAPE TST ; AND ABORT TEST
11015 055430' 104410 TRAP C$ESCAPE
11016 055432' 003062 .WORD L10054-.
11017
11018 ;WRITE PHYSICAL ADDRESS
11019 055434' 012705 011132' 90$: MOV #WTPHYA,R5 ; DEFAULT WRITE PHYSICAL ADDR FUNC
11020 055440' 004737 024630' JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
11021 ;LOAD DEFAULT PHYSICAL ADDRESS
11022 055444' 012703 012306' MOV #ADR21,R3 ; POINT TO PHYSICAL ADDRESS
11023 055450' 012704 000254' MOV #PCBB+2,R4 ; POINT TO PCBB + 2
11024 055454' 012324 MOV (R3)+,(R4)+ ; LOAD ADDRESS
11025 055456' 012324 MOV (R3)+,(R4)+
11026 055460' 012324 MOV (R3)+,(R4)+
11027 055462' 012777 000002' 122536 MOV #GETCMD,@PCSRO ; ISSUE GET_CMD PORT COMMAND
11028 055470' 004737 022546' JSR PC,CHKDNI ; DNI ?
11029 055474' 103006 BCC 100$ ; YES
11030 055476' ERRHRD 381.,ERR010,MSG003 ; NO, REPORT ERROR
11031 055476' 104456 TRAP C$ERHRD

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11032 055500' 000575          .WORD 381
11033 055502' 016506'          .WORD ERR010
11034 055504' 015114'          .WORD MSG003
11035 055506'                ESCAPE TST          ; AND ABORT TEST
11036 055506' 104410          TRAP C$ESCAPE
11037 055510' 003004          .WORD L10054-.
11038
11039 055512' 004737 023434' 100$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
11040                                ; ERROR ?
11041 055516' 103006          BCC 102$
11042 055520'                ERRHRD 382.,ERR006,MSG003 ; YES, REPORT ERROR
11043 055520' 104456          TRAP C$ERHRD
11044 055522' 000576          .WORD 382
11045 055524' 016206'          .WORD ERR006
11046 055526' 015114'          .WORD MSG003
11047 055530'                ESCAPE TST          ; AND ABORT TEST
11048 055530' 104410          TRAP C$ESCAPE
11049 055532' 002762          .WORD L10054-.
11050
11051                                ; WRITE MULTICAST ADDRESS LIST
11052 055534' 012705 011152' 102$: MOV #WTMULA,R5          ; DEFAULT WRITE MULTICAST ADDR FUNC
11053 055540' 004737 024630' JSR PC,LDPCBB          ; LOAD FUNCTION -> PCBB
11054 055544' 012705 012322' MOV #MULTL,R5          ; LOAD LIST INTO UDBB
11055 055550' 012700 000036 MOV #30.,R0           ; LOAD 30 ENTRIES
11056 055554' 004737 025030' JSR PC,LDUDBB          ; MULTICAST LIST -> UDBB
11057 055560' 012777 000002 122440 MOV #GETCMD,@PCSR0    ; ISSUE GET_CMD PORT COMMAND
11058 055566' 004737 022546' JSR PC,CHKDNI          ; DNI ?
11059 055572' 103006          BCC 104$
11060 055574'                ERRHRD 383.,ERR010,MSG003 ; NO, REPORT ERROR
11061 055574' 104456          TRAP C$ERHRD
11062 055576' 000577          .WORD 383
11063 055600' 016506'          .WORD ERR010
11064 055602' 015114'          .WORD MSG003
11065 055604'                ESCAPE TST          ; AND ABORT TEST
11066 055604' 104410          TRAP C$ESCAPE
11067 055606' 002706          .WORD L10054-.
11068
11069 055610' 004737 023434' 104$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
11070                                ; ERROR ?
11071 055614' 103006          BCC 110$
11072 055616'                ERRHRD 384.,ERR006,MSG003 ; YES, REPORT ERROR
11073 055616' 104456          TRAP C$ERHRD
11074 055620' 000600          .WORD 384
11075 055622' 016206'          .WORD ERR006
11076 055624' 015114'          .WORD MSG003
11077 055626'                ESCAPE TST          ; AND ABORT TEST
11078 055626' 104410          TRAP C$ESCAPE
11079 055630' 002664          .WORD L10054-.
11080
11081                                ; DESTINATION ADDRESS = PHYSICAL ADDRESS
11082
11083                                ; SET UP RINGS FOR ONE BUFFER LOOPBACK
11084 055632' 012705 011542' 110$: MOV #TDRB1A,R5          ; DEFAULT ONE BUFFER TRANSMIT RING
11085 055636' 004737 024734' JSR PC,LDTDRB          ; LOAD TDRB
11086 055642' 012705 011342' MOV #RDRB1A,R5          ; DEFAULT ONE BUFFER RECEIVE RING
11087 055646' 004737 024676' JSR PC,LDRDRB          ; LOAD RDRB

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11088
11089
11090 055652' 012705 012306'      ;SET UP BUFFERS AND START
11091 055656' 004737 024602'      MOV #ADR21,P5          ; POINT TO DESTINATION ADDRESS
11092 055662' 004737 025230'      JSR PC,LDDEST        ; LOAD DEST
11093 055666' 012777 000004' 122332 JSR PC,SETBUF        ; SET UP BUFFERS
11094 055674' 004737 022546'      MOV #START,@PCSR0    ; ISSUE START PORT COMMAND
11095 055700' 103006          JSR PC,CHKDNI        ; DNI?
11096 055702'          BCC 120$             ; YES
11097 055702' 104456          ERRHRD 385.,ERR012,MSG003 ; NO, REPORT ERROR
11098 055704' 000601          TRAP C$ERHRD
11099 055706' 016637'          .WORD 385
11100 055710' 015114'          .WORD ERR012
11101 055712'          .WORD MSG003
11102 055712' 104410          ESCAPE TST          ; AND ABORT TEST
11103 055714' 002600          TRAP C$ESCAPE
11104          .WORD L10054-.
11105 055716' 004737 023434'      ;120$: JSR PC,CLRDNI   ; WRITE ONE TO CLEAR DNI
11106          BCC 130$             ; ERROR ?
11107 055722' 103006          ERRHRD 386.,ERR006,MSG003 ; NO
11108 055724'          ; YES, REPORT ERROR
11109 055724' 104456          TRAP C$ERHRD
11110 055726' 000602'          .WORD 386
11111 055730' 016206'          .WORD ERR006
11112 055732' 015114'          .WORD MSG003
11113 055734'          ESCAPE TST          ; AND ABORT TEST
11114 055734' 104410          TRAP C$ESCAPE
11115 055736' 002556          .WORD L10054-.
11116
11117 055740' 004737 023306'      ;130$: JSR PC,CHKTXI   ; TXI ?
11118 055744' 103006          BCC 140$             ; YES
11119 055746'          ERRHRD 387.,ERR013,MSG003 ; NO, REPORT ERROR
11120 055746' 104456          TRAP C$ERHRD
11121 055750' 000603'          .WORD 387
11122 055752' 016720'          .WORD ERR013
11123 055754' 015114'          .WORD MSG003
11124 055756'          ESCAPE TST          ; AND ABORT TEST
11125 055756' 104410          TRAP C$ESCAPE
11126 055760' 002534          .WORD L10054-.
11127
11128 055762' 004737 023616'      ;140$: JSR PC,CLRTXI   ; WRITE ONE TO CLEAR TXI
11129          BCC 150$             ; ERROR ?
11130 055766' 103006          ERRHRD 388.,ERR014,MSG003 ; NO
11131 055770'          ; YES, REPORT ERROR
11132 055770' 104456          TRAP C$ERHRD
11133 055772' 000604'          .WORD 388
11134 055774' 016751'          .WORD ERR014
11135 055776' 015114'          .WORD MSG003
11136 056000'          ESCAPE TST          ; AND ABORT TEST
11137 056000' 104410          TRAP C$ESCAPE
11138 056002' 002512          .WORD L10054-.
11139
11140 056004' 012705 000572'      ;150$: MOV #TDRB,R5     ; CHECK TDRB OWNERSHIP
11141 056004' 004737 022634'      JSR PC,CHKOWN        ; OWN = PORT DRIVER ?
11142 056014' 103006          BCC 160$             ; YES
11143 056016'          ERRHRD 389.,ERR018   ; NO, REPORT ERROR

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11144	056016*	104456				TRAP	C\$ERHRD
11145	056020*	000605				.WORD	389
11146	056022*	017216*				.WORD	ERR018
11147	056024*	000000				.WORD	0
11148	056026*			ESCAPE	TST		; AND ABORT TEST
11149	056026*	104410				TRAP	C\$ESCAPE
11150	056030*	002464				.WORD	L10054-
11151							
11152	056032*	012705	012512*	i60\$:	MOV	#TDR14A,R5	; POINT TO EXPECTED TDRB
11153	056036*	004737	025140*		JSR	PC,LDXTDR	; LOAD INTO XTDRB0 TABLE
11154	056042*	012705	000572*		MOV	#TDRB,R5	; CHECK TDRB
11155	056046*	004737	023220*		JSR	PC,CHKTDR	; ERRORS ?
11156	056052*	103006			BCC	170\$; NO
11157	056054*				ERRHRD	390.,ERR020,MSG005	; YES, REPORT ERROR
11158	056054*	104456				TRAP	C\$ERHRD
11159	056056*	000606				.WORD	390
11160	056060*	017376*				.WORD	ERR020
11161	056062*	015220*				.WORD	MSG005
11162	056064*			ESCAPE	TST		; AND ABORT TEST
11163	056064*	104410				TRAP	C\$ESCAPE
11164	056066*	002426				.WORD	L10054-
11165							
11166	056070*	004737	023054*	i70\$:	JSR	PC,CHKRXI	; RXI ?
11167	056074*	103006			BCC	180\$; YES
11168	056076*				ERRHRD	391.,ERR015,MSG003	; NO, REPORT ERROR
11169	056076*	104456				TRAP	C\$ERHRD
11170	056100*	000607				.WORD	391
11171	056102*	017017*				.WORD	ERR015
11172	056104*	015114*				.WORD	MSG003
11173	056106*			ESCAPE	TST		; AND ABORT TEST
11174	056106*	104410				TRAP	C\$ESCAPE
11175	056110*	002404				.WORD	L10054-
11176							
11177	056112*	004737	023550*	i80\$:	JSR	PC,CLRRXI	; WRITE ONE TO CLEAR RXI
11178							; ERROR ?
11179	056116*	103006			BCC	190\$; NO
11180	056120*				ERRHRD	392.,ERR016,MSG003	; YES, REPORT ERROR
11181	056120*	104456				TRAP	C\$ERHRD
11182	056122*	000610				.WORD	392
11183	056124*	017050*				.WORD	ERR016
11184	056126*	015114*				.WORD	MSG003
11185	056130*			ESCAPE	TST		; AND ABORT TEST
11186	056130*	104410				TRAP	C\$ESCAPE
11187	056132*	002362				.WORD	L10054-
11188							
11189	056134*	012705	000632*	i90\$:	MOV	#RDRB,R5	; CHECK RDRB OWNERSHIP
11190	056140*	004737	022634*		JSR	PC,CHKOWN	; OWN = PORT DRIVER ?
11191	056144*	103006			BCC	200\$; YES
11192	056146*				ERRHRD	393.,ERR017	; NO, REPORT ERROR
11193	056146*	104456				TRAP	C\$ERHRD
11194	056150*	000611				.WORD	393
11195	056152*	017116*				.WORD	ERR017
11196	056154*	000000				.WORD	0
11197	056156*			ESCAPE	TST		; AND ABORT TEST
11198	056156*	104410				TRAP	C\$ESCAPE
11199	056160*	002334				.WORD	L10054-

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11200
11201 056162' 012705 012622'      200$: MOV      #RDR14A,R5      ; POINT TO EXPECTED RDRB
11202 056166' 004737 025110'      JSR      PC,LDXRDR      ; LOAD INTO XRDRB0 TABLE
11203 056172' 012705 000632'      MOV      #RDRB,R5      ; CHECK RDRB
11204 056176' 004737 022754'      JSR      PC,CHKRDR      ; ERRORS ?
11205 056202' 103006                BCC      210$           ; NO
11206 056204'                        ERRHRD   394.,ERR021,MSG006 ; YES, REPORT ERROR
11207 056204' 104456                TRAP                                C$ERHRD
11208 056206' 000612                .WORD                                394
11209 056210' 017457'                .WORD                                ERR021
11210 056212' 015362'                .WORD                                MSG006
11211 056214'                        ESCAPE   TST           ; AND ABORT TEST
11212 056214' 104410                TRAP                                C$ESCAPE
11213 056216' 002276                .WORD                                L10054-.
11214
11215
11216 056220' 012705 000070      ; COMPARE RBUF WITH TBUF
11217 056224' 004737 023732'      210$: MOV      #56.,R5      ; COMPARE 56 WORDS OF DATA
11218 056230' 103006                JSR      PC,CMPDAT      ; DATA COMPARE ERROR ?
11219 056232'                        BCC      220$           ; NO
11220 056232' 104456                ERRHRD   395.,ERR022,MSG007 ; YES, REPORT ERROR
11221 056234' 000613                TRAP                                C$ERHRD
11222 056236' 017540'                .WORD                                395
11223 056240' 015524'                .WORD                                ERR022
11224 056242'                        .WORD                                MSG007
11225 056242' 104410                ESCAPE   TST           ; AND ABORT TEST
11226 056244' 002250                TRAP                                C$ESCAPE
11227                        .WORD                                L10054-.
11228 056246' 012705 012732'      220$: MOV      #CRC21A,R5     ; POINT TO EXPECTED CRC
11229 056252' 004737 025064'      JSR      PC,LDXCRC      ; LOAD INTO XCRC TABLE
11230 056256' 012705 005266'      MOV      #RBUF+124.,R5   ; CHECK CRC
11231 056262' 004737 024012'      JSR      PC,CMPCRC      ; ERRORS ?
11232 056266' 103006                BCC      230$           ; NO
11233 056270'                        ERRHRD   396.,ERR023,MSG008 ; YES, REPORT ERROR
11234 056270' 104456                TRAP                                C$ERHRD
11235 056272' 000614                .WORD                                396
11236 056274' 017607'                .WORD                                ERR023
11237 056276' 015556'                .WORD                                MSG008
11238 056300'                        ESCAPE   TST           ; AND ABORT TEST
11239 056300' 104410                TRAP                                C$ESCAPE
11240 056302' 002212                .WORD                                L10054-.
11241
11242 056304' 012777 000017 121714 230$: MOV      #STOP,@PCSR0    ; ISSUE STOP PORT COMMAND
11243 056312' 004737 022546'      JSR      PC,CHKDNI      ; DNI ?
11244 056316' 103006                BCC      240$           ; YES
11245 056320'                        ERRHRD   397.,ERR019,MSG003 ; NO, REPORT ERROR
11246 056320' 104456                TRAP                                C$ERHRD
11247 056322' 000615                .WORD                                397
11248 056324' 017316'                .WORD                                ERR019
11249 056326' 015114'                .WORD                                MSG003
11250 056330'                        ESCAPE   TST           ; AND ABORT TEST
11251 056330' 104410                TRAP                                C$ESCAPE
11252 056332' 002162                .WORD                                L10054-.
11253
11254 056334' 004737 023434'      240$: JSR      PC,CLRDN1    ; WRITE ONE TO CLEAR DNI
11255                        ; ERROR ?

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11256 056340' 103006          BCC 250$          : NO
11257 056342'          ERRHRD 398.,ERR006,MSG003 : YES, REPORT ERROR
11258 056342' 104456          TRAP C$ERHRD
11259 056344' 000616          .WORD 398
11260 056346' 016206'          .WORD ERR006
11261 056350' 015114'          .WORD MSG003
11262 056352'          ESCAPE TST          : AND ABORT TEST
11263 056352' 104410          TRAP C$ESCAPE
11264 056354' 002140          .WORD L10054-.
11265
11266          ;DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
11267
11268          ;SET UP RINGS FOR ONE BUFFER LOOPBACK
11269 056356' 012705 011542' 250$: MOV #TDRB1A,R5 : DEFAULT ONE BUFFER TRANSMIT RING
11270 056362' 004737 024734' JSR PC,LDTDRB : LOAD TDRB
11271 056366' 012705 011342' MOV #RDRB1A,R5 : DEFAULT ONE BUFFER RECEIVE RING
11272 056372' 004737 024676' JSR PC,LDRDRB : LOAD RDRB
11273
11274          ;SET UP BUFFERS AND START
11275 056376' 012705 012314' MOV #ADR21C,R5 : POINT TO COMPLEMENTED ADDRESS
11276 056402' 004737 024602' JSR PC,LDDEST : LOAD DEST
11277 056406' 004737 025230' JSR PC,SETBUF : SET UP BUFFERS
11278 056412' 012777 000004' 121606 MOV #START,@PCSR0 : ISSUF START PORT COMMAND
11279 056420' 004737 022546' JSR PC,CHKDNI : DNI?
11280 056424' 103006          BCC 260$          : YES
11281 056426'          ERRHRD 399.,ERR012,MSG003 : NO, REPORT ERRCR
11282 056426' 104456          TRAP C$ERHRD
11283 056430' 000617          .WORD 399
11284 056432' 016637'          .WORD ERR012
11285 056434' 015114'          .WORD MSG003
11286 056436'          ESCAPE TST          : AND ABORT TEST
11287 056436' 104410          TRAP C$ESCAPE
11288 056440' 002054          .WORD L10054-.
11289
11290 056442' 004737 023434' 260$: JSR PC,CLRDN1 : WRITE ONE TO CLEAR DNI
11291          : ERROR ?
11292 056446' 103006          BCC 270$          : NO
11293 056450'          ERRHRD 400.,ERR006,MSG003 : YES, REPORT ERROR
11294 056450' 104456          TRAP C$ERHRD
11295 056452' 000620          .WORD 400
11296 056454' 016206'          .WORD ERR006
11297 056456' 015114'          .WORD MSG003
11298 056460'          ESCAPE TST          : AND ABORT TEST
11299 056460' 104410          TRAP C$ESCAPE
11300 056462' 002032          .WORD L10054-.
11301
11302 056464' 004737 023306' 270$: JSR PC,CHKTXI : TXI ?
11303 056470' 103006          BCC 280$          : YES
11304 056472'          ERRHRD 401.,ERR013,MSG003 : NO, REPORT ERROR
11305 056472' 104456          TRAP C$ERHRD
11306 056474' 000621          .WORD 401
11307 056476' 016720'          .WORD ERR013
11308 056500' 015114'          .WORD MSG003
11309 056502'          ESCAPE TST          : AND ABORT TEST
11310 056502' 104410          TRAP C$ESCAPE
11311 056504' 002010          .WORD L10054-.

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11312
11313 056506' 004737 023616'      280$: JSR      PC,CLRTXI      : WRITE ONE TO CLEAR TXI
11314                                     : ERROR ?
11315 056512' 103006                BCC      290$      : NO
11316 056514'                                ERRHRD  402.,ERR014,MSG003 : YES, REPORT ERROR
11317 056514' 104456                                TRAP   C$ERHRD
11318 056516' 000622                                .WORD  402
11319 056520' 016751'                                .WORD  ERR014
11320 056522' 015114'                                .WORD  MSG003
11321 056524'                                ESCAPE  TST      : AND ABORT TEST
11322 056524' 104410                                TRAP   C$ESCAPE
11323 056526' 001766                                .WORD  L10054-.
11324
11325 056530' 012705 000572'      290$: MOV      #TDRB,R5      : CHECK TDRB OWNERSHIP
11326 056534' 004737 022634'      JSR      PC,CHKOWN    : OWN = PORT DRIVER ?
11327 056540' 103006                BCC      300$      : YES
11328 056542'                                ERRHRD  403.,ERR018 : NO, REPORT ERROR
11329 056542' 104456                                TRAP   C$ERHRD
11330 056544' 000623                                .WORD  403
11331 056546' 017216'                                .WORD  ERR018
11332 056550' 000000                                .WORD  0
11333 056552'                                ESCAPE  TST      : AND ABORT TEST
11334 056552' 104410                                TRAP   C$ESCAPE
11335 056554' 001740                                .WORD  L10054-.
11336
11337 056556' 012705 012512'      300$: MOV      #TDR14A,R5 : POINT TO EXPECTED TDRB
11338 056562' 004737 025140'      JSR      PC,LDXTDR    : LOAD INTO XTDRBO TABLE
11339 056566' 012705 000572'      MOV      #TDRB,R5    : CHECK TDRB
11340 056572' 004737 023220'      JSR      PC,CHKTDR   : ERRORS ?
11341 056576' 103006                BCC      310$      : NO
11342 056600'                                ERRHRD  404.,ERR020,MSG005 : YES, REPORT ERROR
11343 056600' 104456                                TRAP   C$ERHRD
11344 056602' 000624                                .WORD  404
11345 056604' 017376'                                .WORD  ERR020
11346 056606' 015220'                                .WORD  MSG005
11347 056610'                                ESCAPE  TST      : AND ABORT TEST
11348 056610' 104410                                TRAP   C$ESCAPE
11349 056612' 001702                                .WORD  L10054-.
11350
11351 056614' 004737 023054'      310$: JSR      PC,CHKRXI   : RXI ?
11352 056620' 103006                BCC      320$      : YES
11353 056622'                                ERRHRD  405.,ERR015,MSG003 : NO, REPORT ERROR
11354 056622' 104456                                TRAP   C$ERHRD
11355 056624' 000625                                .WORD  405
11356 056626' 017017'                                .WORD  ERR015
11357 056630' 015114'                                .WORD  MSG003
11358 056632'                                ESCAPE  TST      : AND ABORT TEST
11359 056632' 104410                                TRAP   C$ESCAPE
11360 056634' 001660                                .WORD  L10054-.
11361
11362 056636' 004737 023550'      320$: JSR      PC,CLRRXI   : WRITE ONE TO CLEAR RXI
11363                                     : ERROR ?
11364 056642' 103006                BCC      330$      : NO
11365 056644'                                ERRHRD  406.,ERR016,MSG003 : YES, REPORT ERROR
11366 056644' 104456                                TRAP   C$ERHRD
11367 056646' 000626                                .WORD  406

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11368	056650'	017050'				.WORD	ERR016
11369	056652'	015114'				.WORD	MSG003
11370	056654'			ESCAPE TST	: AND ABORT TEST		
11371	056654'	104410				TRAP	C\$ESCAPE
11372	056656'	001636				.WORD	L10054-
11373							
11374	056660'	012705	000632'	330\$:	MOV #RDRB,R5		: CHECK RDRB OWNERSHIP
11375	056664'	004737	022634'		JSR PC,CHKOWN		: OWN = PORT DRIVER ?
11376	056670'	103006			BCC 340\$: YES
11377	056672'				ERRHRD 407.,ERR017		: NO, REPORT ERROR
11378	056672'	104456				TRAP	C\$ERHRD
11379	056674'	000627				.WORD	407
11380	056676'	017116'				.WORD	ERR017
11381	056700'	000000				.WORD	0
11382	056702'			ESCAPE TST	: AND ABORT TEST		
11383	056702'	104410				TRAP	C\$ESCAPE
11384	056704'	001610				.WORD	L10054-
11385							
11386	056706'	012705	012622'	340\$:	MOV #RDR14A,R5		: POINT TO EXPECTED RDRB
11387	056712'	004737	025110'		JSR PC,LDXRDR		: LOAD INTO XRDRB0 TABLE
11388	056716'	012705	000632'		MOV #RDRB,R5		: CHECK RDRB
11389	056722'	004737	022754'		JSR PC,CHKRDR		: ERRORS ?
11390	056726'	103006			BCC 350\$: NO
11391	056730'				ERRHRD 408.,ERR021,MSG006		: YES, REPORT ERROR
11392	056730'	104456				TRAP	C\$ERHRD
11393	056732'	000630				.WORD	408
11394	056734'	017457'				.WORD	ERR021
11395	056736'	015362'				.WORD	MSG006
11396	056740'			ESCAPE TST	: AND ABORT TEST		
11397	056740'	104410				TRAP	C\$ESCAPE
11398	056742'	001552				.WORD	L10054-
11399							
11400				: COMPARE RBUF WITH TBUF			
11401	056744'	012705	000070	350\$:	MOV #56.,R5		: COMPARE 56 WORDS OF DATA
11402	056750'	004737	023732'		JSR PC,CMPDAT		: DATA COMPARE ERROR ?
11403	056754'	103006			BCC 360\$: NO
11404	056756'				ERRHRD 409.,ERR022,MSG007		: YES, REPORT ERROR
11405	056756'	104456				TRAP	C\$ERHRD
11406	056760'	000631				.WORD	409
11407	056762'	017540'				.WORD	ERR022
11408	056764'	015524'				.WORD	MSG007
11409	056766'			ESCAPE TST	: AND ABORT TEST		
11410	056766'	104410				TRAP	C\$ESCAPE
11411	056770'	001524				.WORD	L10054-
11412							
11413	056772'	012705	013062'	360\$:	MOV #CRC23B,R5		: POINT TO EXPECTED CRC
11414	056776'	004737	025064'		JSR PC,LDXCRC		: LOAD INTO XCRC TABLE
11415	057002'	012705	005266'		MOV #RBUF+124.,R5		: CHECK CRC
11416	057006'	004737	024012'		JSR PC,CMPCRC		: ERRORS ?
11417	057012'	103006			BCC 370\$: NO
11418	057014'				ERRHRD 410.,ERR023,MSG008		: YES, REPORT ERROR
11419	057014'	104456				TRAP	C\$ERHRD
11420	057016'	000632				.WORD	410
11421	057020'	017607'				.WORD	ERR023
11422	057022'	015556'				.WORD	MSG008
11423	057024'			ESCAPE TST	: AND ABORT TEST		

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 CZUABA.MAC 10-JAN-83 12:46 TEST 23: PROMISCUOUS ADDRESS MODE TEST

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11424 057024' 104410 TRAP C$ESCAPE
11425 057026' 001466 .WORD L10054-.
11426
11427 057030' 012777 000017 121170 370$: MOV #STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
11428 057036' 004737 022546' JSR PC,CHKDNI ; DNI ?
11429 057042' 103006 BCC 380$ ; YES
11430 057044' ERRHRD 411.,ERR019,MSG003 ; NO, REPORT ERROR
11431 057044' 104456 TRAP C$ERHRD
11432 057046' 000633 .WORD 411
11433 057050' 017316' .WORD ERR019
11434 057052' 015114' .WORD MSG003
11435 057054' ESCAPE TST ; AND ABORT TEST
11436 057054' 104410 TRAP C$ESCAPE
11437 057056' 001436 .WORD L10054-.
11438
11439 057060' 004737 023434' 380$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
11440 .WORD ERROR ?
11441 057064' 103006 BCC 390$ ; NO
11442 057066' ERRHRD 412.,ERR006,MSG003 ; YES, REPORT ERROR
11443 057066' 104456 TRAP C$ERHRD
11444 057070' 000634 .WORD 412
11445 057072' 016206' .WORD ERR006
11446 057074' 015114' .WORD MSG003
11447 057076' ESCAPE TST ; AND ABORT TEST
11448 057076' 104410 TRAP C$ESCAPE
11449 057100' 001414 .WORD L10054-.
11450
11451 ;REWRITE DEFAULT PHYSICAL ADDRESS
11452 057102' 012705 011132' 390$: MOV #WTPHYA,R5 ; DEFAULT WRITE PHYSICAL ADDR FUNC
11453 057106' 004737 024630' JSR PC,LDPCCB ; LOAD FUNCTION -> PCBB
11454 057112' 012777 000002 121106 MOV #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
11455 057120' 004737 022546' JSR PC,CHKDNI ; DNI ?
11456 057124' 103006 BCC 400$ ; YES
11457 057126' ERRHRD 413.,ERR010,MSG003 ; NO, REPORT ERROR
11458 057126' 104456 TRAP C$ERHRD
11459 057130' 000635 .WORD 413
11460 057132' 016506' .WORD ERR010
11461 057134' 015114' .WORD MSG003
11462 057136' ESCAPE TST ; AND ABORT TEST
11463 057136' 104410 TRAP C$ESCAPE
11464 057140' 001354 .WORD L10054-.
11465
11466 057142' 004737 023434' 400$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
11467 .WORD ERROR ?
11468 057146' 103006 BCC 410$ ; NO
11469 057150' ERRHRD 414.,ERR006,MSG003 ; YES, REPORT ERROR
11470 057150' 104456 TRAP C$ERHRD
11471 057152' 000636 .WORD 414
11472 057154' 016206' .WORD ERR006
11473 057156' 015114' .WORD MSG003
11474 057160' ESCAPE TST ; AND ABORT TEST
11475 057160' 104410 TRAP C$ESCAPE
11476 057162' 001332 .WORD L10054-.
11477
11478 ;DO TEN LOOPS WITH DEST ADDR = MULTICAST ADDRESS
11479

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11480	057164'	012701	000012	410\$:	MOV	#10.,R1	:	DO LOOP = TEN	
11481	057170'	012702	012322'		MOV	#MULTL,R2	:	R2 POINTS TO MULTICAST LIST	
11482	057174'	012703	012742'		MOV	#CRC22A,R3	:	R3 POINTS TO EXPECTED CRC TABLE	
11483									
11484				:	SET UP	RINGS FOR ONE BUFFER LOOPBACK			
11485	057200'	012705	011542'	420\$:	MOV	#TDRB1A,R5	:	DEFAULT CNE BUFFER TRANSMIT RING	
11486	057204'	004737	024734'		JSR	PC,LDTDRB	:	LOAD TDRB	
11487	057210'	012705	011342'		MOV	#RDRB1A,R5	:	DEFAULT ONE BUFFER RECEIVE RING	
11488	057214'	004737	024676'		JSR	PC,LDRDRB	:	LOAD RDRB	
11489									
11490				:	SET UP	BUFFERS AND START			
11491	057220'	010205			MOV	R2,R5	:	POINT TO DESTINATION ADDRESS	
11492	057222'	004737	024602'		JSR	PC,LDDEST	:	LOAD DEST	
11493	057226'	004737	025230'		JSR	PC,SETBUF	:	SET UP BUFFERS	
11494	057232'	012777	000004'	120766	MOV	#START,@PCSRO	:	ISSUE START PORT COMMAND	
11495	057240'	004737	022546'		JSR	PC,CHKDNI	:	DNI?	
11496	057244'	103006			BCC	430\$:	YES	
11497	057246'				ERRHRD	415.,ERR012,MSG003	:	NO, REPORT ERROR	
11498	057246'	104456							TRAP C\$ERHRD
11499	057250'	000637							.WORD 415
11500	057252'	016637'							.WORD ERR012
11501	057254'	015114'							.WORD MSG003
11502	057256'				ESCAPE	TST	:	AND ABORT TEST	
11503	057256'	104410							TRAP C\$ESCAPE
11504	057260'	001234							.WORD L10054-
11505									
11506	057262'	004737	023434'	430\$:	JSR	PC,CLRDN1	:	WRITE ONE TO CLEAR DNI	
11507									ERROR ?
11508	057266'	103006			BCC	440\$:	NO	
11509	057270'				ERRHRD	416.,ERR006,MSG003	:	YES, REPORT ERROR	
11510	057270'	104456							TRAP C\$ERHRD
11511	057272'	000640							.WORD 416
11512	057274'	016206'							.WORD ERR006
11513	057276'	015114'							.WORD MSG003
11514	057300'				ESCAPE	TST	:	AND ABORT TEST	
11515	057300'	104410							TRAP C\$ESCAPE
11516	057302'	001212							.WORD L10054-
11517									
11518	057304'	004737	023306'	440\$:	JSR	PC,CHKTXI	:	TXI ?	
11519	057310'	103006			BCC	450\$:	YES	
11520	057312'				ERRHRD	417.,ERR013,MSG003	:	NO, REPORT ERROR	
11521	057312'	104456							TRAP C\$ERHRD
11522	057314'	000641							.WORD 417
11523	057316'	016720'							.WORD ERR013
11524	057320'	015114'							.WORD MSG003
11525	057322'				ESCAPE	TST	:	AND ABORT TEST	
11526	057322'	104410							TRAP C\$ESCAPE
11527	057324'	001170							.WORD L10054-
11528									
11529	057326'	004737	023616'	450\$:	JSR	PC,CLRTXI	:	WRITE ONE TO CLEAR TXI	
11530									ERROR ?
11531	057332'	103006			BCC	470\$:	NO	
11532	057334'				ERRHRD	418.,ERR014,MSG003	:	YES, REPORT ERROR	
11533	057334'	104456							TRAP C\$ERHRD
11534	057336'	000642							.WORD 418
11535	057340'	016751'							.WORD ERR014

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11536	057342'	015114'					.WORD	MSG003
11537	057344'			ESCAPE	TST			; AND ABORT TEST
11538	057344'	104410					TRAP	C\$ESCAPE
11539	057346'	001146					.WORD	L10054-
11540								
11541	057350'	012705	000572'	470\$:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP
11542	057354'	004737	022634'		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
11543	057360'	103006			BCC	480\$; YES
11544	057362'				ERRHRD	419.,ERR018		; NO, REPORT ERROR
11545	057362'	104456					TRAP	C\$ERHRD
11546	057364'	000643					.WORD	419
11547	057366'	017216'					.WORD	ERR018
11548	057370'	000000					.WORD	0
11549	057372'			ESCAPE	TST			; AND ABORT TEST
11550	057372'	104410					TRAP	C\$ESCAPE
11551	057374'	001120					.WORD	L10054-
11552								
11553	057376'	012705	012512'	480\$:	MOV	#TDR14A,R5		; POINT TO EXPECTED TDRB
11554	057402'	004737	025140'		JSR	PC,LDXTDR		; LOAD INTO XTDRB0 TABLE
11555	057406'	012705	000572'		MOV	#TDRB,R5		; CHECK TDRB
11556	057412'	004737	023220'		JSR	PC,CHKTDR		; ERRORS ?
11557	057416'	103006			BCC	490\$; NO
11558	057420'				ERRHRD	420.,ERR020,MSG005		; YES, REPORT ERROR
11559	057420'	104456					TRAP	C\$ERHRD
11560	057422'	00^644					.WORD	420
11561	057424'	017376'					.WORD	ERR020
11562	057426'	015220'					.WORD	MSG005
11563	057430'			ESCAPE	TST			; AND ABORT TEST
11564	057430'	104410					TRAP	C\$ESCAPE
11565	057432'	001062					.WORD	L10054-
11566								
11567	057434'	004737	023054'	490\$:	JSR	PC,CHKRXI		; RXI ?
11568	057440'	103006			BCC	500\$; YES
11569	057442'				ERRHRD	421.,ERR015,MSG003		; NO, REPORT ERROR
11570	057442'	104456					TRAP	C\$ERHRD
11571	057444'	000645					.WORD	421
11572	057446'	017017'					.WORD	ERR015
11573	057450'	015114'					.WORD	MSG003
11574	057452'			ESCAPE	TST			; AND ABORT TEST
11575	057452'	104410					TRAP	C\$ESCAPE
11576	057454'	001040					.WORD	L10054-
11577								
11578	057456'	004737	023550'	500\$:	JSR	PC,CLRRXI		; WRITE ONE TO CLEAR RXI
11579								; ERROR ?
11580	057462'	103006			BCC	510\$; NO
11581	057464'				ERRHRD	422.,ERR016,MSG003		; YES, REPORT ERROR
11582	057464'	104456					TRAP	C\$ERHRD
11583	057466'	000646					.WORD	422
11584	057470'	017050'					.WORD	ERR016
11585	057472'	015114'					.WORD	MSG003
11586	057474'			ESCAPE	TST			; AND ABORT TEST
11587	057474'	104410					TRAP	C\$ESCAPE
11588	057476'	001016					.WORD	L10054-
11589								
11590	057500'	012705	000632'	510\$:	MOV	#RDRB,R5		; CHECK RDRB OWNERSHIP
11591	057504'	004737	022634'		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?

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11592	057510'	103006		BCC	520\$: YES		
11593	057512'			ERRHRD	423.,ERR017		: NO, REPORT ERROP		
11594	057512'	104456						TRAP	C\$ERHRD
11595	057514'	000647						.WORD	423
11596	057516'	017116'						.WORD	ERR017
11597	057520'	000000						.WORD	0
11598	057522'			ESCAPE	TST		: AND ABORT TEST		
11599	057522'	104410						TRAP	C\$ESCAPE
11600	057524'	000770						.WORD	L10054-.
11601									
11602	057526'	012705	012622'	520\$:	MOV	#RDR14A,R5	: POINT TO EXPECTED RDRB		
11603	057532'	004737	025110'		JSR	PC,LDXRDR	: LOAD INTO XRDRBO TABLE		
11604	057536'	012705	000632'		MOV	#RDRB,R5	: CHECK RDRB		
11605	057542'	004737	022754'		JSR	PC,CHKRDR	: ERRORS ?		
11606	057546'	103006			BCC	530\$: NO		
11607	057550'				ERRHRD	424.,ERR021,MSG006	: YES, REPORT ERROR		
11608	057550'	104456						TRAP	C\$ERHRD
11609	057552'	000650						.WORD	424
11610	057554'	017457'						.WORD	ERR021
11611	057556'	015362'						.WORD	MSG006
11612	057560'			ESCAPE	TST		: AND ABORT TEST		
11613	057560'	104410						TRAP	C\$ESCAPE
11614	057562'	000732						.WORD	L10054-.
11615									
11616									
11617	057564'	012705	000070						
11618	057570'	004737	023732'	530\$:	MOV	#56.,R5	: COMPARE 56 WORDS OF DATA		
11619	057574'	103006			JSR	PC,CMPDAT	: DATA COMPARE ERROR ?		
11620	057576'				BCC	540\$: NO		
11621	057576'	104456			ERRHRD	425.,ERR022,MSG007	: YES, REPORT ERPOP		
11622	057600'	000651						TRAP	C\$ERHRD
11623	057602'	017540'						.WORD	425
11624	057604'	015524'						.WORD	ERR022
11625	057606'							.WORD	MSG007
11626	057606'	104410		ESCAPE	TST		: AND ABORT TEST		
11627	057610'	000704						TRAP	C\$ESCAPE
11628								.WORD	L10054-.
11629	057612'	010305		540\$:	MOV	R3,R5	: POINT TO EXPECTED CRC TABLE		
11630	057614'	004737	025064'		JSR	PC,LDXCRC	: LOAD INTO XCRC TABLE		
11631	057620'	012705	005266'		MOV	#RBUF+124.,R5	: CHECK CRC		
11632	057624'	004737	024012'		JSR	PC,CMPCRC	: ERRORS ?		
11633	057630'	103006			BCC	550\$: NO		
11634	057632'				ERRHRD	426.,ERR023,MSG008	: YES, REPORT ERROR		
11635	057632'	104456						TRAP	C\$ERHRD
11636	057634'	000652						.WORD	426
11637	057636'	017607'						.WORD	ERR023
11638	057640'	015556'						.WORD	MSG008
11639	057642'			ESCAPE	TST		: AND ABORT TEST		
11640	057642'	104410						TRAP	C\$ESCAPE
11641	057644'	000650						.WORD	L10054-.
11642									
11643	057646'	012777	000017	120352	550\$:	MOV	#STOP,@PCSR0	: ISSUE STOP PORT COMMAND	
11644	057654'	004737	022546'		JSR	PC,CHKDNI	: DNI ?		
11645	057660'	103006			BCC	560\$: YES		
11646	057662'				ERRHRD	427.,ERR019,MSG003	: NO, REPORT ERROR		
11647	057662'	104456						TRAP	C\$ERHRD

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11648 057664' 000653          .WORD 427
11649 057666' 017316'        .WORD ERR019
11650 057670' 015114'        .WORD MSG003
11651 057672'          ESCAPE TST          ; AND ABORT TEST
11652 057672' 104410          TRAP C$ESCAPE
11653 057674' 000620          .WORD L10054-.
11654
11655 057676' 004737 023434' 560$: JSR PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
11656                                     ; ERROR ?
11657 057702' 103006          BCC 565$          ; NO
11658 057704'          ERRHRD 428.,ERR006,MSG003 ; YES, REPORT ERROR
11659 057704' 104456          TRAP C$ERHRD
11660 057706' 000654          .WORD 428
11661 057710' 016206'        .WORD ERR006
11662 057712' 015114'        .WORD MSG003
11663 057714'          ESCAPE TST          ; AND ABORT TEST
11664 057714' 104410          TRAP C$ESCAPE
11665 057716' 000576          .WORD L10054-.
11666
11667 057720' 062702 000006 565$: ADD #6,R2          ; UPDATE R2
11668 057724' 062703 000004  ADD #4,R3          ; UPDATE R3
11669 057730' 005301          DEC R1           ; DONE TEN LOOPBACKS
11670 057732' 001402          BEQ 566$         ; YES
11671 057734' 000137 057200' JMP 420$         ; NO
11672
11673
11674 ;DO TEN LOOPS WITH DEST ADDRESS = COMPLIMENTED MULTICAST ADDRESS
11675
11676 057740' 012701 000012 566$: MOV #10.,R1          ; DO LOOP = TEN
11677 057744' 012702 012416'  MOV #MULTLC,R2   ; R2 POINTS TO COMPLIMENTED LIST
11678 057750' 012703 013012'  MOV #CRC22B,R3  ; R3 POINTS TO CRC TABLE
11679
11680 ;SET UP RINGS FOR ONE BUFFER LOOPBACK
11681 057754' 012705 011542' 570$: MOV #TDRB1A,R5          ; DEFAULT ONE BUFFER TRANSMIT RING
11682 057760' 004737 024734'  JSR PC,LDTDRB   ; LOAD TDRB
11683 057764' 012705 011342'  MOV #RDRB1A,R5  ; DEFAULT ONE BUFFER RECEIVE RING
11684 057770' 004737 024676'  JSR PC,LDRDRB   ; LOAD RDRB
11685
11686 ;SET UP BUFFERS AND START
11687 057774' 010205          MOV R2,R5        ; POINT TO COMPLEMENTED ADDRESS
11688 057776' 004737 024602'  JSR PC,LDDEST   ; LOAD DEST
11689 060002' 004737 025230'  JSR PC,SETBUF   ; SET UP BUFFERS
11690 060006' 012777 000004 120212 MOV #START,@PCSRO ; ISSUE START PORT COMMAND
11691 060014' 004737 022546'  JSR PC,CHKDNI   ; DNI?
11692 060020' 103006          BCC 580$         ; YES
11693 060022'          ERRHRD 429.,ERR012,MSG003 ; NO, REPORT ERROR
11694 060022' 104456          TRAP C$ERHRD
11695 060024' 000655          .WORD 429
11696 060026' 016637'        .WORD ERR012
11697 060030' 015114'        .WORD MSG003
11698 060032'          ESCAPE TST          ; AND ABORT TEST
11699 060032' 104410          TRAP C$ESCAPE
11700 060034' 000460          .WORD L10054-.
11701
11702 060036' 004737 023434' 580$: JSR PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
11703                                     ; ERROR ?
    
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11704	060042'	103006		BCC	590\$:	NO		
11705	060044'			ERRHRD	430.,FRR006,MSG003	:	YES, REPORT ERROR		
11706	060044'	104456						TRAP	C\$ERHRD
11707	060046'	000656						.WORD	430
11708	060050'	016206'						.WORD	ERR006
11709	060052'	015114						.WORD	MSG003
11710	060054'			ESCAPE	TST	:	AND ABORT TEST		
11711	060054'	104410						TRAP	C\$ESCAPE
11712	060056'	000436						.WORD	L10054-
11713									
11714	060060'	004737	023306'	590\$:	JSR	PC,CHKTXI	:	TXI ?	
11715	060064'	103006			BCC	600\$:	YES	
11716	060066'				ERRHRD	431.,ERR013,MSG003	:	NO, REPORT ERROR	
11717	060066'	104456						TRAP	C\$ERHRD
11718	060070'	000657						.WORD	431
11719	060072'	016720'						.WORD	ERR013
11720	060074'	015114'						.WORD	MSG003
11721	060076'			ESCAPE	TST	:	AND ABORT TEST		
11722	060076'	104410						TRAP	C\$ESCAPE
11723	060100'	000414						.WORD	L10054-
11724									
11725	060102'	004737	023616'	600\$:	JSR	PC,CLRTXI	:	WRITE ONE TO CLEAR TXI	
11726									
11727	060106'	103006			BCC	610\$:	ERROR ?	
11728	060110'				ERRHRD	432.,ERR014,MSG003	:	NO	
11729	060110'	104456							YES, REPORT ERROR
11730	060112'	000660						TRAP	C\$ERHRD
11731	060114'	016751'						.WORD	432
11732	060116'	015114'						.WORD	ERR014
11733	060120'			ESCAPE	TST	:	AND ABORT TEST	.WORD	MSG003
11734	060120'	104410						TRAP	C\$ESCAPE
11735	060122'	000372						.WORD	L10054-
11736									
11737	060124'	012705	000572'	610\$:	MOV	#TDRB,R5	:	CHECK TDRB OWNERSHIP	
11738	060130'	004737	022634'		JSR	PC,CHKOWN	:	OWN = PORT DRIVER ?	
11739	060134'	10 06			BCC	620\$:	YES	
11740	060136'				ERRHRD	433.,ERR013	:	NO, REPORT ERROR	
11741	060136'	104456						TRAP	C\$ERHRD
11742	060140'	000661						.WORD	433
11743	060142'	017216'						.WORD	ERR018
11744	060144'	000000						.WORD	0
11745	060146'			ESCAPE	TST	:	AND ABORT TEST		
11746	060146'	104410						TRAP	C\$ESCAPE
11747	060150'	000344						.WORD	L10054-
11748									
11749	060152'	012705	012512'	620\$:	MOV	#TDR14A,R5	:	POINT TO EXPECTED TDRB	
11750	060156'	004737	025140'		JSR	PC,LDX*DR	:	LOAD INTO XTDR50 TABLE	
11751	060162'	012705	000572'		MOV	#TDRB,R5	:	CHECK TDRB	
11752	060166'	004737	023220'		JSR	PC,CHKTDR	:	ERRORS ?	
11753	060172'	103006			BCC	630\$:	NO	
11754	060174'				ERRHRD	434.,ERR020,MSG005	:	YES, REPORT ERROR	
11755	060174'	104456						TRAP	C\$ERHRD
11756	060176'	000662						.WORD	434
11757	060200'	017376'						.WORD	ERR020
11758	060202'	015220'						.WORD	MSG005
11759	060204'			ESCAPE	TST	:	AND ABORT TEST		

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 CZUABA.MAC 10-JAN-83 12:46 TEST 23: PROMISCUOUS ADDRESS MODE TEST

11760	060204'	104410					TRAP	C\$ESCAPE
11761	060206'	000306					.WORD	L10054-.
11762								
11763	060210'	004737	023054'	630\$:	JSR	PC,CHKRXI		: RXI ?
11764	060214'	103006			BCC	640\$: YES
11765	060216'				ERRHRD	435.,ERR015,MSG003		: NO, REPORT ERROR
11766	060216'	104456					TRAP	C\$ERHRD
11767	060220'	000663					.WORD	435
11768	060222'	017017'					.WORD	ERR015
11769	060224'	015114'					.WORD	MSG003
11770	060226'				ESCAPE	TST		: AND ABORT TEST
11771	060226'	104410					TRAP	C\$ESCAPE
11772	060230'	000264					.WORD	L10054-.
11773								
11774	060232'	004737	023550'	640\$:	JSR	PC,CLRRXI		: WRITE ONE TO CLEAR RXI
11775								: ERROR ?
11776	060236'	103006			BCC	650\$: NO
11777	060240'				ERRHRD	436.,ERR016,MSG003		: YES, REPORT ERROR
11778	060240'	104456					TRAP	C\$ERHRD
11779	060242'	000664					.WORD	436
11780	060244'	017050'					.WORD	ERR016
11781	060246'	015114'					.WORD	MSG003
11782	060250'				ESCAPE	TST		: AND ABORT TEST
11783	060250'	104410					TRAP	C\$ESCAPE
11784	060252'	000242					.WORD	L10054-.
11785								
11786	060254'	012705	000632'	650\$:	MOV	#RDRB,R5		: CHECK RDRB OWNERSHIP
11787	060260'	004737	022634'		JSR	PC,CHKOWN		: OWN = PORT DRIVER ?
11788	060264'	103006			BCC	660\$: YES
11789	060266'				ERRHRD	437.,ERR017		: NO, REPORT ERROR
11790	060266'	104456					RAP	C\$ERHRD
11791	060270'	000665					.WORD	437
11792	060272'	017116'					.WORD	ERR017
11793	060274'	000000					.WORD	0
11794	060276'				ESCAPE	TST		: AND ABORT TEST
11795	060276'	104410					TRAP	C\$ESCAPE
11796	060300'	000214					.WORD	L10054-.
11797								
11798	060302'	012705	012622'	660\$:	MOV	#RDR14A,R5		: POINT TO EXPECTED RDRB
11799	060306'	004737	025110'		JSR	PC,LDXRDR		: LOAD INTO XRDRB0 TABLE
11800	060312'	012705	000632'		MOV	#RDRB,R5		: CHECK RDRB
11801	060316'	004737	022754'		JSR	PC,CHKRDR		: ERRORS ?
11802	060322'	103006			BCC	670\$: NO
11803	060324'				ERRHRD	438.,ERR021,MSG006		: YES, REPORT ERROR
11804	060324'	104456					TRAP	C\$ERHRD
11805	060326'	000666					.WORD	438
11806	060330'	017457'					.WORD	ERR021
11807	060332'	015362'					.WORD	MSG006
11808	060334'				ESCAPE	TST		: AND ABORT TEST
11809	060334'	104410					TRAP	C\$ESCAPE
11810	060336'	000156					.WORD	L10054-.
11811								
11812					: COMPARE RBUF WITH TBUF			
11813	060340'	012705	000070	670\$:	MOV	#56.,R5		: COMPARE 56 WORDS OF DATA
11814	060344'	004737	023732'		JSR	PC,CMPDAT		: DATA COMPARE ERROR ?
11815	060350'	103006			BCC	680\$: NO

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 CZUABA.MAC 10-JAN-83 12:46 TEST 23: PROMISCUOUS ADDRESS MODE TEST

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11816 060352' ERRHRD 439.,ERR022,MSG007 ; YES, REPORT ERROR
11817 060352' 104456 TRAP C$ERHRD
11818 060354' 00066' .WORD 439
11819 060356' 01754)' .WORD ERR022
11820 060360' 015524' .WORD MSG007
11821 060362' ESCAPE TST ; AND ABORT TEST
11822 060362' 104410 TRAP C$ESCAPE
11823 060364' 000130 .WORD L10054-.
11824
11825 060366' 010305 ;80$: MOV R3,R5 ; POINT TO EXPECTED CRC TABLE
11826 060370' 004737 025064' JSR PC,LDXCRC ; LOAD INTO XCRC TABLE
11827 060374' 012705 005266' MOV #RBUF+124.,R5 ; CHECK CRC
11828 060400' 004737 024012' JSR PC,CMPCRC ; ERRORS ?
11829 060404' 103006 BCC 690$ ; NO
11830 060406' ERRHRD 440.,ERR023,MSG008 ; YES, REPORT ERROR
11831 060406' 104456 TRAP C$ERHRD
11832 060410' 000670 .WORD 440
11833 060412' 017607' .WORD ERR023
11834 060414' 015556' .WORD MSG008
11835 060416' ESCAPE TST ; AND ABORT TEST
11836 060416' 104410 TRAP C$ESCAPE
11837 060420' 060074 .WORD L10054-.
11838
11839 060422' 012777 000017 117576 ;90$: MOV #STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
11840 060430' 004737 022546' JSR PC,CHKDNI ; DNI ?
11841 060434' 103006 BCC 700$ ; YES
11842 060436' ERRHRD 441.,ERR019,MSG003 ; NO, REPORT ERROR
11843 060436' 104456 TRAP C$ERHRD
11844 060440' 000671 .WORD 441
11845 060442' 017316' .WORD ERR019
11846 060444' 015114 .WORD MSG003
11847 060446' ESCAPE TST ; AND ABORT TEST
11848 060446' 104410 TRAP C$ESCAPE
11849 060450' 000044 .WORD L10054-.
11850
11851 060452' 004737 023434' ;00$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
11852 BCC 710$ ; ERROR ?
11853 060456' 103006 BCC 710$ ; NO
11854 060460' ERRHRD 442.,ERR006,MSG003 ; YES, REPORT ERROR
11855 060460' 104456 TRAP C$ERHRD
11856 060462' 000672 .WORD 442
11857 060464' 016206' .WORD ERR006
11858 060466' 015114' .WORD MSG003
11859 060470' ESCAPE TST ; AND ABORT TEST
11860 060470' 104410 TRAP C$ESCAPE
11861 060472' 000022 .WORD L10054-.
11862
11863 060474' 062702 000006 ;10$: ADD #6,R2 ; UPDATE R2
11864 060500' 062703 000004 ADD #4,R3 ; UPDATE R3
11865 060504' 005301 DEC R1 ; DONE TEN LOOPBACKS
11866 060506' 001402 BEQ 900$ ; YES
11867 060510' 000137 057754' JMP 570$ ; NO
11868
11869 060514' ;900$:
11870 060514' ENDTST
11871 060514'

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L10054:

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11872 060514* 104401

TRAP C\$ETST

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TEST 24: ENABLE ALL MULTICAST MODE TEST

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11906
11907 060516'
11908 060516'
11909 060516' 004737 025334'
11910 060522' 103025
11911 060524' 012777 000040 117474
11912 060532' 004737 022546'
11913 060536' 103006
11914 060540'
11915 060540' 104456
11916 060542' 000673
11917 060544' 016106'
11918 060546' 015114'
11919 060550'
11920 060550' 104410
11921 060552' 002000
11922
11923 060554' 004737 023434'
11924
11925 060560' 103006
11926 060562'
11927 060562' 104456
11928 060564' 000674

.SBTTL TEST 24: ENABLE ALL MULTICAST MODE TEST

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*****
THIS TEST VERIFIES THAT ENABLE ALL MULTICAST MODE
IS OPERATIONAL.
A WRITE MULTICAST ADDRESS LIST FUNCTION IS USED TO SET
THE DEUNA'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
*****

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BGNTST

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                T24::
JSR    PC,TINIT      ; IS A DEVICE RESET NEEDED?
BCC    30$           ; NO
MOV    #RSET,@PCSR0  ; YES, RESET DEUNA
JSR    PC,CHKDNI     ; DNI ?
BCC    20$           ; YES
ERRHRD 443.,ERR004,MSG003 ; NO, REPORT ERROR
                                TRAP    C$ERHRD
                                .WORD   443
                                .WORD   ERR004
                                .WORD   MSG003
ESCAPE TST           ; AND ABORT TEST
                                TRAP    C$ESCAPE
                                .WORD   L10055-
20$: JSR    PC,CLRDNI ; WRITE ONE TO CLEAR DNI
      BCC    30$     ; ERROR ?
      ERRHRD 444.,ERR006,MSG003 ; YES, REPORT ERROR
                                TRAP    C$ERHRD
                                .WORD   444

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11929 060566' 016206' .WORD ERR006
11930 060570' 015114' .WORD MSG003
11931 060572' ESCAPE TST ; AND ABORT TEST
11932 060572' 104410 TRAP C$ESCAPE
11933 060574' 001756 .WORD L10055-.
11934
11935 060576' 004737 024660' 30$: JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2!3
11936 060602' 012777 000001 117416 MOV #GETPCB,@PCSRO ; ISSUE GET_PCBB PORT COMMAND
11937 060610' 004737 022546' JSR PC,CHKDNI ; DNI?
11938 060614' 103006 BCC 40$ ; YES
11939 060616' ERRHRD 445.,ERR009,MSG003 ; NO, REPORT ERROR
11940 060616' 104456 TRAP C$ERHRD
11941 060620' 000675 .WORD 445
11942 060622' 016422' .WORD ERR009
11943 060624' 015114' .WORD MSG003
11944 060626' ESCAPE TST ; AND ABORT TEST
11945 060626' 104410 TRAP C$ESCAPE
11946 060630' 001722 .WORD L10055-.
11947
11948 060632' 004737 023434' 40$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
11949
11950 060636' 103006 BCC 50$ ; NO
11951 060640' ERRHRD 446.,ERR006,MSG003 ; YES, REPORT ERROR
11952 060640' 104456 TRAP C$ERHRD
11953 060642' 000676 .WORD 446
11954 060644' 016206' .WORD ERR006
11955 060646' 015114' .WORD MSG003
11956 060650' ESCAPE TST ; AND ABORT TEST
11957 060650' 104410 TRAP C$ESCAPE
11958 060652' 001700 .WORD L10055-.
11959
11960 ;WRITE MODE REGISTER = INTERNAL LOOPBACK
11961 ; AND ENABLE ALL MULTICAST MODE
11962
11963 060654' 012705 011232' 50$: MOV #WTMODE,R5 ; DEFAULT WRITE MODE FUNCTION
11964 060660' 004737 024630' JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
11965 060664' 013737 013106' 000254' MOV MODE24,PCBB+2 ; MODE = INTL LOOPBACK AND ENAL
11966 060672' 012777 000002 117326 MOV #GETCMD,@PCSRO ; ISSUE GET_CMD PORT COMMAND
11967 060700' 004737 022546' JSR PC,CHKDNI ; DNI ?
11968 060704' 103006 BCC 60$ ; YES
11969 060706' ERRHRD 447.,ERR010,MSG003 ; NO, REPORT ERROR
11970 060706' 104456 TRAP C$ERHRD
11971 060710' 000677 .WORD 447
11972 060712' 016506' .WORD ERR010
11973 060714' 015114' .WORD MSG003
11974 060716' ESCAPE TST ; AND ABORT TEST
11975 060716' 104410 TRAP C$ESCAPE
11976 060720' 001632 .WORD L10055-.
11977
11978 060722' 004737 023434' 60$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
11979
11980 060726' 103006 BCC 70$ ; NO
11981 060730' ERRHRD 448.,ERR006,MSG003 ; YES, REPORT ERROR
11982 060730' 104456 TRAP C$ERHRD
11983 060732' 000700 .WORD 448
11984 060734' 016206' .WORD ERR006

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CZUABA.MAC 10-JAN-83 12:46 TEST 24: ENABLE ALL MULTICAST MODE TEST

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11985 060736' 015114'
11986 060740'          ESCAPE TST          ; AND ABORT TEST          .WORD  MSG003
11987 060740' 104410
11988 060742' 001610
11989
11990          ;WRITE RING FORMAT
11991 060744' 012705 011172'          70$:  MOV      #WTRNGS,R5          ; DEFAULT WRITE RING FORMAT FUNCTION
11992 060750' 004737 024630'          JSR      PC,LDPCBB          ; LOAD FUNCTION -> PCBB
11993 060754' 012705 011312'          MOV      #RFRMT,R5          ; DEFAULT RING FORMAT
11994 060760' 012700 000006'          MOV      #6,R0              ; FORMAT = SIX WORDS
11995 060764' 004737 025030'          JSR      PC,LDUDBB          ; LOAD RING FORMAT -> UDBB
11996 060770' 012777 000002' 117230  MOV      #GETCMD,@PCSR0     ; ISSUE GET_CMD PORT COMMAND
11997 060776' 004737 022546'          JSR      PC,CHKDNI          ; DNI ?
11998 061002' 103006          BCC      80$                ; YES
11999 061004'          ERRHRD  449.,ERR010,MSG003 ; NO, REPORT ERROR
12000 061004' 104456          TRAP    C$ERHRD
12001 061006' 000701          .WORD  449
12002 061010' 016506'          .WORD  ERR010
12003 061012' 015114'          .WORD  MSG003
12004 061014'          ESCAPE TST          ; AND ABORT TEST          TRAP    C$ESCAPE
12005 061014' 104410          .WORD  L10055-.
12006 061016' 001534
12007
12008 061020' 004737 023434'          80$:  JSR      PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
12009          ; ERROR ?
12010          BCC      90$                ; NO
12011          ERRHRD  450.,ERR006,MSG003 ; YES, REPORT ERROR
12012          TRAP    C$ERHRD
12013          .WORD  450
12014          .WORD  ERR006
12015          .WORD  MSG003
12016          ESCAPE TST          ; AND ABORT TEST          TRAP    C$ESCAPE
12017 061036' 104410          .WORD  L10055-.
12018 061040' 001512
12019
12020          ;WRITE PHYSICAL ADDRESS
12021 061042' 012705 011132'          90$:  MOV      #WTPHYA,R5          ; DEFAULT WRITE PHYSICAL ADDR FUNC
12022 061046' 004737 024630'          JSR      PC,LDPCBB          ; LOAD FUNCTION -> PCBB
12023 061052' 012777 000002' 117146  MOV      #GETCMD,@PCSR0     ; ISSUE GET_CMD PORT COMMAND
12024 061060' 004737 022546'          JSR      PC,CHKDNI          ; DNI ?
12025 061064' 103006          BCC      100$               ; YES
12026 061066'          ERRHRD  451.,ERR010,MSG003 ; NO, REPORT ERROR
12027          TRAP    C$ERHRD
12028          .WORD  451
12029          .WORD  ERR010
12030          .WORD  MSG003
12031          ESCAPE TST          ; AND ABORT TEST          TRAP    C$ESCAPE
12032 061076' 104410          .WORD  L10055-.
12033 061100' 001452
12034
12035 061102' 004737 023434'          100$: JSR      PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
12036          ; ERROR ?
12037          BCC      102$               ; NO
12038          ERRHRD  452.,ERR006,MSG003 ; YES, REPORT ERROR
12039          TRAP    C$ERHRD
12040 061112' 000704          .WORD  452

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 CZUABA.MAC 10-JAN-83 12:46 TEST 24: ENABLE ALL MULTICAST MODE TEST

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12041 061114' 016206' .WORD ERRO06
12042 061116' 015114' .WORD MSG003
12043 061120' ESCAPE TST ; AND ABORT TEST
12044 061120' 104410 TRAP C$ESCAPE
12045 061122' 001430 .WORD L10055-.
12046
12047 ;WRITE MULTICAST ADDRESS LIST
12048 061124' 012705 011152' 102$: MOV #WTMULA,R5 ; DEFAULT WRITE MULTICAST ADDR FUNC
12049 061130' 004737 024630' JSR PC,LDPBB ; LOAD FUNCTION -> PCBB
12050 061134' 012705 012322' MOV #MULTL,R5 ; LOAD LIST INTO UDBB
12051 061140' 012700 000036 MOV #30.,R0 ; LOAD 30 ENTRIES
12052 061144' 004737 025030' JSR PC,LDUDBB ; MULTICAST LIST -> UDBB
12053 061150' 012777 000002 117050 JSR #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
12054 061156' 004737 022546' JSR PC,CHKDNI ; DNI ?
12055 061162' 103006 BCC 104$ ; YES
12056 061164' ERRHRD 453.,ERR010,MSG003 ; NO, REPORT ERROR
12057 061164' 104456 TRAP C$ERHRD
12058 061166' 000705 .WORD 453
12059 061170' 016506' .WORD ERRO10
12060 061172' 015114' .WORD MSG003
12061 061174' ESCAPE TST ; AND ABORT TEST
12062 061174' 104410 TRAP C$ESCAPE
12063 061176' 001354 .WORD L10055-.
12064
12065 061200' 004737 023434' 104$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
12066 BCC 106$ ; ERROR ?
12067 061204' 103006 ERRHRD 454.,ERR006,MSG003 ; NO
12068 061206' 104456 ; YES, REPORT ERROR
12069 061206' 000706 TRAP C$ERHRD
12070 061210' 016206' .WORD 454
12071 061212' 015114' .WORD ERRO06
12072 061214' 015114' .WORD MSG003
12073 061216' ESCAPE TST ; AND ABORT TEST
12074 061216' 104410 TRAP C$ESCAPE
12075 061220' 001332 .WORD L10055-.
12076
12077 ;DO TEN LOOPS WITH DEST ADDR = MULTICAST ADDRESS
12078
12079 061222' 012701 000012 106$: MOV #10.,R1 ; DO LOOP = TEN
12080 061226' 012702 012322' MOV #MULTL,R2 ; R2 POINTS TO MULTICAST LIST
12081 061232' 012703 012742' MOV #CRC22A,R3 ; R3 POINTS TO EXPECTED CRC TABLE
12082
12083 ;SET UP RINGS FOR ONE BUFFER LOOPBACK
12084 061236' 012705 011542' 110$: MOV #TDRB1A,R5 ; DEFAULT ONE BUFFER TRANSMIT RING
12085 061242' 004737 024734' JSR PC,LDTDRB ; LOAD TDRB
12086 061246' 012705 011342' MOV #RDRB1A,R5 ; DEFAULT ONE BUFFER RECEIVE RING
12087 061252' 004737 024676' JSR PC,LDRDRB ; LOAD RDRB
12088
12089 ;SET UP BUFFERS AND START
12090 061256' 010205 MOV R2,R5 ; POINT TO DESTINATION ADDRESS
12091 061260' 004737 024602' JSR PC,LDDDEST ; LOAD DEST
12092 061264' 004737 025230' JSR PC,SETBUF ; SET UP BUFFERS
12093 061270' 012777 000004 116730 MOV #START,@PCSR0 ; ISSUE START PORT COMMAND
12094 061276' 004737 022546' JSR PC,CHKDNI ; DNI?
12095 061302' 103006 BCC 120$ ; YES
12096 061304' ERRHRD 455.,ERR012,MSG003 ; NO, REPORT ERROR

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 CZUABA.MAC 10-JAN-83 12:46 TEST 24: ENABLE ALL MULTICAST MODE TEST

12097	061304'	104456				TRAP	C\$ERHRD
12098	061306'	000707				.WORD	455
12099	061310'	016637'				.WORD	ERR012
12100	061312'	015114'				.WORD	MSG003
12101	061314'			ESCAPE TST	: AND ABORT TEST		
12102	061314'	104410				TRAP	C\$ESCAPE
12103	061316'	001234				.WORD	L10055-.
12104							
12105	061320'	004737	023434'	i20\$:	JSR PC,CLRDNI	: WRITE ONE TO CLEAR DNI	
12106						: ERROR ?	
12107	061324'	103006			BCC 130\$: NO	
12108	061326'				ERRHRD 456.,ERR006,MSG003	: YES, REPORT ERROR	
12109	061326'	104456				TRAP	C\$ERHRD
12110	061330'	000710				.WORD	456
12111	061332'	016206'				.WORD	ERR006
12112	061334'	015114'				.WORD	MSG003
12113	061336'			ESCAPE TST	: AND ABORT TEST		
12114	061336'	104410				TRAP	C\$ESCAPE
12115	061340'	001212				.WORD	L10055-.
12116							
12117	061342'	004737	023306'	i30\$:	JSR PC,CHKTXI	: TXI ?	
12118	061346'	103006			BCC 140\$: YES	
12119	061350'				ERRHRD 457.,ERR013,MSG003	: NO, REPORT ERROR	
12120	061350'	104456				TRAP	C\$ERHRD
12121	061352'	000711				.WORD	457
12122	061354'	016720'				.WORD	ERR013
12123	061356'	015114'				.WORD	MSG003
12124	061360'			ESCAPE TST	: AND ABORT TEST		
12125	061360'	104410				TRAP	C\$ESCAPE
12126	061362'	001170				.WORD	L10055-.
12127							
12128	061364'	004737	023616'	i40\$:	JSR PC,CLRTXI	: WRITE ONE TO CLEAR TXI	
12129						: ERROR ?	
12130	061370'	103006			BCC 150\$: NO	
12131	061372'				ERRHRD 458.,ERR014,MSG003	: YES, REPORT ERROR	
12132	061372'	104456				TRAP	C\$ERHRD
12133	061374'	000712				.WORD	458
12134	061376'	016751'				.WORD	ERR014
12135	061400'	015114'				.WORD	MSG003
12136	061402'			ESCAPE TST	: AND ABORT TEST		
12137	061402'	104410				TRAP	C\$ESCAPE
12138	061404'	001146				.WORD	L10055-.
12139							
12140	061406'	012705	000572'	i50\$:	MOV #TDRB,R5	: CHECK TDRB OWNERSHIP	
12141	061412'	004737	022634'		JSR PC,CHKOWN	: OWN = PORT DRIVER ?	
12142	061416'	103006			BCC 160\$: YES	
12143	061420'				ERRHRD 459.,ERR018	: NO, REPORT ERROR	
12144	061420'	104456				TRAP	C\$ERHRD
12145	061422'	000713				.WORD	459
12146	061424'	017216'				.WORD	ERR018
12147	061426'	000000				.WORD	0
12148	061430'			ESCAPE TST	: AND ABORT TEST		
12149	061430'	104410				TRAP	C\$ESCAPE
12150	061432'	001120				.WORD	L10055-.
12151							
12152	061434'	012705	012512'	i60\$:	MOV #TDR14A,R5	: POINT TO EXPECTED TDRB	

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12209 061612' 017457' .WORD ERRO21
12210 061614' 015362' .WORD MSG006
12211 061616' ESCAPE TST ; AND ABORT TEST
12212 061616' 104410 TRAP C$ESCAPE
12213 061620' 000732 .WORD L10055-.
12214
12215 ;
12216 061622' 012705 000070 ; COMPARE RBUF WITH TBUF
12217 061626' 004737 023732' 210$: MOV #56.,R5 ; COMPARE 56 WORDS OF DATA
12218 061632' 103006 JSR PC, CMPDAT ; DATA COMPARE ERROR ?
12219 061634' BCC 220$ ; NO
12220 061634' 104456 ERRHRD 465., ERRO22, MSG007 ; YES, REPORT ERROR
12221 061636' 000721 TRAP C$ERHRD
12222 061640' 017540' .WORD 465
12223 061642' 015524' .WORD ERRO22
12224 061644' ESCAPE TST ; AND ABORT TEST .WORD MSG007
12225 061644' 104410 TRAP C$ESCAPE
12226 061646' 000704 .WORD L10055-.
12227
12228 061650' 010305 ;
12229 061652' 004737 025064' 220$: MOV R3,R5 ; POINT TO EXPECTED CRC TABLE
12230 061656' 012705 005266' JSR PC, LDXCRC ; LOAD INTO XCRC TABLE
12231 061662' 004737 024012' MOV #RBUF+124.,R5 ; CHECK CRC
12232 061666' 103006 JSR PC, CMPCRC ; ERRORS ?
12233 061670' BCC 230$ ; NO
12234 061670' 104456 ERRHRD 466., ERRO23, MSG008 ; YES, REPORT ERROR
12235 061672' 000722 TRAP C$ERHRD
12236 061674' 017607' .WORD 466
12237 061676' 015556' .WORD ERRO23
12238 061700' ESCAPE TST ; AND ABORT TEST .WORD MSG008
12239 061700' 104410 TRAP C$ESCAPE
12240 061702' 000650 .WORD L10055-.
12241
12242 061704' 012777 000017 116314 230$: MOV #STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
12243 061712' 004737 022546' JSR PC, CHKDNI ; DNI ?
12244 061716' 103006 BCC 240$ ; YES
12245 061720' ERRHRD 467., ERRO19, MSG003 ; NO, REPORT ERROR
12246 061720' 104456 TRAP C$ERHRD
12247 061722' 000723 .WORD 467
12248 061724' 017316' .WORD ERRO19
12249 061726' 015114' .WORD MSG003
12250 061730' ESCAPE TST ; AND ABORT TEST
12251 061730' 104410 TRAP C$ESCAPE
12252 061732' 000620 .WORD L10055-.
12253
12254 061734' 004737 023434' 240$: JSR PC, CLR DNI ; WRITE ONE TO CLEAR DNI
12255 BCC 245$ ; ERROR ?
12256 061740' 103006 ERRHRD 468., ERRO06, MSG003 ; YES, REPORT ERROR
12257 061742' TRAP C$ERHRD
12258 061742' 104456 .WORD 468
12259 061744' 000724 .WORD ERRO06
12260 061746' 016206' .WORD MSG003
12261 061750' 015114' ESCAPE TST ; AND ABORT TEST
12262 061752' TRAP C$ESCAPE
12263 061752' 104410 .WORD L10055-.
12264 061754' 000576

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12265
12266 061756' 062702 000006      245$:  ADD      #6,R2      ; UPDATE R2
12267 061762' 062703 000004      ADD      #4,R3      ; UPDATE R3
12268 061766' 005301      DEC      R1         ; DONE TEN LOOPBACKS
12269 061770' 001402      BEQ     246$       ; YES
12270 061772' 000137 061236'    JMP     110$       ; NO
12271
12272
12273      ; DO TEN LOOPS WITH DEST ADDRESS = COMPLIMENTED MULTICAST ADDRESS
12274
12275 061776' 012701 000012      246$:  MOV      #10.,R1   ; DO LOOP = TEN
12276 062002' 012702 012416'    MOV     #MULTLC,R2  ; R2 POINTS TO COMPLIMENTED LIST
12277 062006' 012703 013012'    MOV     #CRC22B,R3  ; R3 POINTS TO EXPECTED CRC LIST
12278
12279      ; SET UP RINGS FOR ONE BUFFER LOOPBACK
12280 062012' 012705 011542'    250$:  MOV     #TDRB1A,R5 ; DEFAULT ONE BUFFER TRANSMIT RING
12281 062016' 004737 024734'    JSR    PC,LDTDRB   ; LOAD TDRB
12282 062022' 012705 011342'    MOV     #RDRB1A,R5 ; DEFAULT ONE BUFFER RECEIVE RING
12283 062026' 004737 024676'    JSR    PC,LDRDRB   ; LOAD RDRB
12284
12285      ; SET UP BUFFERS AND START
12286 062032' 010205      MOV     R2,R5      ; POINT TO COMPLEMENTED ADDRESS
12287 062034' 004737 024602'    JSR    PC,LDDDEST  ; LOAD DEST
12288 062040' 004737 025230'    JSR    PC,SETBUF   ; SET UP BUFFERS
12289 062044' 012777 000004' 116154  MOV     #START,@PCSR0 ; ISSUE START PORT COMMAND
12290 062052' 004737 022546'    JSR    PC,CHKDNI   ; DNI?
12291 062056' 103006      BCC    260$       ; YES
12292 062060'      ERRHRD 469.,ERR012,MSG003 ; NO, REPORT ERROR
12293 062060' 104456      TRAP   C$ERHRD
12294 062062' 000725      .WORD 469
12295 062064' 016637'      .WORD ERR012
12296 062066' 015114'      .WORD MSG003
12297 062070'      ESCAPE TST      ; AND ABORT TEST
12298 062070' 104410      TRAP   C$ESCAPE
12299 062072' 000460      .WORD L10055-.
12300
12301 062074' 004737 023434'    260$:  JSR     PC,CLRDN1   ; WRITE ONE TO CLEAR DNI
12302
12303 062100' 103006      BCC    270$       ; NO
12304 062102'      ERRHRD 470.,ERR006,MSG003 ; YES, REPORT ERROR
12305 062102' 104456      TRAP   C$ERHRD
12306 062104' 000726      .WORD 470
12307 062106' 016206'      .WORD ERR006
12308 062110' 015114'      .WORD MSG003
12309 062112'      ESCAPE TST      ; AND ABORT TEST
12310 062112' 104410      TRAP   C$ESCAPE
12311 062114' 000436      .WORD L10055-.
12312
12313 062116' 004737 023306'    270$:  JSR     PC,CHKTXI   ; TXI ?
12314 062122' 103006      BCC    280$       ; YES
12315 062124'      ERRHRD 471.,ERR013,MSG003 ; NO, REPORT ERROR
12316 062124' 104456      TRAP   C$ERHRD
12317 062126' 000727      .WORD 471
12318 062130' 016720'      .WORD ERR013
12319 062132' 015114'      .WORD MSG003
12320 062134'      ESCAPE TST      ; AND ABORT TEST

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12321	062134'	104410					TRAP	C\$ESCAPE
12322	062136'	000414					.WORD	L10055-
12323								
12324	062140'	004737	023616'	280\$:	JSR	PC,CLRTXI		: WRITE ONE TO CLEAR TXI
12325								: ERROR ?
12326	062144'	103006			BCC	290\$: NO
12327	062146'				ERRHRD	472.,ERR014,MSG003		: YES, REPORT ERROR
12328	062146'	104456					TRAP	C\$ERRHRD
12329	062150'	000730					.WORD	472
12330	062152'	016751'					.WORD	ERR014
12331	062154'	015114'					.WORD	MSG003
12332	062156'				ESCAPE	TST		: AND ABORT TEST
12333	062156'	104410					TRAP	C\$ESCAPE
12334	062160'	000372					.WORD	L10055-
12335								
12336	062162'	012705	000572'	290\$:	MOV	#TDRB,R5		: CHECK TDRB OWNERSHIP
12337	062166'	004737	022634'		JSR	PC,CHKOWN		: OWN = PORT DRIVER ?
12338	062172'	103006			BCC	300\$: YES
12339	062174'				ERRHRD	473.,ERR018		: NO, REPORT ERROR
12340	062174'	104456					TRAP	C\$ERRHRD
12341	062176'	000731					.WORD	473
12342	062200'	017216'					.WORD	ERR018
12343	062202'	000000					.WORD	0
12344	062204'				ESCAPE	TST		: AND ABORT TEST
12345	062204'	104410					TRAP	C\$ESCAPE
12346	062206'	000344					.WORD	L10055-
12347								
12348	062210'	012705	012512'	300\$:	MOV	#TDR14A,R5		: POINT TO EXPECTED TDRB
12349	062214'	004737	025140'		JSR	PC,LDXTDR		: LOAD INTO XTDRBO TABLE
12350	062220'	012705	000572'		MOV	#TDRB,R5		: CHECK TDRB
12351	062224'	004737	023220'		JSR	PC,CHKTDR		: ERRORS ?
12352	062230'	103006			BCC	420\$: NO
12353	062232'				ERRHRD	474.,ERR020,MSG005		: YES, REPORT ERROR
12354	062232'	104456					TRAP	C\$ERRHRD
12355	062234'	000732					.WORD	474
12356	062236'	017376'					.WORD	ERR020
12357	062240'	015220'					.WORD	MSG005
12358	062242'				ESCAPE	TST		: AND ABORT TEST
12359	062242'	104410					TRAP	C\$ESCAPE
12360	062244'	000306					.WORD	L10055-
12361								
12362	062246'	004737	023054'	420\$:	JSR	PC,CHKRXI		: RXI ?
12363	062252'	103006			BCC	430\$: YES
12364	062254'				ERRHRD	475.,ERR015,MSG003		: NO, REPORT ERROR
12365	062254'	104456					TRAP	C\$ERRHRD
12366	062256'	000733					.WORD	475
12367	062260'	017017'					.WORD	ERR015
12368	062262'	015114'					.WORD	MSG003
12369	062264'				ESCAPE	TST		: AND ABORT TEST
12370	062264'	104410					TRAP	C\$ESCAPE
12371	062266'	000264					.WORD	L10055-
12372								
12373	062270'	004737	023550'	430\$:	JSR	PC,CLRRXI		: WRITE ONE TO CLEAR RXI
12374								: ERROR ?
12375	062274'	103006			BCC	440\$: NO
12376	062276'				ERRHRD	476.,ERR016,MSG003		: YES, REPORT ERROR

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12377	062276'	104456				TRAP	C\$ERHRD
12378	062300'	000734				.WORD	476
12379	062302'	017050'				.WORD	ERR016
12380	062304'	015114'				.WORD	MSG003
12381	062306'			ESCAPE	TST		; AND ABORT TEST
12382	062306'	104410				TRAP	C\$ESCAPE
12383	062310'	000242				.WORD	L10055-.
12384							
12385	062312'	012705	000632'	440\$:	MOV	#RDRB,R5	; CHECK RDRB OWNERSHIP
12386	062316'	004737	022634'		JSR	PC,CHKOWN	; OWN = PORT DRIVER ?
12387	062322'	103006			BCC	450\$; YES
12388	062324'				ERRHRD	477.,ERR017	; NO, REPORT ERROR
12389	062324'	104456					
12390	062326'	000735				TRAP	C\$ERHRD
12391	062330'	017116'				.WORD	477
12392	062332'	000000				.WORD	ERR017
12393	062334'					.WORD	0
12394	062334'	104410		ESCAPE	TST		; AND ABORT TEST
12395	062336'	000214				TRAP	C\$ESCAPE
12396						.WORD	L10055-.
12397	062340'	012705	012622'	450\$:	MOV	#RDR14A,R5	; POINT TO EXPECTED RDRB
12398	062344'	004737	025110'		JSR	PC,LDXRDR	; LOAD INTO XRDRB0 TABLE
12399	062350'	012705	000632'		MOV	#RDRB,R5	; CHECK RDRB
12400	062354'	004737	022754'		JSR	PC,CHKRDR	; ERRORS ?
12401	062360'	103006			BCC	460\$; NO
12402	062362'				ERRHRD	478.,ERR021,MSG006	; YES, REPORT ERROR
12403	062362'	104456					
12404	062364'	000736				TRAP	C\$ERHRD
12405	062366'	017457'				.WORD	478
12406	062370'	015362'				.WORD	ERR021
12407	062372'					.WORD	MSG006
12408	062372'	104410		ESCAPE	TST		; AND ABORT TEST
12409	062374'	000156				TRAP	C\$ESCAPE
12410						.WORD	L10055-.
12411							
12412	062376'	012705	000070	460\$:	MOV	#56.,R5	; COMPARE 56 WORDS OF DATA
12413	062402'	004737	023732'		JSR	PC,CMPDAT	; DATA COMPARE ERROR ?
12414	062406'	103006			BCC	470\$; NO
12415	062410'				ERRHRD	479.,ERR022,MSG007	; YES, REPORT ERROR
12416	062410'	104456					
12417	062412'	000737				TRAP	C\$ERHRD
12418	062414'	017540'				.WORD	479
12419	062416'	015524'				.WORD	ERR022
12420	062420'					.WORD	MSG007
12421	062420'	104410		ESCAPE	TST		; AND ABORT TEST
12422	062422'	000130				TRAP	C\$ESCAPE
12423						.WORD	L10055-.
12424	062424'	010305		470\$:	MOV	R3,R5	; POINT TO EXPECTED CRC TABLE
12425	062426'	004737	025064'		JSR	PC,LDXCRC	; LOAD INTO XCRC TABLE
12426	062432'	012705	005266'		MOV	#RBUF+124.,R5	; CHECK CRC
12427	062436'	004737	024012'		JSR	PC,CMPCRC	; ERRORS ?
12428	062442'	103006			BCC	480\$; NO
12429	062444'				ERRHRD	480.,ERR023,MSG008	; YES, REPORT ERROR
12430	062444'	104456					
12431	062446'	000740				TRAP	C\$ERHRD
12432	062450'	017607'				.WORD	480
						.WORD	ERR023

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12433 062452' 015556'
12434 062454'          ESCAPE TST          ; AND ABORT TEST          .WORD  MSG008
12435 062454' 104410
12436 062456' 000074          TRAP  C$ESCAPE
12437                                .WORD  L10055-
12438 062460' 012777 000017 115540 480$: MOV  #STOP,@PCSR0      ; ISSUE STOP PORT COMMAND
12439 062466' 004737 022546' JSR  PC,CHKDNI      ; DNI ?
12440 062472' 103006          BCC  490$          ; YES
12441 062474'          ERRHRD 481.,ERR019,MSG003 ; NO, REPORT ERROR
12442 062474' 104456          TRAP  C$ERHRD
12443 062476' 000741          .WORD  481
12444 062500' 017316'          .WORD  ERR019
12445 062502' 015114'          .WORD  MSG003
12446 062504'          -          ESCAPE TST          ; AND ABORT TEST
12447 062504' 104410          TRAP  C$ESCAPE
12448 062506' 000044          .WORD  L10055-
12449
12450 062510' 004737 023434' 490$: JSR  PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
12451                                ; ERROR ?
12452 062514' 103006          BCC  495$          ; NO
12453 062516'          ERRHRD 482.,ERR006,MSG003 ; YES, REPORT ERROR
12454 062516' 104456          TRAP  C$ERHRD
12455 062520' 000742          .WORD  482
12456 062522' 016206'          .WORD  ERR006
12457 062524' 015114'          .WORD  MSG003
12458 062526'          ESCAPE TST          ; AND ABORT TEST
12459 062528' 104410          TRAP  C$ESCAPE
12460 062530' 000022          .WORD  L10055-
12461
12462 062532' 062702 000006 495$: ADD  #6,R2      ; UPDATE R2
12463 062536' 062703 000004 ADD  #4,R3      ; UPDATE R3
12464 062542' 005301          DEC  R1          ; DONE TEN LOOPBACKS ?
12465 062544' 001402          BEQ  500$          ; YES
12466 062546' 000137 062012' JMP  250$          ; NO
12467
12468 062552'          500$:          ;
12469 062552'          ENDTST
12470 062552'
12471 062552' 104401          L10055: TRAP  C$ETST

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TEST 25: PAD RUNT PACKETS TEST

.SBTTL TEST 25: PAD RUNT PACKETS TEST

12472
12473
12474
12475
12476
12477
12478
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12480
12481
12482
12483
12484
12485
12486
12487
12488
12489
12490
12491
12492
12493
12494
12495
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12497
12498
12499
12500
12501
12502
12503
12504
12505 062554'
12506 062554'
12507 062554' 004737 025334'
12508 062560' 103025
12509 062562' 012777 000040 115436
12510 062570' 004737 022546'
12511 062574' 103006
12512 062576'
12513 062576' 104456
12514 062600' 000743
12515 062602' 016106'
12516 062604' 015114'
12517 062606'
12518 062606' 104410
12519 062610' 001462
12520
12521 062612' 004737 023434'
12522
12523 062616' 103006
12524 062620'
12525 062620' 104456
12526 062622' 000744
12527 062624' 016206'

THIS TEST VERIFIES THAT PAD RUNT PACKET MODE IS OPERATIONAL.
THIS TEST WILL
FIRST, ATTEMPT TO TRANSMIT A RUNT PACKET
WHEN NOT IN PAD RUNT PACKET MODE AND VERIFY THAT A
BUFL ERROR IN TDRB+6 OCCURS.
SECOND, TRANSMIT A RUNT PACKET
WHEN IN PAD RUNT PACKET MODE AND VERIFY
SUCCESSFUL TRANSMISION AS WELL AS PADDING OCCURS.

TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM MODE
2. WRITE RING FORMAT
3. WRITE PHYSICAL ADDRESS
4. SET UP RINGS AND BUFFERS
WITH THE TRANSMIT BUFFER = RUNT PACKET
5. ISSUE START
6. CHECK FOR BUFL ERROR IN TDRB+6
7. ISSUE STOP
8. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM
AND PAD RUNT PACKET MODE
9. SET UP RINGS AND BUFFERS
WITH THE TRANSMIT BUFFER = RUNT PACKET
10. ISSUE START
11. CHECK FOR ERRORS
12. VERIFY PACKET HAS BEEN PADDED
13. ISSUE STOP

BGNTST

T25::
JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #RSET,@PCSR0 ; YES, RESET DEUNA
JSR PC,CHKDNI ; DNI ?
BCC 20\$; YES
ERRHRD 483.,ERR004,MSG003 ; NO, REPORT ERROR
TRAP C\$ERHRD
.WORD 483
TRAP C\$ERR004
.WORD ERR004
TRAP C\$MSG003
.WORD MSG003
ESCAPE TST ; AND ABORT TEST
TRAP C\$ESCAPE
.WORD L10056-
20\$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 30\$; NO
ERRHRD 484.,ERR006,MSG003 ; YES, REPORT ERROR
TRAP C\$ERHRD
.WORD 484
.WORD ERR006

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12528 062626' 015114'
12529 062630'
12530 062630' 104410
12531 062632' 001440
12532
12533 062634' 004737 024660' 30$: JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2!3
12534 062640' 012777 000001 115360 MOV #GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
12535 062646' 004737 022546' JSR PC,CHKDNI ; DNI?
12536 062652' 103006 BCC 40$ ; YES
12537 062654'
12538 062654' 104456 ERRHRD 485.,ERR009,MSG003 ; NO, REPORT ERROR
12539 062656' 000745 TRAP C$ERHRD
12540 062660' 016422' .WORD 485
12541 062662' 015114' .WORD ERR009
12542 062664' ESCAPE TST ; AND ABORT TEST .WORD MSG003
12543 062664' 104410 TRAP C$ESCAPE
12544 062666' 001404 .WORD L10056-.
12545
12546 062670' 004737 023434' 40$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
12547
12548 062674' 103006 BCC 50$ ; ERROR ?
12549 062676' ERRHRD 486.,ERR006,MSG003 ; NO
12550 062676' 104456 ; YES, REPORT ERROR
12551 062700' 000746 TRAP C$ERHRD
12552 062702' 016206' .WORD 486
12553 062704' 015114' .WORD ERR006
12554 062706' ESCAPE TST ; AND ABORT TEST .WORD MSG003
12555 062706' 104410 TRAP C$ESCAPE
12556 062710' 001362 .WORD L10056-.
12557
12558 ;WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
12559 062712' 012705 011232' 50$: MOV #WTMODE,R5 ; DEFAULT WRITE MODE FUNCTION
12560 062716' 004737 024630' JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
12561 062722' 012777 000002 115276 MOV #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
12562 062730' 004737 022546' JSR PC,CHKDNI ; DNI ?
12563 062734' 103006 BCC 60$ ; YES
12564 062736' ERRHRD 487.,ERR010,MSG003 ; NO, REPORT ERROR
12565 062736' 104456 TRAP C$ERHRD
12566 062740' 000747 .WORD 487
12567 062742' 016506' .WORD ERR010
12568 062744' 015114' .WORD MSG003
12569 062746' ESCAPE TST ; AND ABORT TEST
12570 062746' 104410 TRAP C$ESCAPE
12571 062750' 001322 .WORD L10056-.
12572
12573 062752' 004737 023434' 60$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
12574
12575 062756' 103006 BCC 70$ ; ERROR ?
12576 062760' ERRHRD 488.,ERR006,MSG003 ; NO
12577 062760' 104456 ; YES, REPORT ERROR
12578 062762' 000750 TRAP C$ERHRD
12579 062764' 016206' .WORD 488
12580 062766' 015114' .WORD ERR006
12581 062770' ESCAPE TST ; AND ABORT TEST .WORD MSG003
12582 062770' 104410 TRAP C$ESCAPE
12583 062772' 001300 .WORD L10056-.
    
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 CZUABA.MAC 10-JAN-83 12:46 TEST 25: PAD RUNT PACKETS TEST

12584								
12585								
12586	06274'	012705	011172'					
12587	063000'	004737	024630'					
12588	063004'	012705	011312'					
12589	063010'	012700	000006					
12590	063014'	004737	025030'					
12591	063020'	012777	000002	115200				
12592	063026'	004737	022546'					
12593	063032'	103006						
12594	063034'							
12595	063034'	104456						
12596	063036'	000751						
12597	063040'	016506'						
12598	063042'	015114'						
12599	063044'							
12600	063044'	104410						
12601	063046'	001224						
12602								
12603	063050'	004737	023434'					
12604								
12605	063054'	103006						
12606	063056'							
12607	063056'	104456						
12608	063060'	000752						
12609	063062'	016206'						
12610	063064'	015114'						
12611	063066'							
12612	063066'	104410						
12613	063070'	001202						
12614								
12615								
12616	063072'	012705	011132'					
12617	063076'	004737	024630'					
12618	063102'	012777	000002	115116				
12619	063110'	004737	022546'					
12620	063114'	103006						
12621	063116'							
12622	063116'	104456						
12623	063120'	000753						
12624	063122'	016506'						
12625	063124'	015114'						
12626	063126'							
12627	063126'	104410						
12628	063130'	001142						
12629								
12630	063132'	004737	023434'					
12631								
12632	063136'	103006						
12633	063140'							
12634	063140'	104456						
12635	063142'	000754						
12636	063144'	016206'						
12637	063146'	015114'						
12638	063150'							
12639	063150'	104410						

```

:WRITE RING FORMAT
70$: MOV #WTRNGS,R5 ; DEFAULT WRITE RING FORMAT FUNCTION
      JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
      MOV #RFRMT,R5 ; DEFAULT RING FORMAT
      MOV #6,R0 ; FORMAT = SIX WORDS
      JSR PC,LDUDBB ; LOAD RING FORMAT -> UDBB
      MOV #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
      JSR PC,CHKDNI ; DNI ?
      BCC 80$ ; YES
      ERRHRD 489.,ERR010,MSG003 ; NO, REPORT ERROR
                                     TRAP C$ERHRD
                                     .WORD 489
                                     .WORD ERR010
                                     .WORD MSG003
      ESCAPE TST ; AND ABORT TEST
                                     TRAP C$ESCAPE
                                     .WORD L10056-.

80$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
      BCC 90$ ; ERROR ?
      ERRHRD 490.,ERR006,MSG003 ; YES, REPORT ERROR
                                     TRAP C$ERHRD
                                     .WORD 490
                                     .WORD ERR006
                                     .WORD MSG003
      ESCAPE TST ; AND ABORT TEST
                                     TRAP C$ESCAPE
                                     .WORD L10056-.

:WRITE PHYSICAL ADDRESS
90$: MOV #WTPHYA,R5 ; DEFAULT WRITE PHYSICAL ADDR FUNC
      JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
      MOV #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
      JSR PC,CHKDNI ; DNI ?
      BCC 100$ ; YES
      ERRHRD 491.,ERR010,MSG003 ; NO, REPORT ERROR
                                     TRAP C$ERHRD
                                     .WORD 491
                                     .WORD ERR010
                                     .WORD MSG003
      ESCAPE TST ; AND ABORT TEST
                                     TRAP C$ESCAPE
                                     .WORD L10056-.

100$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
      BCC 110$ ; EPROR ?
      ERRHRD 492.,ERR006,MSG003 ; YES, REPORT ERROR
                                     TRAP C$ERHRD
                                     .WORD 492
                                     .WORD ERR006
                                     .WORD MSG003
      ESCAPE TST ; AND ABORT TEST
                                     TRAP C$ESCAPE

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CZUABA.MAC 10-JAN-83 12:46 TEST 25: PAD RUNT PACKETS TEST

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12640 063152' 001120 .WORD L10056-.
12641
12642 ;SET UP RINGS FOR ONE BUFFER LOOPBACK (RUNT PACKET)
12643 063154' 012705 011642' 110$: MOV #TDRB1C,R5 ; DEFAULT ONE BUFFER (RUNT PACKET)
12644 063160' 004737 024734' JSR PC,LDTDRB ; LOAD TDRB
12645 063164' 012705 011342' MOV #RDRB1A,R5 ; DEFAULT ONE BUFFER RECEIVE RING
12646 063170' 004737 024676' JSR PC,LDRDRB ; LOAD RDRB
12647
12648 ;SET UP BUFFERS AND START
12649 063174' 012705 000254' MOV #PCBB+2,R5 ; POINT TO DESTINATION ADDRESS
12650 063200' 004737 024602' JSR PC,LDDEST ; LOAD DEST
12651 063204' 004737 025230' JSR PC,SETBUF ; SET UP BUFFERS
12652 063210' 012777 000004' 115010 MOV #START,@PCSR0 ; ISSUE START PORT COMMAND
12653 063216' 004737 022546' JSR PC,CHKDNI ; DNI?
12654 063222' 103006 BCC 120$ ; YES
12655 063224' ERRHRD 493.,ERR012,MSG003 ; NO, REPORT ERROR
12656 063224' 104456 TRAP C$ERHRD
12657 063226' 000755 .WORD 493
12658 063230' 016637' .WORD ERR012
12659 063232' 015114' .WORD MSG003
12660 063234' ESCAPE TST ; AND ABORT TEST
12661 063234' 104410 TRAP C$ESCAPE
12662 063236' 001034 .WORD L10056-.
12663
12664 063240' 004737 023434' 120$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
12665 BCC 130$ ; ERROR ?
12666 063244' 103006 ERRHRD 494.,ERR006,MSG003 ; NO
12667 063246' TRAP C$ERHRD
12668 063246' 104456 .WORD 494
12669 063250' 000756 .WORD ERR006
12670 063252' 016206' .WORD MSG003
12671 063254' 015114' ESCAPE TST ; AND ABORT TEST
12672 063256' TRAP C$ESCAPE
12673 063256' 104410 .WORD L10056-.
12674 063260' 001012
12675
12676 063262' 004737 023306' 130$: JSR PC,CHKTXI ; TXI ?
12677 063266' 103006 BCC 140$ ; YES
12678 063270' ERRHRD 495.,ERR013,MSG003 ; NO, REPORT ERROR
12679 063270' 104456 TRAP C$ERHRD
12680 063272' 000757 .WORD 495
12681 063274' 016720' .WORD ERR013
12682 063276' 015114' .WORD MSG003
12683 063300' ESCAPE TST ; AND ABORT TEST
12684 063300' 104410 TRAP C$ESCAPE
12685 063302' 000770 .WORD L10056-.
12686
12687 063304' 004737 023616' 140$: JSR PC,CLRTXI ; WRITE ONE TO CLEAR TXI
12688 BCC 150$ ; ERROR ?
12689 063310' 103006 ERRHRD 496.,ERR014,MSG003 ; NO
12690 063312' TRAP C$ERHRD
12691 063312' 104456 .WORD 496
12692 063314' 000760 .WORD ERR014
12693 063316' 016751' .WORD MSG003
12694 063320' 015114' ESCAPE TST ; AND ABORT TEST
12695 063322'

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12696 063322' 104410 TRAP C$ESCAPE
12697 063324' 000746 .WORD L10056-.
12698
12699
12700 063326' 012705 000600' ;CHECK FOR BUFL ERROR IN TDRB+6
12701 063332' 011504 150$: MOV #TDRB+6,R5 ; R5 POINTS TO TDRB+6
12702 063334' 032704 100000 MOV (R5),R4 ; R4 = TDRB+6
12703 063340' 001006 BIT #BUFL,R4 ; BUFL SET ?
12704 063342' ERRHRD 497.,ERR040 BNE 160$ ; YES
; NO, REPORT ERROR
12705 063342' 104456 TRAP C$ERHRD
12706 063344' 000761 .WORD 497
12707 063346' 021451' .WORD ERR040
12708 063350' 000000 .WORD 0
12709 063352' ESCAPE TST
12710 063352' 104410 TRAP C$ESCAPE
12711 063354' 000716 .WORD L10056-.
12712
12713 063356' 012777 000017 114642 160$: MOV #STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
12714 063364' 004737 022546' JSR PC,CHKDNI ; DNI ?
12715 063370' 103006 BCC 170$ ; YES
12716 063372' ERRHRD 498.,ERR019,MSG003 ; NO, REPORT ERROR
12717 063372' 104456 TRAP C$ERHRD
12718 063374' 000762 .WORD 498
12719 063376' 017316' .WORD ERR019
12720 063400' 015114' .WORD MSG003
12721 063402' ESCAPE TST ; AND ABORT TEST
12722 063402' 104410 TRAP C$ESCAPE
12723 063404' 000666 .WORD L10056-.
12724
12725 063406' 004737 023434' 170$: JSR PC,CLR DNI ; WRITE ONE TO CLEAR DNI
12726 BCC 180$ ; ERROR ?
12727 063412' 103006 ; NO
12728 063414' ERRHRD 499.,ERR006,MSG003 ; YES, REPORT ERROR
12729 063414' 104456 TRAP C$ERHRD
12730 063416' 000763 .WORD 499
12731 063420' 016206' .WORD ERR006
12732 063422' 015114' .WORD MSG003
12733 063424' ESCAPE TST ; AND ABORT TEST
12734 063424' 104410 TRAP C$ESCAPE
12735 063426' 000644 .WORD L10056-.
12736
12737 ;PART 2 - VERIFY PAD RUNT PACKET MODE
12738
12739 ;WRITE MODE REGISTER = INTERNAL LOOPBACK , PROM
12740 ; AND PAD RUNT PACKET MODE
12741
12742 063430' 012705 011232' 180$: MOV #WTMODE,R5 ; DEFAULT WRITE MODE FUNCTION
12743 063434' 004737 024630' JSR PC,LDP CBB ; LOAD FUNCTION -> PCBB
12744 063440' 013737 013110' 000254' MOV MODE25,PCBB+2 ; PROM, TPAD AND INTL MODE
12745 063446' 012777 000002 114552 MOV #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
12746 063454' 004737 022546' JSR PC,CHKDNI ; DNI ?
12747 063460' 103006 BCC 190$ ; YES
12748 063462' ERRHRD 500.,ERR010,MSG003 ; NO, REPORT ERROR
12749 063462' 104456 TRAP C$ERHRD
12750 063464' 000764 .WORD 500
12751 063466' 016506' .WORD ERR010

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12752 063470' 015114'                               .WORD  MSG003
12753 063472'                               ESCAPE  TST                               ; AND ABORT TEST
12754 063472' 104410                               TRAP   C$ESCAPE
12755 063474' 000576                               .WORD  L10056-.
12756
12757 063476' 004737 023434'   ;190$: JSR   PC,CLRDNI                       ; WRITE ONE TO CLEAR DNI
12758                                     ; BCC   200$                                  ; ERROR ?
12759 063502' 103006                                     ; ERRHRD 501.,ERR006,MSG003             ; NO
12760 063504'                                     ; YES, REPORT ERROR
12761 063504' 104456                               TRAP   C$ERHRD
12762 063506' 000765                               .WORD  501
12763 063510' 016206'                               .WORD  ERR006
12764 063512' 015114'                               .WORD  MSG003
12765 063514'                                     ESCAPE  TST                               ; AND ABORT TEST
12766 063514' 104410                               TRAP   C$ESCAPE
12767 063516' 000554                               .WORD  L10056-.
12768
12769                                     ;SET UP RINGS FOR ONE BUFFER LOOPBACK (RUNT PACKET)
12770 063520' 012705 011642'   ;200$: MOV   #TDRB1C,R5                       ; DEFAULT BUFFER = RUNT PACKET
12771 063524' 004737 024734'   ; JSR   PC,LDTDRB                             ; LOAD TDRB
12772 063530' 012705 011342'   ; MOV   #RDRB1A,R5                           ; DEFAULT ONE BUFFER RECEIVE RING
12773 063534' 004737 024676'   ; JSR   PC,LDRDRB                             ; LOAD RDRB
12774
12775                                     ;SET UP BUFFERS AND START
12776 063540' 012705 011134'   ; MOV   #WTPHYA+2,R5                          ; POINT TO DESTINATION ADDRESS
12777 063544' 004737 024602'   ; JSR   PC,LDDEST                             ; LOAD DEST
12778 063550' 004737 025230'   ; JSR   PC,SETBUF                             ; SET UP BUFFERS
12779 063554' 012777 000004' 114444 ; MOV   #START,APCSRO                         ; ISSUE START PORT COMMAND
12780 063562' 004737 022546'   ; JSR   PC,CHKDNI                             ; DNI?
12781 063566' 103006                                     ; BCC   210$                                  ; YES
12782 063570'                                     ; ERRHRD 502.,ERR012,MSG003             ; NO, REPORT ERROR
12783 063570' 104456                               TRAP   C$ERHRD
12784 063572' 000766                               .WORD  502
12785 063574' 016637'                               .WORD  ERR012
12786 063576' 015114'                               .WORD  MSG003
12787 063600'                                     ESCAPE  TST                               ; AND ABORT TEST
12788 063600' 104410                               TRAP   C$ESCAPE
12789 063602' 000470                               .WORD  L10056-.
12790
12791 063604' 004737 023434'   ;210$: JSR   PC,CLRDNI                       ; WRITE ONE TO CLEAR DNI
12792                                     ; BCC   220$                                  ; ERROR ?
12793 063610' 103006                                     ; ERRHRD 503.,ERR006,MSG003             ; NO
12794 063612'                                     ; YES, REPORT ERROR
12795 063612' 104456                               TRAP   C$ERHRD
12796 063614' 000767                               .WORD  503
12797 063616' 016206'                               .WORD  ERR006
12798 063620' 015114'                               .WORD  MSG003
12799 063622'                                     ESCAPE  TST                               ; AND ABORT TEST
12800 063622' 104410                               TRAP   C$ESCAPE
12801 063624' 000446                               .WORD  L10056-.
12802
12803 063626' 004737 023306'   ;220$: JSR   PC,CHKTXI                       ; TXI ?
12804 063632' 103006                                     ; BCC   230$                                  ; YES
12805 063634'                                     ; ERRHRD 504.,ERR013,MSG003             ; NO, REPORT ERROR
12806 063634' 104456                               TRAP   C$ERHRD
12807 063636' 000770                               .WORD  504

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12808	063640'	016720'						.WORD	ERR013
12809	063642'	015114'						.WORD	MSG003
12810	063644'			ESCAPE	TST		; AND ABORT TEST		
12811	063644'	104410						TRAP	C\$ESCAPE
12812	063646'	000424						.WORD	L10056-
12813									
12814	063650'	004737	023616'	230\$:	JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI	
12815								; ERROR ?	
12816	063654'	103006			BCC	240\$; NO	
12817	063656'				ERRHRD	505.,ERR014,MSG003		; YES, REPORT ERROR	
12818	063656'	104456						TRAP	C\$ERHRD
12819	063660'	000771						.WORD	505
12820	063662'	016751'						.WORD	ERR014
12821	063664'	015114'						.WORD	MSG003
12822	063666'			ESCAPE	TST		; AND ABORT TEST		
12823	063666'	104410						TRAP	C\$ESCAPE
12824	063670'	000402						.WORD	L10056-
12825									
12826	063672'	012705	000572'	240\$:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP	
12827	063676'	004737	022634'		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?	
12828	063702'	103006			BCC	250\$; YES	
12829	063704'				ERRHRD	506.,ERR018		; NO, REPORT ERROR	
12830	063704'	104456						TRAP	C\$ERHRD
12831	063706'	000772						.WORD	506
12832	063710'	017216'						.WORD	ERR018
12833	063712'	000000						.WORD	0
12834	063714'			ESCAPE	TST		; AND ABORT TEST		
12835	063714'	104410						TRAP	C\$ESCAPE
12836	063716'	000354						.WORD	L10056-
12837									
12838	063720'	012705	012612'	250\$:	MOV	#TDR25A,R5		; POINT TO EXPECTED TDRB	
12839	063724'	004737	025140'		JSR	PC,LDXTDR		; LOAD INTO XTDRB0 TABLE	
12840	063730'	012705	000572'		MOV	#TDRB,R5		; CHECK TDRB	
12841	063734'	004737	023220'		JSR	PC,CHKTDR		; ERRORS ?	
12842	063740'	103006			BCC	260\$; NO	
12843	063742'				ERRHRD	507.,ERR020,MSG005		; YES, REPORT ERROR	
12844	063742'	104456						TRAP	C\$ERHRD
12845	063744'	000773						.WORD	507
12846	063746'	017376'						.WORD	ERR020
12847	063750'	015220'						.WORD	MSG005
12848	063752'			ESCAPE	TST		; AND ABORT TEST		
12849	063752'	104410						TRAP	C\$ESCAPE
12850	063754'	000316						.WORD	L10056-
12851									
12852	063756'	004737	023054'	260\$:	JSR	PC,CHKRXI		; RXI ?	
12853	063762'	103006			BCC	270\$; YES	
12854	063764'				ERRHRD	508.,ERR015,MSG003		; NO, REPORT ERROR	
12855	063764'	104456						TRAP	C\$ERHRD
12856	063766'	000774						.WORD	508
12857	063770'	017017'						.WORD	ERR015
12858	063772'	015114'						.WORD	MSG003
12859	063774'			ESCAPE	TST		; AND ABORT TEST		
12860	063774'	104410						TRAP	C\$ESCAPE
12861	063776'	000274						.WORD	L10056-
12862									
12863	064000'	004737	023550'	270\$:	JSR	PC,CLRRXI		; WRITE ONE TO CLEAR RXI	

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12864
12865 064004' 103006          BCC      280$          : ERROR ?
12866 064006'          ERRHRD  509.,ERR016,MSG003 : NO
12867 064006' 104456          : YES, REPORT ERROR          TRAP      C$ERHRD
12868 064010' 000775          .WORD   509
12869 064012' 017050'          .WORD   ERR016
12870 064014' 015114'          .WORD   MSG003
12871 064016'          ESCAPE  TST          : AND ABORT TEST          TRAP      C$ESCAPE
12872 064016' 104410          :                               .WORD   L10056-.
12873 064020' 000252
12874
12875 064022' 012705 000632' 280$: MOV      #RDRB,R5          : CHECK RDRB OWNERSHIP
12876 064026' 004737 022634' JSR      PC,CHKOWN          : OWN = PORT DRIVER ?
12877 064032' 103006          BCC      290$          : YES
12878 064034'          ERRHRD  510.,ERR017          : NO, REPORT ERROR          TRAP      C$ERHRD
12879 064034' 104456          .WORD   510
12880 064036' 000776          .WORD   ERR017
12881 064040' 017116'          .WORD   0
12882 064042' 000000          ESCAPE  TST          : AND ABORT TEST          TRAP      C$ESCAPE
12883 064044'          :                               .WORD   L10056-.
12884 064044' 104410          :
12885 064046' 000224
12886
12887 064050' 012705 012622' 290$: MOV      #RDR14,R5          : POINT TO EXPECTED RDRB
12888 064054' 004737 025110' JSR      PC,LDXRDR          : LOAD INTO XRDRBO TABLE
12889 064060' 012705 000632' MOV      #RDRB,R5          : CHECK RDRB
12890 064064' 004737 022754' JSR      PC,CHKRDR          : ERRORS ?
12891 064070' 103006          BCC      300$          : NO
12892 064072'          ERRHRD  511.,ERR021,MSG006 : YES, REPORT ERROR          TRAP      C$ERHRD
12893 064072' 104456          .WORD   511
12894 064074' 000777          .WORD   ERR021
12895 064076' 017457'          .WORD   MSG006
12896 064100' 015362'          ESCAPE  TST          : AND ABORT TEST          TRAP      C$ESCAPE
12897 064102'          :                               .WORD   L10056-.
12898 064102' 104410          :
12899 064104' 000166
12900
12901          : COMPARE RBUF WITH DEFAULT PADDED RUNT PACKET
12902 064106' 012705 000027' 300$: MOV      #23.,R5          : COMPARE 23 WORDS OF DATA
12903 064112' 004737 023732' JSR      PC,CMPDAT          : DATA COMPARE ERROR ?
12904 064116' 103006          BCC      310$          : NO
12905 064120'          ERRHRD  512.,ERR022,MSG007 : YES, REPORT ERROR          TRAP      C$ERHRD
12906 064120' 104456          .WORD   512
12907 064122' 001000          .WORD   ERR022
12908 064124' 017540'          .WORD   MSG007
12909 064126' 015524'          ESCAPE  TST          : AND ABORT TEST          TRAP      C$ESCAPE
12910 064130'          :                               .WORD   L10056-.
12911 064130' 104410          :
12912 064132' 000140
12913
12914          : CHECK FOR PADDING
12915 064134' 012705 000001' 310$: MOV      #1.,R5          : COMPARE 1 WORD OF DATA PADDING
12916 064140' 004737 024142' JSR      PC,CMPRNT          : DATA COMPARE ERROR ?
12917 064144' 103006          BCC      320$          : NO
12918 064146'          ERRHRD  513.,ERR041,MSG007 : YES, REPORT ERROR          TRAP      C$ERHRD
12919 064146' 104456

```

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 CZUABA.MAC 10-JAN-83 12:46 TEST 25: PAD RUNT PACKETS TEST

12920	064150'	001001						.WORD	513
12921	064152'	021554'						.WORD	ERR041
12922	064154'	015524'						.WORD	MSG007
12923	064156'				ESCAPE	TST			: AND ABORT TEST
12924	064156'	104410						TRAP	C\$ESCAPE
12925	064160'	000112						.WORD	L10056-
12926									
12927	064162'	012705	013066'		320\$:	MOV	#CRC25B,R5		: POINT TO EXPECTED CRCB
12928	064166'	004737	025064'			JSR	PC,LDXCRC		: LOAD INTO XCRC TABLE
12929	064172'	012705	005166'			MOV	#RBUF+60.,R5		: CHECK CRC
12930	064176'	004737	024012'			JSR	PC,CMPCRC		: ERRORS ?
12931	064202'	103006				BCC	330\$: NO
12932	064204'					ERRHRD	514.,ERR023,MSG008		: YES, REPORT ERROR
12933	064204'	104456						TRAP	C\$ERHRD
12934	064206'	001002						.WORD	514
12935	064210'	017607'						.WORD	ERR023
12936	064212'	015556'						.WORD	MSG008
12937	064214'				ESCAPE	TST			: AND ABORT TEST
12938	064214'	104410						TRAP	C\$ESCAPE
12939	064216'	000C54						.WORD	L10056-
12940									
12941	064220'	012777	000017	114000	330\$:	MOV	#STOP,@PCSR0		: ISSUE STOP PORT COMMAND
12942	064226'	004737	022546'			JSR	PC,CHKDNI		: DNI ?
12943	064232'	103006				BCC	340\$: YES
12944	064234'					ERRHRD	515.,ERR019,MSG003		: NO, REPORT ERROR
12945	064234'	104456						TRAP	C\$ERHRD
12946	064236'	001003						.WORD	515
12947	064240'	017316'						.WORD	ERR019
12948	064242'	015114'						.WORD	MSG003
12949	064244'				ESCAPE	TST			: AND ABORT TEST
12950	064244'	104410						TRAP	C\$ESCAPE
12951	064246'	000024						.WORD	L10056-
12952									
12953	064250'	004737	023434'		340\$:	JSR	PC,CLRDN1		: WRITE ONE TO CLEAR DNI
12954									: ERROR ?
12955	064254'	103006				BCC	350\$: NO
12956	064256'					ERRHRD	516.,ERR006,MSG003		: YES, REPORT ERROR
12957	064256'	104456						TRAP	C\$ERHRD
12958	064260'	001004						.WORD	516
12959	064262'	016206'						.WORD	ERR006
12960	064264'	015114'						.WORD	MSG003
12961	064266'				ESCAPE	TST			: AND ABORT TEST
12962	064266'	104410						TRAP	C\$ESCAPE
12963	064270'	000002						.WORD	L10056-
12964	064272'				350\$:				
12965	064272'					ENDTST			
12966	064272'								L10056:
12967	064272'	104401						TRAP	C\$ETST

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.SBTTL TEST 26: HALF DUPLEX TEST

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*****
THIS TEST VERIFIES THAT HALF DUPLEX MODE IS OPERATIONAL.
WHILE IN HALF DUPLEX MODE,
A WRITE PHYSICAL ADDRESS FUNCTION IS USED TO SET
THE DEUNA'S PHYSICAL ADDRESS.
INTERNAL LOOPBACKS ARE THEN PERFORMED WITH A
CURRENTLY ENABLED AND THEN A CURRENTLY DISABLED
DESTINATION ADDRESS.

TEST SEQUENCE:
1. WRITE MODE REGISTER = INTERNAL LOOPBACK AND
   HALF DUPLEX MODES
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 (MATCH BIT SHOULD BE SET)
7. CHECK FOR NO RXI
8. ISSUE STOP
9. SET UP RINGS AND BUFFERS
   WITH DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
10. ISSUE START
11. CHECK FOR ERRORS (MATCH BIT SHOULD NOT BE SET)
12. CHECK FOR NO RXI
13. ISSUE STOP
*****

```

13000 064274' 004737 025334'
13001 064274'
13002 064274' 004737 025334'
13003 064300' 103025
13004 064302' 012777 000040 113716
13005 064310' 004737 022546'
13006 064314' 103006
13007 064316'
13008 064316' 104456
13009 064320' 001005
13010 064322' 016106'
13011 064324' 015114'
13012 064326'
13013 064326' 104410
13014 064330' 001254
13015
13016 064332' 004737 023434'
13017
13018 064336' 103006
13019 064340'
13020 064340' 104456
13021 064342' 001006
13022 064344' 016206'
13023 064346' 015114'

BGNTST

```

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30$ ; NO
MOV #RSET,@PCSR0 ; YES, RESET DEUNA
JSR PC,CHKDNI ; DNI ?
BCC 20$ ; YES
ERRHRD 517.,ERR004,MSG003 ; NO, REPORT ERROR

```

T26::

```

TRAP C$ERHRD
.WORD 517
.WORD ERR004
.WORD MSG003

```

ESCAPE TST ; AND ABORT TEST

```

TRAP C$ESCAPE
.WORD L10057-.

```

20\$:

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JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 30$ ; NO
ERRHRD 518.,ERR006,MSG003 ; YES, REPORT ERROR

```

```

TRAP C$ERHRD
.WORD 518
.WORD ERR006
.WORD MSG003

```

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13024 064350'          ESCAPE TST          ; AND ABORT TEST
13025 064350' 104410          TRAP          C$ESCAPE
13026 064352' 001232          .WORD          L10057-.
13027
13028 064354' 004737 024660' 30$: JSR      PC,LDPCSR          ; ADDRESS OF PCBB -> PCSR2:3
13029 064360' 012777 000001' 113640 MOV      #GETPCB,@PCSR0      ; ISSUE GET_PCBB PORT COMMAND
13030 064366' 004737 022546' JSR      PC,CHKDNI          ; DNI?
13031 064372' 103006          BCC      40$              ; YES
13032 064374'          ERRHRD  519.,ERR009,MSG003 ; NO, REPORT ERROR
13033 064374' 104456          TRAP          C$ERHRD
13034 064376' 001007          .WORD          519
13035 064400' 016422'          .WORD          ERR009
13036 064402' 015114'          .WORD          MSG003
13037 064404'          ESCAPE TST          ; AND ABORT TEST
13038 064404' 104410          TRAP          C$ESCAPE
13039 064406' 001176          .WORD          L10057-.
13040
13041 064410' 004737 023434' 40$: JSR      PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
13042          BCC      50$              ; ERROR ?
13043 064414' 103006          ERRHRD  520.,ERR006,MSG003 ; NO
13044 064416'          ; YES, REPORT ERROR
13045 064416' 104456          TRAP          C$ERHRD
13046 064420' 001010          .WORD          520
13047 064422' 016206'          .WORD          ERR006
13048 064424' 015114'          .WORD          MSG003
13049 064426'          ESCAPE TST          ; AND ABORT TEST
13050 064426' 104410          TRAP          C$ESCAPE
13051 064430' 001154          .WORD          L10057-.
13052
13053          ;WRITE MODE REGISTER = INTERNAL LOOPBACK AND HALF DUPLEX MODE
13054 064432' 012705 011232' 50$: MOV      #WTMODE,R5          ; DEFAULT WRITE MODE FUNCTION
13055 064436' 004737 024630' JSR      PC,LDPCBB          ; LOAD FUNCTION -> PCBB
13056 064442' 013737 013112' 000254' MOV      MODE26,PCBB+2      ; MODE = INTL, HDUP
13057 064450' 012777 000002' 113550 MOV      #GETCMD,@PCSR0      ; ISSUE GET_CMD PORT COMMAND
13058 064456' 004737 022546' JSR      PC,CHKDNI          ; DNI ?
13059 064462' 103006          BCC      60$              ; YES
13060 064464'          ERRHRD  521.,ERR010,MSG003 ; NO, REPORT ERROR
13061 064464' 104456          TRAP          C$ERHRD
13062 064466' 001011          .WORD          521
13063 064470' 016506'          .WORD          ERR010
13064 064472' 015114'          .WORD          MSG003
13065 064474'          ESCAPE TST          ; AND ABORT TEST
13066 064474' 104410          TRAP          C$ESCAPE
13067 064476' 001106          .WORD          L10057-.
13068
13069 064500' 004737 023434' 60$: JSR      PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
13070          BCC      70$              ; ERROR ?
13071 064504' 103006          ERRHRD  522.,ERR006,MSG003 ; NO
13072 064506'          ; YES, REPORT ERRCR
13073 064506' 104456          TRAP          C$ERHRD
13074 064510' 001012          .WORD          522
13075 064512' 016206'          .WORD          ERR006
13076 064514' 015114'          .WORD          MSG003
13077 064516'          ESCAPE TST          ; AND ABORT TEST
13078 064516' 104410          TRAP          C$ESCAPE
13079 064520' 001064          .WORD          L10057-.
    
```

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13080
13081
13082 064522' 012705 011172'
13083 064526' 004737 024630'
13084 064532' 012705 011312'
13085 064536' 012700 000006
13086 064542' 004737 025030'
13087 064546' 012777 000002' 113452
13088 064554' 004737 022546'
13089 064560' 103006
13090 064562'
13091 064562' 104456
13092 064564' 001013
13093 064566' 016506'
13094 064570' 015114'
13095 064572'
13096 064572' 104410
13097 064574' 001010
13098
13099 064576' 004737 023434'
13100
13101 064602' 103006
13102 064604'
13103 064604' 104456
13104 064606' 001014
13105 064610' 016206'
13106 064612' 015114'
13107 064614'
13108 064614' 104410
13109 064616' 000766
13110
13111
13112 064620' 012705 011132'
13113 064624' 004737 024630'
13114
13115 064630' 012703 012306'
13116 064634' 012704 000254'
13117 064640' 012324
13118 064642' 012324
13119 064644' 012324
13120 064646' 012777 000002' 113352
13121 064654' 004737 022546'
13122 064660' 103006
13123 064662'
13124 064662' 104456
13125 064664' 001015
13126 064666' 016506'
13127 064670' 015114'
13128 064672'
13129 064672' 104410
13130 064674' 000710
13131
13132 064676' 004737 023434'
13133
13134 064702' 103006
13135 064704'

:WRITE RING FORMAT
70$: MOV #WTRNGS,R5
      JSR PC,LDP CBB
      MOV #RFRMT,R5
      MOV #6,R0
      JSR PC,LDU DBB
      MOV #GETCMD,@PCSR0
      JSR PC,CHKDNI
      BCC 80$
      ERRHRD 523.,ERR010,MSG003

:WRITE PHYSICAL ADDRESS
90$: MOV #WTPHYA,R5
      JSR PC,LDP CBB
:LOAD DEFAULT PHYSICAL ADDRESS
      MOV #ADR21,R3
      MOV #PCBB+2,R4
      MOV (R3)+,(R4)+
      MOV (R3)+,(R4)+
      MOV (R3)+,(R4)+
      MOV #GETCMD,@PCSR0
      JSR PC,CHKDNI
      BCC 100$
      ERRHRD 525.,ERR010,MSG003

100$: JSR PC,CLR DNI
      BCC 110$
      ERRHRD 526.,ERR006,MSG003

: DEFAULT WRITE RING FORMAT FUNCTION
: LOAD FUNCTION -> PCBB
: DEFAULT RING FORMAT
: FORMAT = SIX WORDS
: LOAD RING FORMAT -> UDBB
: ISSUE GET_CMD PORT COMMAND
: DNI ?
: YES
: NO, REPORT ERROR

TRAP C$ERHRD
.WORD 523
.WORD ERR010
.WORD MSG003

: AND ABORT TEST

TRAP C$ESCAPE
.WORD L10057-.

: WRITE ONE TO CLEAR DNI
: ERROR ?
: NO
: YES, REPORT ERROR

TRAP C$ERHRD
.WORD 524
.WORD ERR006
.WORD MSG003

: AND ABORT TEST

TRAP C$ESCAPE
.WORD L10057-.

: DEFAULT WRITE PHYSICAL ADDR FUNC
: LOAD FUNCTION -> PCBB
: POINT TO PHYSICAL ADDRESS
: POINT TO PCBB + 2
: LOAD ADDRESS

: ISSUE GET_CMD PORT COMMAND
: DNI ?
: YES
: NO, REPORT ERROR

TRAP C$ERHRD
.WORD 525
.WORD ERR010
.WORD MSG003

: AND ABORT TEST

TRAP C$ESCAPE
.WORD L10057-.

: WRITE ONE TO CLEAR DNI
: ERROR ?
: NO
: YES, REPORT ERROR

```

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13136	064704'	104456					TRAP	C\$ERHRD
13137	064706'	001016					.WORD	526
13138	064710'	016206'					.WORD	ERR006
13139	064712'	015114'					.WORD	MSG003
13140	064714'			ESCAPE	TST	:		AND ABORT TEST
13141	064714'	104410					TRAP	C\$ESCAPE
13142	064716'	000666					.WORD	L10057-
13143								
13144								
13145	064720'	012705	011542'					
13146	064724'	004737	024734'					
13147	064730'	012705	011342'					
13148	064734'	004737	024676'					
13149								
13150								
13151	064740'	012705	000254'					
13152	064744'	004737	024602'					
13153	064750'	004737	025230'					
13154	064754'	012777	000004'	113244				
13155	064762'	004737	022546'					
13156	064766'	103006						
13157	064770'							
13158	064770'	104456						
13159	064772'	001017					TRAP	C\$ERHRD
13160	064774'	016637'					.WORD	527
13161	064776'	015114'					.WORD	ERR012
13162	065000'						.WORD	MSG003
13163	065000'	104410						
13164	065002'	000602					TRAP	C\$ESCAPE
13165							.WORD	L10057-
13166	065004'	004737	023434'					
13167								
13168	065010'	103006						
13169	065012'							
13170	065012'	104456						
13171	065014'	001020					TRAP	C\$ERHRD
13172	065016'	016206'					.WORD	528
13173	065020'	015114'					.WORD	ERR006
13174	065022'						.WORD	MSG003
13175	065022'	104410						
13176	065024'	000560					TRAP	C\$ESCAPE
13177							.WORD	L10057-
13178	065026'	004737	023306'					
13179	065032'	103006						
13180	065034'							
13181	065034'	104456						
13182	065036'	001021					TRAP	C\$ERHRD
13183	065040'	016720'					.WORD	529
13184	065042'	015114'					.WORD	ERR013
13185	065044'						.WORD	MSG003
13186	065044'	104410						
13187	065046'	000536					TRAP	C\$ESCAPE
13188							.WORD	L10057-
13189	065050'	004737	023616'					
13190								
13191	065054'	103006						

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13192 065056'          ERRHRD  530.,ERR014,MSG003      ; YES, REPORT ERROR
13193 065056' 104456          TRAP          C$ERHRD
13194 065060' 001022          .WORD          530
13195 065062' 016751'          .WORD          ERR014
13196 065064' 015114'          .WORD          MSG003
13197 065066'          ESCAPE  TST                      ; AND ABORT TEST
13198 065066' 104410          TRAP          C$ESCAPE
13199 065070' 000514          .WORD          L10057-.
13200
13201 065072' 012705 000572'   ;150$: MOV      #TDRB,R5          ; CHECK TDRB OWNERSHIP
13202 065076' 004737 022634'   JSR      PC,CHKOWN        ; OWN = PORT DRIVER ?
13203 065102' 103006          BCC     160$              ; YES
13204 065104'          ERRHRD  531.,ERR018          ; NO, REPORT ERROR
13205 065104' 104456          TRAP          C$ERHRD
13206 065106' 001023          .WORD          531
13207 065110' 017216'          .WORD          ERR018
13208 065112' 000000          .WORD          0
13209 065114'          ESCAPE  TST                      ; AND ABORT TEST
13210 065114' 104410          TRAP          C$ESCAPE
13211 065116' 000466          .WORD          L10057-.
13212
13213 065120' 012705 012512'   ;160$: MOV      #TDR14A,R5      ; POINT TO EXPECTED TDRB
13214 065124' 004737 025140'   JSR      PC,LDXTDR        ; LOAD INTO XTDRBO TABLE
13215 065130' 012705 000572'   MOV      #TDRB,R5          ; CHECK TDRB
13216 065134' 004737 023220'   JSR      PC,CHKTDR        ; ERRORS ?
13217 065140' 103006          BCC     170$              ; NO
13218 065142'          ERRHRD  532.,ERR020,MSG005      ; YES, REPORT ERROR
13219 065142' 104456          TRAP          C$ERHRD
13220 065144' 001024          .WORD          532
13221 065146' 017376'          .WORD          ERR020
13222 065150' 015220'          .WORD          MSG005
13223 065152'          ESCAPE  TST                      ; AND ABORT TEST
13224 065152' 104410          TRAP          C$ESCAPE
13225 065154' 000430          .WORD          L10057-.
13226
13227 065156' 004737 025170'   ;170$: JSR      PC,NORXI         ; RXI ?
13228 065162' 103006          BCC     180$              ; NO
13229 065164'          ERRHRD  533.,ERR046          ; YES, REPORT ERROR
13230 065164' 104456          TRAP          C$ERHRD
13231 065166' 001025          .WORD          533
13232 065170' 022070'          .WORD          ERR046
13233 065172' 000000          .WORD          0
13234 065174'          ESCAPE  TST                      ; AND ABORT TEST
13235 065174' 104410          TRAP          C$ESCAPE
13236 065176' 000406          .WORD          L10057-.
13237
13238 065200' 012777 000017 113020 ;180$: MOV      #STOP,@PCSR0      ; ISSUF STOP PORT COMMAND
13239 065206' 004737 022546'   JSR      PC,CHKONI        ; DNI ?
13240 065212' 103006          BCC     240$              ; YES
13241 065214'          ERRHRD  534.,ERR019,MSG003      ; NO, REPORT ERROR
13242 065214' 104456          TRAP          C$ERHRD
13243 065216' 001026          .WORD          534
13244 065220' 017316'          .WORD          ERR019
13245 065222' 015114'          .WORD          MSG003
13246 065224'          ESCAPE  TST                      ; AND ABORT TEST
13247 065224' 104410          TRAP          C$ESCAPE

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13248 065226' 000356                                .WORD  L10057-.
13249
13250 065230' 004737 023434'                240$:  JSR      PC,CLRDNI                ; WRITE ONE TO CLEAR DNI
13251                                           ; ERROR ?
13252 065234' 103006                                BCC      250$
13253 065236'                                ERRHRD   535.,ERR006,MSG003           ; YES, REPORT ERROR
13254 065236' 104456                                TRAP     C$ERHRD
13255 065240' 001027                                .WORD   535
13256 065242' 016206'                                .WORD   ERR006
13257 065244' 015114'                                .WORD   MSG003
13258 065246'                                ESCAPE  TST                            ; AND ABORT TEST
13259 065246' 104410                                TRAP     C$ESCAPE
13260 065250' 000334                                .WORD   L10057-.
13261
13262                                           ;:DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
13263
13264                                           ;:SET UP RINGS FOR ONE BUFFER LOOPBACK
13265 065252' 012705 011542'                250$:  MOV      #TDRB1A,R5                ; DEFAULT ONE BUFFER TRANSMIT RING
13266 065256' 004737 024734'                JSR      PC,LDTDRB                    ; LOAD TDRB
13267 065262' 012705 011342'                MOV      #RDRB1A,R5                  ; DEFAULT ONE BUFFER RECEIVE RING
13268 065266' 004737 024676'                JSR      PC,LDRDRB                    ; LOAD RDRB
13269
13270                                           ;:SET UP BUFFERS AND START
13271 065272' 012705 012314'                MOV      #ADR21C,R5                  ; POINT TO COMPLEMENTED ADDRESS
13272 065276' 004737 024602'                JSR      PC,LDDEST                    ; LOAD DEST
13273 065302' 004737 025230'                JSR      PC,SETBUF                    ; SET UP BUFFERS
13274 065306' 012777 000004' 112712          MOV      #START,@PCSR0                ; ISSUE START PORT COMMAND
13275 065314' 004737 022546'                JSR      PC,CHKDNI                    ; DNI?
13276 065320' 103006                                BCC      260$
13277 065322'                                ERRHRD   536.,ERR012,MSG003           ; NO, REPORT ERROR
13278 065322' 104456                                TRAP     C$ERHRD
13279 065324' 001030                                .WORD   536
13280 065326' 016637'                                .WORD   ERR012
13281 065330' 015114'                                .WORD   MSG003
13282 065332'                                ESCAPE  TST                            ; AND ABORT TEST
13283 065332' 104410                                TRAP     C$ESCAPE
13284 065334' 000250                                .WORD   L10057-.
13285
13286 065336' 004737 023434'                260$:  JSR      PC,CLRDNI                ; WRITE ONE TO CLEAR DNI
13287                                           ; ERROR ?
13288 065342' 103006                                BCC      270$
13289 065344'                                ERRHRD   537.,ERR006,MSG003           ; YES, REPORT ERROR
13290 065344' 104456                                TRAP     C$ERHRD
13291 065346' 001031                                .WORD   537
13292 065350' 016206'                                .WORD   ERR006
13293 065352' 015114'                                .WORD   MSG003
13294 065354'                                ESCAPE  TST                            ; AND ABORT TEST
13295 065354' 104410                                TRAP     C$ESCAPE
13296 065356' 000226                                .WORD   L10057-.
13297
13298 065360' 004737 023306'                270$:  JSR      PC,CHKTXI                ; TXI ?
13299 065364' 103006                                BCC      280$
13300 065366'                                ERRHRD   538.,ERR013,MSG003           ; NO, REPORT ERROR
13301 065366' 104456                                TRAP     C$ERHRD
13302 065370' 001032                                .WORD   538
13303 065372' 016720'                                .WORD   ERR013
    
```


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```

13360 065544' 103006          BCC      330$          ; YES
13361 065546'                ERRHRD  543.,ERR019,MSG003 ; NO, REPORT ERROR
13362 065546' 104456          TRAP    C$ERHRD
13363 065550' 001037          .WORD  543
13364 065552' 017316'        .WORD  ERR019
13365 065554' 015114'        .WORD  MSG003
13366 065556'                ESCAPE  TST          ; AND ABORT TEST
13367 065556' 104410          TRAP    C$ESCAPE
13368 065560' 000024          .WORD  L10057-.
13369
13370 065562' 004737 023434' 330$: JSR      PC,CLRDNI ; WRITE ONE TO CLEAR DNI
13371                                ; ERROR ?
13372 065566' 103006          BCC      340$          ; NO
13373 065570'                ERRHRD  544.,ERR006,MSG003 ; YES, REPORT ERROR
13374 065570' 104456          TRAP    C$ERHRD
13375 065572' 001040          .WORD  544
13376 065574' 016206'        .WORD  ERR006
13377 065576' 015114'        .WORD  MSG003
13378 065600'                ESCAPE  TST          ; AND ABORT TEST
13379 065600' 104410          TRAP    C$ESCAPE
13380 065602' 000002          .WORD  L10057-.
13381
13382 065604'                340$:
13383 065604'                ENDTST
13384 065604'
13385 065604' 104401          L10057: TRAP    C$ETST

```

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TEST 27: SIMULTANEOUS OPERATIONS TEST

.SBTTL TEST 27: SIMULTANEOUS OPERATIONS TEST

THIS TEST VERIFIES THAT SIMULTANEOUS OPERATIONS CAN BE PERFORMED.
A CHAINED 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
THREE TRANSMIT AND RECEIVE BUFFERS
5. SET UP READ COUNTERS FUNCTION
6. ISSUE START
7. ISSUE GET COMMAND PORT COMMAND
8. CHECK FOR ERRORS
9. ISSUE STOP

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13441

065606'
065606'
065606' 004737 025334'
065612' 103025
065614' 012777 000040 112404
065622' 004737 022546'
065626' 103006
065630'
065630' 104456
065632' 001041
065634' 016106'
065636' 015114'
065640'
065640' 104410
065642' 001472
065644' 004737 023434'
065650' 103006
065652'
065652' 104456
065654' 001042
065656' 016206'
065660' 015114'
065662'
065662' 104410
065664' 001450
065666' 004737 024660'
065672' 012777 000001 112326
065700' 004737 022546'
065704' 103006
065706'
065706' 104456

```

BGNTST
                                     T27::
JSR   PC,TINIT                       ; IS A DEVICE RESET NEEDED?
BCC   30$                             ; NO
MOV   #RSET,@PCSR0                   ; YES, RESET DEUNA
JSR   PC,CHKDNI                      ; DNI ?
BCC   20$                             ; YES
ERRHRD 545.,ERR004,MSG003           ; NO, REPORT ERROR
                                     TRAP   C$ERHRD
                                     .WORD  545
                                     .WORD  ERR004
                                     .WORD  MSG003
ESCAPE TST                           ; AND ABORT TEST
                                     TRAP   C$ESCAPE
                                     .WORD  L10060-
:
20$: JSR   PC,CLRDN1                 ; WRITE ONE TO CLEAR DNI
                                     ; ERROR ?
BCC   30$                             ; NO
ERRHRD 546.,ERR006,MSG003           ; YES, REPORT ERROR
                                     TRAP   C$ERHRD
                                     .WORD  546
                                     .WORD  ERR006
                                     .WORD  MSG003
ESCAPE TST                           ; AND ABORT TEST
                                     TRAP   C$ESCAPE
                                     .WORD  L10060-
:
30$: JSR   PC,LDPCSR                 ; ADDRESS OF PCBB -> PCSR2!3
MOV   #GETPCB,@PCSR0                 ; ISSUE GET_PCBB PORT COMMAND
JSR   PC,CHKDNI                      ; DNI?
BCC   40$                             ; YES
ERRHRD 547.,ERRC09,MSG003           ; NO, REPORT ERROR
                                     TRAP   C$ERHRD

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13442 065710' 001043'                                     .WORD 547
13443 065712' 016422'                                     .WORD ERR009
13444 065714' 015114'                                     .WORD MSG003
13445 065716'                                     ESCAPE TST ; AND ABORT TEST
13446 065716' 104410'                                     TRAP C$ESCAPE
13447 065720' 001414'                                     .WORD L10060-.
13448
13449 065722' 004737 023434' 40$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
13450 ; ERROR ?
13451 065726' 103006' BCC 50$ ; NO
13452 065730' ERRHRD 548.,ERR006,MSG003 ; YES, REPORT ERROR
13453 065730' 104456' TRAP C$ERHRD
13454 065732' 001044' .WORD 548
13455 065734' 016206' .WORD ERR006
13456 065736' 015114' .WORD MSG003
13457 065740' ESCAPE TST ; AND ABORT TEST
13458 065740' 104410' TRAP C$ESCAPE
13459 065742' 001372' .WORD L10060-.
13460
13461 ;WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
13462 065744' 012705 011232' 50$: MOV #WTMODE,R5 ; DEFAULT WRITE MODE FUNCTION
13463 065750' 004737 024630' JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
13464 065754' 012777 000002 112244 MOV #GETCMD,@PCSR0 ; ISSUF GET_CMD PORT COMMAND
13465 065762' 004737 022546' JSR PC,CHKDNI ; DNI ?
13466 065766' 103006' BCC 60$ ; YES
13467 065770' ERRHRD 549.,ERR010,MSG003 ; NO, REPORT ERROR
13468 065770' 104456' TRAP C$ERHRD
13469 065772' 001045' .WORD 549
13470 065774' 016506' .WORD ERR010
13471 065776' 015114' .WORD MSG003
13472 066000' ESCAPE TST ; AND ABORT TEST
13473 066000' 104410' TRAP C$ESCAPE
13474 066002' 001332' .WORD L10060-.
13475
13476 066004' 004737 023434' 60$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
13477 ; ERROR ?
13478 066010' 103006' BCC 70$ ; NO
13479 066012' ERRHRD 550.,ERR006,MSG003 ; YES, REPORT ERROR
13480 066012' 104456' TRAP C$ERHRD
13481 066014' 001046' .WORD 550
13482 066016' 016206' .WORD ERR006
13483 066020' 015114' .WORD MSG003
13484 066022' ESCAPE TST ; AND ABORT TEST
13485 066022' 104410' TRAP C$ESCAPE
13486 066024' 001310' .WORD L10060-.
13487
13488 ;WRITE RING FORMAT
13489 066026' 012705 011172' 70$: MOV #WTRNGS,R5 ; DEFAULT WRITE RING FORMAT FUNCTION
13490 066032' 004737 024630' JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
13491 066036' 012705 011312' MOV #RFRMT,R5 ; DEFAULT RING FORMAT
13492 066042' 012700 000006 MOV #6,R0 ; FORMAT = SIX WORDS
13493 066046' 004737 025030' JSR PC,LDUDBB ; LOAD RING FORMAT -> UDBB
13494 066052' 012777 000002 112146 MOV #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
13495 066060' 004737 022546' JSR PC,CHKDNI ; DNI ?
13496 066064' 103006' BCC 80$ ; YES
13497 066066' ERRHRD 551.,ERR010,MSG003 ; NO, REPORT ERROR

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13498 066066' 104456                                TRAP  C$ERHRD
13499 066070' 001047                                .WORD 551
13500 066072' 016506'                                .WORD ERR010
13501 066074' 015114'                                .WORD MSG003
13502 066076'                                ESCAPE TST ; AND ABORT TEST
13503 066076' 104410                                TRAP  C$ESCAPE
13504 066100' 001234                                .WORD L10060-.
13505
13506 066102' 004737 023434'          80$: JSR  PC,CLRDNI ; WRITE ONE TO CLEAR DNI
13507                                     ; ERROR ?
13508 066106' 103006                                BCC  90$
13509 066110'                                ERRHRD 552.,ERR006,MSG003 ; NO
13510 066110' 104456                                ; YES, REPORT ERROR
13511 066112' 001050                                TRAP  C$ERHRD
13512 066114' 016206'                                .WORD 552
13513 066116' 015114'                                .WORD ERR006
13514 066120'                                ESCAPE TST ; AND ABORT TEST
13515 066120' 104410                                TRAP  C$ESCAPE
13516 066122' 001212                                .WORD L10060-.
13517
13518                                     ; WRITE PHYSICAL ADDRESS
13519 066124' 012705 011132'          90$: MOV  #WTPHYA,R5 ; DEFAULT WRITE PHYSICAL ADDR FUNC
13520 066130' 004737 024630'          JSR  PC,LDPCBB ; LOAD FUNCTION -> PCBB
13521 066134' 012777 000002' 112064  MOV  #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
13522 066142' 004737 022546'          JSR  PC,CHKDNI ; DNI ?
13523 066146' 103006                                BCC  100$
13524 066150'                                ERRHRD 553.,ERR010,MSG003 ; YES
13525 066150' 104456                                ; NO, REPORT ERROR
13526 066152' 001051                                TRAP  C$ERHRD
13527 066154' 016506'                                .WORD 553
13528 066156' 015114'                                .WORD ERR010
13529 066160'                                ESCAPE TST ; AND ABORT TEST
13530 066160' 104410                                TRAP  C$ESCAPE
13531 066162' 001152                                .WORD L10060-.
13532
13533 066164' 004737 023434'          100$: JSR  PC,CLRDNI ; WRITE ONE TO CLEAR DNI
13534                                     ; ERROR ?
13535 066170' 103006                                BCC  110$
13536 066172'                                ERRHRD 554.,ERR006,MSG003 ; NO
13537 066172' 104456                                ; YES, REPORT ERROR
13538 066174' 001052                                TRAP  C$ERHRD
13539 066176' 016206'                                .WORD 554
13540 066200' 015114'                                .WORD ERR006
13541 066202'                                ESCAPE TST ; AND ABORT TEST
13542 066202' 104410                                TRAP  C$ESCAPE
13543 066204' 001130                                .WORD L10060-.
13544
13545                                     ; SET UP RINGS FOR THREE BUFFERS CHAINED LOOPBACK
13546 066206' 012705 011742'          110$: MOV  #TDRB3A,R5 ; DEFAULT THREE BUFFER TRANSMIT RING
13547 066212' 004737 024734'          JSR  PC,LDIDRB ; LOAD TDRB
13548 066216' 012705 011502'          MOV  #RDRB3A,R5 ; DEFAULT THREE BUFFER RECEIVE RING
13549 066222' 004737 024676'          JSR  PC,LDRDRB ; LOAD RDRB
13550
13551                                     ; SET UP BUFFERS
13552 066226' 012705 000254'          MOV  #PCBB+2,R5 ; POINT TO DESTINATION ADDRESS
13553 066232' 004737 024602'          JSR  PC,LDDDEST ; LOAD DEST

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13610	066376'	004737	023306'	130\$:	JSR	PC,CHKTXI	:	TXI ?		
13611	066402'	103006			BCC	140\$:	YES		
13612	066404'				ERRHRD	559.,ERR013,MSG003	:	NO, REPORT ERROR		
13613	066404'	104456							TRAP	C\$ERHRD
13614	066406'	001057							.WORD	559
13615	066410'	016720'							.WORD	ERR013
13616	066412'	015114'							.WORD	MSG003
13617	066414'				ESCAPE	TST	:	AND ABORT TEST		
13618	066414'	104410							TRAP	C\$ESCAPE
13619	066416'	000716							.WORD	L10060-.
13620										
13621	066420'	004737	023616'	140\$:	JSR	PC,CLR1XI	:	WRITE ONE TO CLEAR TXI		
13622							:	ERROR ?		
13623	066424'	103006			BCC	150\$:	NO		
13624	066426'				ERRHRD	560.,ERR014,MSG003	:	YES, REPORT ERROR		
13625	066426'	104456							TRAP	C\$ERHRD
13626	066430'	001060							.WORD	560
13627	066432'	016751'							.WORD	ERR014
13628	066434'	015114'							.WORD	MSG003
13629	066436'				ESCAPE	TST	:	AND ABORT TEST		
13630	066436'	104410							TRAP	C\$ESCAPE
13631	066440'	000674							.WORD	L10060-.
13632										
13633	066442'	012705	000572'	:CHECK FIRST RING ENTRY	150\$:	MOV	#TDRB,R5	:	CHECK TDRB OWNERSHIP	
13634	066446'	004737	022634'			JSR	PC,CHKOWN	:	OWN = PORT DRIVER ?	
13635	066452'	103006				BCC	160\$:	YES	
13636	066454'					ERRHRD	561.,ERR027	:	NO, REPORT ERROR	
13637	066454'	104456							TRAP	C\$ERHRD
13638	066456'	001061							.WORD	561
13639	066460'	017777'							.WORD	ERR027
13640	066462'	000000							.WORD	0
13641	066464'				ESCAPE	TST	:	AND ABORT TEST		
13642	066464'	104410							TRAP	C\$ESCAPE
13643	066466'	000646							.WORD	L10060-.
13644										
13645	066470'	012705	012552'	160\$:	MOV	#TDR20A,R5	:	POINT TO EXPECTED TDRB		
13646	066474'	004737	025140'		JSR	PC,LDXTDR	:	LOAD INTO XTDRB0 TABLE		
13647	066500'	012705	000572'		MOV	#TDRB,R5	:	CHECK TDRB		
13648	066504'	004737	023220'		JSR	PC,CHKTDR	:	ERRORS ?		
13649	066510'	103006			BCC	162\$:	NO		
13650	066512'				ERRHRD	562.,ERR033,MSG005	:	YES, REPORT ERROR		
13651	066512'	104456							TRAP	C\$ERHRD
13652	066514'	001062							.WORD	562
13653	066516'	020637'							.WORD	ERR033
13654	066520'	015220'							.WORD	MSG005
13655	066522'				ESCAPE	TST	:	AND ABORT TEST		
13656	066522'	104410							TRAP	C\$ESCAPE
13657	066524'	000610							.WORD	L10060-.
13658										
13659	066526'	012705	000602'	:CHECK SECOND RING ENTRY	162\$:	MOV	#TDRB+8.,R5	:	CHECK TDRB OWNERSHIP	
13660	066532'	004737	022634'			JSR	PC,CHKOWN	:	OWN = PORT DRIVER ?	
13661	066536'	103006				BCC	164\$:	YES	
13662	066540'					ERRHRD	563.,ERR028	:	NO, REPORT ERROR	
13663	066540'	104456							TRAP	C\$ERHRD
13664	066542'	001063							.WORD	563
13665	066544'	020104'							.WORD	ERR028

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13722 066720' 004737 023550'      180$: JSR      PC,CLRRXI      ; WRITE ONE TO CLEAR RXI
13723                                ; ERROR ?
13724 066724' 103006                BCC      190$
13725 066726'                        ERRHRD   568.,ERR016,MSG003 ; YES, REPORT ERROR
13726 066726' 104456                TRAP
13727 066730' 001070                .WORD   568
13728 066732' 017050'                .WORD   ERR016
13729 066734' 015114'                .WORD   MSG003
13730 066736'                        ESCAPE  TST      ; AND ABORT TEST
13731 066736' 104410                TRAP
13732 066740' 000374                .WORD   C$ESCAPE
13733                                ;CHECK FIRST RING ENTRY
13734 066742' 012705 000632'      190$: MOV      #RDRB,R5      ; CHECK RDRB OWNERSHIP
13735 066746' 004737 022634'      JSR      PC,CHKOWN      ; OWN = PORT DRIVER ?
13736 066752' 103006                BCC      200$
13737 066754'                        ERRHRD   569.,ERR030 ; YES
13738 066754' 104456                ; NO, REPORT ERROR
13739 066756' 001071                TRAP
13740 066760' 020317'                .WORD   C$ERHRD
13741 066762' 000000                .WORD   569
13742 066764'                        ESCAPE  TST      ; AND ABORT TEST
13743 066764' 104410                .WORD   ERR030
13744 066766' 000346                .WORD   0
13745                                TRAP
13746 066770' 012705 012662'      200$: MOV      #RDR20A,R5 ; POINT TO EXPECTED RDRB
13747 066774' 004737 025110'      JSR      PC,LDXRDR      ; LOAD INTO XRDRBO TABLE
13748 067000' 012705 000632'      MOV      #RDRB,R5      ; CHECK RDRB
13749 067004' 004737 022754'      JSR      PC,CHKRDR      ; ERRORS ?
13750 067010' 103006                BCC      200$
13751 067012'                        ERRHRD   570.,ERR036,MSG006 ; YES, REPORT ERROR
13752 067012' 104456                TRAP
13753 067014' 001072                .WORD   C$ERHRD
13754 067016' 021105'                .WORD   570
13755 067020' 015362'                .WORD   ERR036
13756 067022'                        ESCAPE  TST      ; AND ABORT TEST
13757 067022' 104410                .WORD   MSG006
13758 067024' 000310                TRAP
13759                                ;CHECK SECOND RING ENTRY
13760 067026' 012705 000642'      202$: MOV      #RDRB+8.,R5 ; CHECK RDRB OWNERSHIP
13761 067032' 004737 022634'      JSR      PC,CHKOWN      ; OWN = PORT DRIVER ?
13762 067036' 103006                BCC      204$
13763 067040'                        ERRHRD   571.,ERR031 ; YES
13764 067040' 104456                ; NO, REPORT ERROR
13765 067042' 001073                TRAP
13766 067044' 020424'                .WORD   C$ERHRD
13767 067046' 000000                .WORD   571
13768 067050'                        ESCAPE  TST      ; AND ABORT TEST
13769 067050' 104410                .WORD   ERR031
13770 067052' 000262                .WORD   0
13771                                TRAP
13772 067054' 012705 012672'      204$: MOV      #RDR20B,R5 ; POINT TO EXPECTED RDRB
13773 067060' 004737 025110'      JSR      PC,LDXRDR      ; LOAD INTO XRDRBO TABLE
13774 067064' 012705 000642'      MOV      #RDRB+8.,R5 ; CHECK RDRB
13775 067070' 004737 022754'      JSR      PC,CHKRDR      ; ERRORS ?
13776 067074' 103006                BCC      206$
13777 067076'                        ERRHRD   572.,ERR037,MSG006 ; YES, REPORT ERROR

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13778	067076'	104456				TRAP	C\$ERHRD
13779	067100'	001074				.WORD	572
13780	067102'	021173'				.WORD	ERR037
13781	067104'	015362'				.WORD	MSG006
13782	067106'			ESCAPE TST	:	AND ABORT TEST	
13783	067106'	104410				TRAP	C\$ESCAPE
13784	067110'	000224				.WORD	L10060-
13785							
13786	067112'	012705	000652'	:CHECK THIRD RING ENTRY			
13787	067116'	004737	022634'	206\$: MOV #RDRB+16.,R5	:	CHECK RDRB OWNERSHIP	
13788	067122'	103006		JSR PC,CHKOWN	:	OWN = PORT DRIVER ?	
13789	067124'			BCC 208\$:	YES	
13790	067124'	104456		ERRHRD 573.,ERR032	:	NO, REPORT ERROR	
13791	067126'	001075				TRAP	C\$ERHRD
13792	067130'	020532'				.WORD	573
13793	067132	000000				.WORD	ERR032
13794	067134'			ESCAPE TST	:	AND ABORT TEST	0
13795	067134'	104410				TRAP	C\$ESCAPE
13796	067136'	000176				.WORD	L10060-
13797							
13798	067140'	012705	012702'	:208\$: MOV #RDR20C,R5	:	POINT TO EXPECTED RDRB	
13799	067144'	004737	025110'	JSR PC,LDXRDR	:	LOAD INTO XRDRB0 TABLE	
13800	067150'	012705	000652'	MOV #RDRB+16.,R5	:	CHECK RDRB	
13801	067154'	004737	022754'	JSR PC,CHKRDR	:	ERRORS ?	
13802	067160'	103006		BCC 210\$:	NO	
13803	067162'			ERRHRD 574.,ERR038,MSG006	:	YES, REPORT ERROR	
13804	067162'	104456				TRAP	C\$ERHRD
13805	067164'	001076				.WORD	574
13806	067166'	021262'				.WORD	ERR038
13807	067170'	015362'				.WORD	MSG006
13808	067172'			ESCAPE TST	:	AND ABORT TEST	
13809	067172'	104410				TRAP	C\$ESCAPE
13810	067174'	000140				.WORD	L10060-
13811							
13812				:COMPARE RBUF WITH TBUF			
13813	067176'	012705	000570	210\$: MOV #376.,R5	:	COMPARE 376 WORDS OF DATA	
13814	067202'	004737	023732'	JSR PC,CMPDAT	:	DATA COMPARE ERROR ?	
13815	067206'	103006		BCC 220\$:	NO	
13816	067210'			ERRHRD 575.,ERR022,MSG007	:	YES, REPORT ERROR	
13817	067210'	104456				TRAP	C\$ERHRD
13818	067212'	001077				.WORD	575
13819	067214'	017540'				.WORD	ERR022
13820	067216'	015524'				.WORD	MSG007
13821	067220'			ESCAPE TST	:	AND ABORT TEST	
13822	067220'	104410				TRAP	C\$ESCAPE
13823	067222'	000112				.WORD	L10060-
13824							
13825	067224'	012705	013072'	:220\$: MOV #CRC27A,R5	:	POINT TO EXPECTED CRC	
13826	067230'	004737	025064'	JSR PC,LDXCRC	:	LOAD INTO XCRC TABLE	
13827	067234'	012705	006466'	MOV #RBUF+764.,R5	:	CHECK CRC	
13828	067240'	004737	024012'	JSR PC,CMPCRC	:	ERRORS ?	
13829	067244'	103006		BCC 230\$:	NO	
13830	067246'			ERRHRD 576.,ERR023,MSG008	:	YES, REPORT ERROR	
13831	067246'	104456				TRAP	C\$ERHRD
13832	067250'	001100				.WORD	576
13833	067252'	017607'				.WORD	ERR023

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CZUABA.MAC 10-JAN-83 12:46 TEST 27: SIMULTANEOUS OPERATIONS TEST

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13834 067254' 015556'
13835 067256'          ESCAPE TST          ; AND ABORT TEST          .WORD  MSG008
13836 067256' 104410
13837 067260' 000054
13838
13839 067262' 012777 000017 110736 230$: MOV #STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
13840 067270' 004737 022546' JSR PC,CHKDNI ; DNI ?
13841 067274' 103006 BCC 240$ ; YES
13842 067276' ERRHRD 577.,ERR019,MSG003 ; NO, REPORT ERROR
13843 067276' 104456 TRAP C$ERHRD
13844 067300' 001101 .WORD 577
13845 067302' 017316' .WORD ERR019
13846 067304' 015114' .WORD MSG003
13847 067306'          ESCAPE TST          ; AND ABORT TEST
13848 067306' 104410 TRAP C$ESCAPE
13849 067310' 000024 .WORD L10060-.
13850
13851 067312' 004737 023434' 240$: JSR PC,CLRDN ; WRITE ONE TO CLEAR DNI
13852 BCC 250$ ; ERROR ?
13853 ERRHRD 578.,ERR006,MSG003 ; NO
13854 067316' 103006 ; YES, REPORT ERROR
13855 067320' 104456 TRAP C$ERHRD
13856 067322' 001102 .WORD 578
13857 067324' 016206' .WORD ERR006
13858 067326' 015114' .WORD MSG003
13859 067330'          ESCAPE TST          ; AND ABORT TEST
13860 067330' 104410 TRAP C$ESCAPE
13861 067332' 000002 .WORD L10060-.
13862 067334'          250$:
13863 067334'          ENDTST
13864 067334'
13865 067334' 104401 L10060: TRAP C$ETST

```

HARDWARE TESTS MACY11 30(1046) 11-JAN-83 12:03 PAGE 284
CZUABA.MAC 10-JAN-83 12:46

TEST 28: PRINT DEVICE PARAMETERS TEST

.SBTTL TEST 28: 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
*****

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067336'
067336'
067336' 005737 013214'
067342' 001002
067344'
067344' 104432
067346' 000710
067350' 004737 025334'
067354' 103025
067356' 012777 000040 110642
067364' 004737 022546'
067370' 103006
067372'
067372' 104456
067374' 001103
067376' 016106'
067400' 015114'
067402'
067402' 104410
067404' 000652
067406' 004737 023434'
067412' 103006
067414'
067414' 104456
067416' 001104
067420' 016206'
067422' 015114'
067424'
067424' 104410
067426' 000630
067430' 004737 024660'
067434' 012777 000001 110564
067442' 004737 022546'
067446' 103006
067450'
067450' 104456
067452' 001105

BGNTST

```

TST FRSTIM ; RUN THIS TEST ? T28::
BNE 5$ ; YES
EXIT TST ; NO, EXIT
; TRAP C$EXIT
; .WORD L10061-.

5$: JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30$ ; NO
MOV #RSET,@PCSR0 ; YES, RESET DEUNA
JSR PC,CHKDNI ; DNI?
BCC 20$ ; YES
ERRHRD 579.,ERR004,MSG003 ; NO, REPORT ERROR
; TRAP C$ERHRD
; .WORD 579
; .WORD ERR004
; .WORD MSG003

ESCAPE TST ; AND ABORT TEST
; TRAP C$ESCAPE
; .WORD L10061-.

20$: JSR PC,CLR DNI ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 30$ ; NO
ERRHRD 580.,ERR006,MSG003 ; YES, REPORT ERROR
; TRAP C$ERHRD
; .WORD 580
; .WORD ERR006
; .WORD MSG003

ESCAPE TST ; AND ABORT TEST
; TRAP C$ESCAPE
; .WORD L10061-.

30$: JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2!3
MOV #GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
JSR PC,CHKDNI ; DNI?
BCC 40$ ; YES
ERRHRD 581.,ERR009,MSG003 ; NO, REPORT ERROR
; TRAP C$ERHRD
; .WORD 581

```


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 CZUABA.MAC 10-JAN-83 12:46 TEST 28: PRINT DEVICE PARAMETERS TEST

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13978 067642' ERRHRD 585.,ERR010,MSG003 ; NO, REPORT ERROR
13979 067642' 104456 TRAP CSERHRD
13980 067644' 001111 .WORD 585
13981 067646' 016506' .WORD ERR010
13982 067650' 015114' .WORD MSG003
13983 067652' ESCAPE TST ; AND ABORT TEST
13984 067652' 104410 TRAP C$ESCAPE
13985 067654' 000402 .WORD L10061-.
13986
13987 067656' 004737 023434' ;110$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
13988 ; ERROR ?
13989 067662' 103006 BCC 120$ ; NO
13990 067664' ERRHRD 586.,ERR006,MSG003 ; YES, REPORT ERROR
13991 067664' 104456 TRAP CSERHRD
13992 067666' 001112 .WORD 586
13993 067670' 016206' .WORD ERR006
13994 067672' 015114' .WORD MSG003
13995 067674' ESCAPE TST ; AND ABORT TEST
13996 067674' 104410 TRAP C$ESCAPE
13997 067676' 000360 .WORD L10061-.
13998
13999 ;MOVE MICROCODE REVISION FROM PCBB -> RREV
14000 067700' 013737 000254' 070266' ;120$: MOV PCBB+2,RREV
14001 067706' 042737 177700 070266' BIC #177700,RREV ; MASK RREV
14002
14003 ;READ SWITCH PACK
14004 067714' 012705 011272' ;130$: MOV #DMPMEM,R5 ; DEFAULT DUMP INTERNAL MEMORY
14005 067720' 004737 024630' JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
14006 067724' 012705 013114' MOV #UDB28A,R5 ; DEFAULT UDBB
14007 067730' 012700 000004' MOV #4,R0 ; FOUR WORDS
14008 067734' 004737 025030' JSR PC,LDUDBB ; LOAD INTO UDBB
14009 067740' 012737 070270' 000264' MOV #SWPACK,UDBB+2 ; LOAD ADDRESS
14010 067746' 013737 013124' 000270' MOV SWADDR,UDBB+6 ; LOAD INTERNAL ADDRESS
14011 067754' 012777 000002 110244' MOV #GETCMD,@PCSR0 ; ISSUE GET COMMAND PORT COMMAND
14012 067762' 004737 022546' JSR PC,CHKDNI ; DNI ?
14013 067766' 103006 BCC 140$ ; YES
14014 067770' ERRHRD 587.,ERR010,MSG003 ; NO, REPORT ERROR
14015 067770' 104456 TRAP CSERHRD
14016 067772' 001113 .WORD 587
14017 067774' 016506' .WORD ERR010
14018 067776' 015114' .WORD MSG003
14019 070000' ESCAPE TST ; AND ABORT TEST
14020 070000' 104410 TRAP C$ESCAPE
14021 070002' 000254 .WORD L10061-.
14022
14023 070004' 004737 023434' ;140$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
14024 ; ERROR ?
14025 070010' 103006 BCC 150$ ; NO
14026 070012' ERRHRD 588.,ERR006,MSG003 ; YES, REPORT ERROR
14027 070012' 104456 TRAP CSERHRD
14028 070014' 001114 .WORD 588
14029 070016' 016206' .WORD ERR006
14030 070020' 015114' .WORD MSG003
14031 070022' ESCAPE TST ; AND ABORT TEST
14032 070022' 104410 TRAP C$ESCAPE
14033 070024' 000232 .WORD L10061-.

```

HARDWARE TESTS MACY11 30(1046) 11-JAN-83 12:03 PAGE 287
CZUABA.MAC 10-JAN-83 12:46

TEST 28: PRINT DEVICE PARAMETERS TEST

```

14034      :GET SWITCH PACK INFO READY TO PRINT
14035 070026' 013704 070270' 150$: MOV SWPACK,R4      ; SWITCH PACK -> R4
14036 070032' 042704 167777' BIC #167777,R4      ; MASK BIT 12
14037 070036' 012700 000013' MOV #11.,R0      ; SHIFT BIT FOR INDEX
14038 070042' 006204 160$: ASR R4
14039 070044' 005300 DEC R0
14040 070046' 001375 BNE 160$
14041 070050' 062704 070410' ADD #LPTBL,R4      ; INDEX INTO LOOP TABLE
14042 070054' 011437 070272' MOV (R4),LPMSG      ; LOAD INTO LOOP MESSAGE
14043 070060' 013704 070270' 170$: MOV SWPACK,R4      ; SWITCH PACK -> R4
14044 070064' 042704 171777' BIC #171777,R4      ; MASK BITS 10 AND 11
14045 070070' 012700 000011' MOV #9.,R0      ; SHIFT BITS FOR INDEX
14046 070074' 006204 180$: ASR R4
14047 070076' 005300 DEC R0
14048 070100' 001375 BNE 180$
14049 070102' 062704 070414' ADD #BTTBL,R4      ; INDEX INTO BOOT TABLE
14050 070106' 011437 070274' MOV (R4),BTMSG      ; LOAD INTO BOOT MESSAGE
14051      :
14052      : PRINT
14053      :
14054      PRINTB #FRM015,#DEFHDR      ; PRINT DEFAULT PHYSICAL ADDRESS
14055 070112' 012746 070300' MOV #DEFHDR,-(SP)
14056 070116' 012746 014555' MOV #FRM015,-(SP)
14057 070122' 012746 000002' MOV #2,-(SP)
14058 070126' 010600 MOV SP,R0
14059 070130' 104414 TRAP C$PNTB
14060 070132' 062706 000006' ADD #6,SP
14061 070136' 14062 070136' 013746 070266' PRINTB #FRM016,RREV      ; PRINT MICROCODE REV
14063 070142' 012746 014562' MOV RREV,-(SP)
14064 070146' 012746 000002' MOV #FRM016,-(SP)
14065 070152' 010600 MOV #2,-(SP)
14066 070154' 104414 MOV SP,R0
14067 070156' 062706 000006' TRAP C$PNTB
14068 070162' 14069 070162' 012746 070424' PRINTB #FRM015,#SWHDR      ; PRINT SWITCH PACK HEADER
14070 070166' 012746 014555' ADD #6,SP
14071 070172' 012746 000002' MOV #SWHDR,-(SP)
14072 070176' 010600 MOV #FRM015,-(SP)
14073 070200' 104414 MOV #2,-(SP)
14074 070202' 062706 000006' TRAP C$PNTB
14075 070206' 14076 070206' 013746 070272' PRINTB #FRM015,LPMSG      ; PRINT LOOPBACK MESSAGE
14077 070212' 012746 014555' ADD #6,SP
14078 070216' 012746 000002' MOV LPMSG,-(SP)
14079 070222' 010600 MOV #FRM015,-(SP)
14080 070224' 104414 MOV #2,-(SP)
14081 070226' 062706 000006' TRAP C$PNTB
14082 070232' 14083 070232' 013746 070274' PRINTB #FRM015,BTMSG      ; PRINT BOOT MESSAGE
14084 070236' 012746 014555' ADD #6,SP
14085 070242' 012746 000002' MOV BTMSG,-(SP)
14086 070246' 010600 MOV #FRM015,-(SP)
14087 070250' 104414 MOV #2,-(SP)
14088 070252' 062706 000006' TRAP C$PNTB
14089      : ADD #6,SP

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HARDWARE TESTS MACY11 30(1046) 11-JAN-83 12:03 PAGE 288
CZUABA.MAC 10-JAN-83 12:46 TEST 28: PRINT DEVICE PARAMETERS TEST

14090 070256*
14091 070256*
14092 070256*
14093 070256* 104401

250\$:
ENDTST

L10061: TRAP C\$ETST

HARDWARE TESTS MACY11 30(1046) 11-JAN-83 12:03 PAGE 289
 CZUABA.MAC 10-JAN-83 12:46 TEST 28: PRINT DEVICE PARAMETERS TEST

```

14094 ;LOCAL STORAGE FOR TEST 28
14095 070260' 000000 DPA:: .WORD 0 ; DEFAULT PHYSICAL ADDRESS (15:00)
14096 070262' 000000 .WORD 0 ; DEFAULT PHYSICAL ADDRESS (31:16)
14097 070264' 000000 .WORD 0 ; DEFAULT PHYSICAL ADDRESS (47:32)
14098 ;
14099 070266' 000000 RREV:: .WORD 0 ; MICROCODE REVISION
14100 ;
14101 070270' 000000 SWPACK:: .WORD 0 ; SWITCH PACK CONTENTS
14102 070272' 000000 LPMSG:: .WORD 0 ; LOOPBACK MESSAGE ADDRESS
14103 070274' 000000 BTMSG:: .WORD 0 ; BOOT MESSAGE ADDRESS
14104 ;
14105 070276' 000 HEXDAT:: .BYTE 0 ; HEX DATA FOR CONVERSION
14106 070277' 000 HEXVAL:: .BYTE 0 ; ASCII HEX VALUE
14107 ;
14108 070300' 005015 052105 042510 DEFHDR:: .ASCII <15><12>/ETHERNET DEFAULT ADDRESS (HEX): /
14109 070306' 047122 052105 042040
14110 070314' 043105 052501 052114
14111 070322' 040440 042104 042522
14112 070330' 051523 024040 042510
14113 070336' 024530 020072 040
14114 070343' 040 040 DEFADR:: .ASCII / /
14115 070345' 055 .ASCII /- /
14116 070346' 020040 .ASCII / /
14117 070350' 055 .ASCII /- /
14118 070351' 040 040 .ASCII / /
14119 070353' 055 .ASCII /- /
14120 070354' 020040 .ASCII / /
14121 070356' 055 .ASCII /- /
14122 070357' 040 040 .ASCII / /
14123 070361' 055 .ASCII /- /
14124 070362' 020040 .ASCII / /
14125 070364' 005015 000 .ASCII <15><12>
14126 ;
14127 070367' 060 HEXTBL:: .ASCII /0 /
14128 070370' 061 .ASCII /1 /
14129 070371' 062 .ASCII /2 /
14130 070372' 063 .ASCII /3 /
14131 070373' 064 .ASCII /4 /
14132 070374' 065 .ASCII /5 /
14133 070375' 066 .ASCII /6 /
14134 070376' 067 .ASCII /7 /
14135 070377' 070 .ASCII /8 /
14136 070400' 071 .ASCII /9 /
14137 070401' 101 .ASCII /A /
14138 070402' 102 .ASCII /B /
14139 070403' 103 .ASCII /C /
14140 070404' 104 .ASCII /D /
14141 070405' 105 .ASCII /E /
14142 070406' 106 .ASCII /F /
14143 070410' .EVEN
14144 ;
14145 ; LOOP MESSAGE TABLE
14146 070410' 070456' LPTBL:: .WORD LPMSG0
14147 070412' 070515' .WORD LPMSG1
14148 ; BOOT MESSAGE TABLE
14149 070414' 070553' BTBL:: .WORD BTMSG0

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HARDWARE TESTS MACV11 30(1046) 11-JAN-83 12:03 PAGE 290
 CZUABA.MAC 10-JAN-83 12:46 TEST 28: PRINT DEVICE PARAMETERS TEST

14150	070416'	070611'				.WORD	BTMSG1
14151	070420'	070644'				.WORD	BTMSG2
14152	070422'	070710'				.WORD	BTMSG3
14153							
14154	070424'	005015	053523	052111		.ASCII	<15><12>/SWITCH PACK SET FOR :/
14155	070432'	044103	050040	041501			
14156	070440'	020113	042523	020124			
14157	070446'	047506	020122	072			
14158	070453'	015	000012				
14159	070456'	020040	020040	051440	LPMSG0::	.ASCIZ	<15><12>
14160	070464'	046105	020106	042524		.ASCII	/ SELF TEST LOUP DISABLED/
14161	070472'	052123	046040	047517			
14162	070500'	020120	044504	040523			
14163	070506'	046102	042105				
14164	070512'	005015	000			.ASCIZ	<15><12>
14165	070515'	040	020040	020040	LPMSG1::	.ASCII	/ SELF TEST LOOP ENABLED/
14166	070522'	042523	043114	052040			
14167	070530'	051505	020124	047514			
14168	070536'	050117	042440	040516			
14169	070544'	046102	042105				
14170	070550'	005015	000			.ASCIZ	<15><12>
14171	070553'	040	020040	020040	BTMSG0::	.ASCII	/ NO REMOTE BOOT ENABLED/
14172	070560'	047516	051040	046505			
14173	070566'	052117	020105	047502			
14174	070574'	052117	042440	040516			
14175	070602'	046102	042105				
14176	070606'	005015	000			.ASCIZ	<15><12>
14177	070611'	040	020040	020040	BTMSG1::	.ASCII	/ REMOTE BOOT ENABLED/
14178	070616'	042522	047515	042524			
14179	070624'	041040	047517	020124			
14180	070632'	047105	041101	042514			
14181	070640'	104					
14182	070641'	015	000012				
14183	070644'	020040	020040	051040	BTMSG2::	.ASCIZ	<15><12>
14184	070652'	046505	052117	020105		.ASCII	/ REMOTE BOOT ENABLED WITH ROM/
14185	070660'	047502	052117	042440			
14186	070666'	040516	046102	042105			
14187	070674'	053440	052111	020110			
14188	070702'	047522	115				
14189	070705'	015	000012				
14190	070710'	020040	020040	051040	BTMSG3::	.ASCIZ	<15><12>
14191	070716'	046505	052117	020105		.ASCII	/ REMOTE BOOT AND POWER UP BOOT BOTH ENABLED/
14192	070724'	047502	052117	040440			
14193	070732'	042116	050040	053517			
14194	070740'	051105	052440	020120			
14195	070746'	047502	052117	041040			
14196	070754'	052117	020110	047105			
14197	070762'	041101	042514	104			
14198	070767'	015	000012			.ASCIZ	<15><12>
14199						.EVEN	

PARAMETER CODING MACY11 30(1046) 11-JAN-83 12:03 PAGE 291
CZUABA.MAC 10-JAN-83 12:46 TEST 28: PRINT DEVICE PARAMETERS TEST

.TITLE PARAMETER CODING
.SBTTL HARDWARE PARAMETER CODING SECTION

:+
: THE HARDWARE PARAMETER CODING SECTION CONTAINS MACROS
: THAT ARE USED BY THE SUPERVISOR TO BUILD P-TABLES. THE
: MACROS ARE NOT EXECUTED AS MACHINE INSTRUCTIONS BUT ARE
: INTERPRETED BY THE SUPERVISOR AS DATA STRUCTURES. THE
: MACROS ALLOW THE SUPERVISOR TO ESTABLISH COMMUNICATIONS
: WITH THE OPERATOR.
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070772' 000010
070772' 000021
070774' 071014'
071000' 160000
071002' 177776
071004' 001021
071006' 071047'
071010' 000000
071012' 000776
071014'
071014' 044127 052101 044440
071022' 020123 044124 020105
071030' 041520 051123 020060
071036' 042101 051104 051505
071044' 037523 000
071047' 127 040510 020124
071054' 051511 052040 042510
071062' 053040 041505 047524
071070' 020122 042101 051104
071076' 051505 037523 000
071104'

BGNHRD

GPRMA ASKCSR,0,0,160000,177776,NO

GPRMA ASKVEC,2,0,0,776,NO

ENDHRD

ASKCSR: .ASCIZ /WHAT IS THE PCSRO ADDRESS?/

ASKVEC: .ASCIZ /WHAT IS THE VECTOR ADDRESS?/

.EVEN

.WORD L10062-L\$HARD/2
L\$HARD::

;FIRST P-TABLE QUESTION

.WORD T\$CODE
.WORD ASKCSR
.WORD T\$LOLIM
.WORD T\$HILIM

;SECOND P-TABLE QUESTION

.WORD T\$CODE
.WORD ASKVEC
.WORD T\$LOLIM
.WORD T\$HILIM

.EVEN
L10062:

PARAMETER CODING MACY:1 30(1046)
CZUABA.MAC 10-JAN-83 12:46

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SOFTWARE PARAMETER CODING SECTION

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071104'
071104' 000003
071106'
071106'
071106' 000130
071110' 071114'
071112' 000001

071114'
071114'

071114' 052522 020116 042524
071122' 052123 031040 020060
071130' 047111 042440 052130
071136' 051105 040516 020114
071144' 047514 050117 040502
071152' 045503 046440 042117
071160' 020105 000077

071164'
071164' 000010

071204'
071204' 000000
071206' 000000
071210'
071210'
000001

.SBTTL SOFTWARE PARAMETER CODING SECTION
:++
: THE SOFTWARE PARAMETER CODING SECTION CONTAINS MACROS
: THAT ARE USED BY THE SUPERVISOR TO BUILD P-TABLES. THE
: MACROS ARE NOT EXECUTED AS MACHINE INSTRUCTIONS BUT ARE
: INTERPRETED BY THE SUPERVISOR AS DATA STRUCTURES. THE
: MACROS ALLOW THE SUPERVISOR TO ESTABLISH COMMUNICATIONS
: WITH THE OPERATOR.
:--
BGNSFT
L\$SOFT:: .WORD L10063-L\$SOFT/2
L\$SOFT::
GPRML ASKEXT,0,1,YES
.WORD T\$CODE
.WORD ASKEXT
.WORD 1
.EVEN
ENDSFT
L10063: .EVEN
L10063:
ASKEXT: .ASCIZ /RUN TEST 20 IN EXTERNAL LOOPBACK MODE ?/
.EVEN
\$PATCH::
.BLKW 10
LASTAD
.EVEN
.WORD 0
.WORD 0
L\$LAST::
ENDMOD
.END

PARAMETER CODING MACY11 30(1046) 11-JAN-83 12:03 PAGE 294
CZUABA.MAC 10-JAN-83 12:46 CROSS REFERENCE TABLE -- USER SYMBOLS

ADR = 000020 G	1317#													
ADR21 012306RG	1850#	9307	9866	11022	11090	13115								
ADR21C 012314RG	1853#	9528	9645	11275	13271									
ASKCSR 071014R	14221	14233#												
ASKEXT 071114R	14261	14271#												
ASKVEC 071047R	14226	14238#												
ASSEMB= 0000.0	1068													
BIT0 = 000001 G	1290#													
BIT00 = 000001 G	1279#	1290	1344	1346	1350	1367	1369	1370	1372					
BIT01 = 000002 G	1278#	1289	1345	1346	1348	1350	1368	1369	1371	1372				
BIT02 = 000004 G	1277#	1288	1347	1348	1350	1370	1371	1372						
BIT03 = 000010 G	1276#	1287	1349	1350	1361									
BIT04 = 000020 G	1275#	1286												
BIT05 = 000040 G	1274#	1285	1341											
BIT06 = 000100 G	1273#	1284	1340											
BIT07 = 000200 G	1272#	1283	1339	1359										
BIT08 = 000400 G	1271#	1282	1338	1378										
BIT09 = 001000 G	1270#	1281	1377											
BIT1 = 000002 G	1289#													
BIT10 = 002000 G	1269#	1336												
BIT11 = 004000 G	1268#	1335												
BIT12 = 010000 G	1267#	1334	7092											
BIT13 = 020000 G	1266#	1333												
BIT14 = 040000 G	1265#	1332	1354	1376										
BIT15 = 100000 G	1264#	1331	1353	1375	1380	7085								
BIT2 = 000004 G	1288#													
BIT3 = 000010 G	1287#													
BIT4 = 000020 G	1286#													
BIT5 = 000040 G	1285#													
BIT6 = 000100 G	1284#													
BIT7 = 000200 G	1283#													
BIT8 = 000400 G	1282#													
BIT9 = 001000 G	1281#													
BOE = 000400 G	1321#													
BTMSG 070274RG	14050*	14083	14103#											
BTMSG0 070553RG	14149	14171#												
BTMSG1 070611RG	14150	14177#												
BTMSG2 070644RG	14151	14183#												
BTMSG3 070710RG	14152	14190#												
BTTBL 070414RG	14049	14149#												
BUFL = 100000 G	1380#	12702												
CHKDNI 022546RG	2970#	4879	5387	5411	5438	5462	5507	5619	5644	5686	5754	5779	5817	
	5860	5914	5957	6017	6042	6070	6097	6140	6167	6238	6263	6291	6336	
	6389	6458	6511	6595	6620	6647	6677	6704	6738	6887	6922	6946	6982	
	7074	7141	7166	7193	7222	7248	7282	7416	7470	7495	7522	7551	7577	
	7611	7745	7797	7822	7851	7881	7908	7942	8078	8130	8155	8182	8212	
	8239	8273	8372	8425	8450	8477	8507	8534	8569	8641	8695	8720	8756	
	8786	8813	8851	9133	9197	9222	9250	9280	9313	9347	9496	9532	9616	
	9651	9685	9834	9870	9954	10021	10046	10074	10104	10131	10161	10201	10350	
	10396	10480	10516	10556	10705	10750	10834	10913	10938	10965	10995	11028	11058	
	11094	11243	11279	11428	11455	11495	11644	11691	11840	11912	11937	11967	11997	
	12024	12054	12094	12243	12290	12439	12510	12535	12562	12592	12619	12653	12714	
	12746	12780	12942	13005	13030	13058	13088	13121	13155	13239	13275	13359	13413	
	13438	13465	13495	13522	13562	13587	13840	13892	13917	13944	13976	14012		
CHKOWN 022634RG	3014#	6785	6834	7329	7378	7658	7707	7989	8038	8320	8346	8898	8924	
	8950	9028	9054	9080	9394	9443	9579	9732	9781	9917	10248	10297	10443	

PARAMETER CODING MACY11 30(1046) 11-JAN-83 12:03 PAGE 297
CZUABA.MAC 10-JAN-83 12:46 CROSS REFERENCE TABLE -- USER SYMBOLS

12144	12158	12169	12181	12193	12207	12220	12234	12246	12258	12293	12305	12316
12328	12340	12354	12365	12377	12389	12403	12416	12430	12442	12454	12513	12525
12538	12550	12565	12577	12595	12607	12622	12634	12656	12668	12679	12691	12705
12717	12729	12749	12761	12783	12795	12806	12818	12830	12844	12855	12867	12879
12893	12906	12919	12933	12945	12957	13008	13020	13033	13045	13061	13073	13091
13103	13124	13136	13158	13170	13181	13193	13205	13219	13230	13242	13254	13278
13290	13301	13313	13325	13339	13350	13362	13374	13416	13428	13441	13453	13468
13480	13498	13510	13525	13537	13565	13577	13590	13602	13613	13625	13637	13651
13663	13677	1368C	13703	13714	13726	13738	13752	13764	13778	13790	13804	13817
13831	13843	13855	13895	13907	13920	13932	13947	13959	13979	13991	14015	14027
1068#												
1068#												
1068#												
1068#	4887	4899	4924	4939	4951	5395	5407	5419	5431	5446	5458	5470
5482	5515	5527	5570	5589	5627	5639	5652	5664	5694	5706	5722	5762
5774	5787	5799	5825	5837	5868	5880	5894	5922	5934	5965	5977	5991
6025	6037	6050	6062	6078	6090	6105	6117	6131	6148	6160	6175	6187
6201	6246	6258	6271	6283	6299	6311	6344	6356	6397	6409	6428	6466
6478	6519	6531	6550	6603	6615	6628	6640	6655	6667	6685	6697	6712
6724	6746	6758	6769	6781	6793	6807	6818	6830	6842	6856	6869	6883
6895	6907	6930	6940	6954	6966	6990	7002	7013	7025	7036	7048	7068
7082	7149	7161	7174	7186	7201	7213	7230	7242	7256	7268	7290	7302
7313	7325	7337	7351	7362	7374	7386	7400	7412	7424	7436	7478	7490
7503	7515	7530	7542	7559	7571	7585	7597	7619	7631	7642	7654	7666
7680	7691	7703	7715	7729	7741	7753	7765	7805	7817	7830	7842	7859
7871	7889	7901	7916	7928	7950	7962	7973	7985	7997	8011	8022	8034
8046	8060	8074	8086	8098	8138	8150	8163	8175	8190	8202	8220	8232
8247	8259	8281	8293	8304	8316	8328	8342	8354	8368	8380	8392	8433
8445	8458	8470	8485	8497	8515	8527	8542	8554	8577	8589	8600	8612
8625	8637	8649	8661	8703	8715	8728	8740	8764	8776	8794	8806	8821
8833	8859	8871	8882	8894	8906	8920	8932	8946	8958	8972	8983	8995
9023	9036	9050	9062	9076	9088	9102	9115	9129	9141	9153	9205	9217
9230	9242	9258	9270	9288	9300	9321	9333	9355	9367	9378	9390	9402
9416	9427	9439	9451	9465	9478	9492	9504	9516	9540	9552	9563	9575
9587	9601	9612	9624	9636	9659	9671	9693	9705	9716	9728	9740	9754
9765	9777	9789	9803	9816	9830	9842	9854	9878	9890	9901	9913	9925
9939	9950	9962	9974	10029	10041	10054	10066	10082	10094	10112	10124	10139
10151	10169	10181	10209	10221	10232	10244	10256	10270	10281	10293	10305	10319
10332	10346	10358	10370	10404	10416	10427	10439	10451	10465	10476	10488	10500
10524	10536	10564	10576	10587	10599	10611	10625	10636	10648	10660	10674	10687
10701	10713	10725	10758	10770	10781	10793	10805	10819	10830	10842	10854	10921
10933	10946	10958	10973	10985	11003	11015	11036	11048	11066	11078	11102	11114
11125	11137	11149	11163	11174	11186	11198	11212	11225	11239	11251	11263	11287
11299	11310	11322	11334	11348	11359	11371	11383	11397	11410	11424	11436	11448
11463	11475	11503	11515	11526	11538	11550	11564	11575	11587	11599	11613	11626
11640	11652	11664	11699	11711	11722	11734	11746	11760	11771	11783	11795	11809
11822	11836	11848	11860	11920	11932	11945	11957	11975	11987	12005	12017	12032
12044	12062	12074	12102	12114	12125	12137	12149	12163	12174	12186	12198	12212
12225	12239	12251	12263	12298	12310	12321	12333	12345	12359	12370	12382	12394
12408	12421	12435	12447	12459	12518	12530	12543	12555	12570	12582	12600	12612
12627	12639	12661	12673	12684	12696	12710	12722	12734	12754	12766	12788	12800
12811	12823	12835	12849	12860	12872	12884	12898	12911	12924	12938	12950	12962
13013	13025	13038	13050	13066	13078	13096	13108	13129	13141	13163	13175	13186
13198	13210	13224	13235	13247	13259	13283	13295	13306	13318	13330	13344	13355
13367	13379	13421	13433	13446	13458	13473	13485	13503	13515	13530	13542	13570
13582	13595	13607	13618	13630	13642	13656	13668	13682	13694	13708	13719	13731

C\$ERRO= 000060
C\$ERSF= 000054
C\$ERSO= 000057
C\$ESCA= 000010

PARAMETER CODING MACY11 30(1046) 11-JAN-83 12:03 PAGE 299
 CZUABA.MAC 10-JAN-83 12:46 CROSS REFERENCE TABLE -- USER SYMBOLS

EPCSR0	013126RG	2054#	2325	2987*	3067*	3176*	3323*	3356*	3392*	3428*	3464*	3500*	3535*	4255*
		4916*												
EPCSR1	013130RG	2055#	2324	2988*	3068*	3177*	3324*	3357*	3393*	3429*	3465*	3501*	3536*	4256*
		4917*												
ERDRB0	013132RG	2056#	2396	3124										
ERDRB2	013134RG	2057#	2404											
ERDRB4	013136RG	2058#	2412											
ERDRB6	013140RG	2059#	2420											
ERRBLK	013234RG	2095#												
ERRMSG	013232RG	2094#												
ERRNBR	013230RG	2093#												
ERRS =	040000 G	1376#												
ERRTYP	013226RG	2092#												
ERR001	015762RG	2501#	4619	4662	4704	4745								
ERR002	016012RG	2505#	4795											
ERR003	016050RG	2510#	4845											
ERR004	016106RG	2515#	4884	5392	5512	5624	5759	6022	6243	6600	6927	7146	7475	7802
		8135	8430	8700	9202	10026	10918	11917	12515	13010	13418	13897		
ERR005	016162RG	2523#	4936											
ERR006	016206RG	2527#	4896	4948	5404	5428	5455	5479	5524	5586	5636	5661	5703	5771
		5796	5834	5877	5931	5974	6034	6059	6087	6114	6157	6184	6255	6280
		6308	6353	6406	6475	6528	6612	6637	6664	6694	6721	6755	6904	6937
		6963	6999	7104	7158	7183	7210	7239	7265	7299	7433	7487	7512	7539
		7568	7594	7628	7762	7814	7839	7868	7898	7925	7959	8095	8147	8172
		8199	8229	8256	8290	8389	8442	8467	8494	8524	8551	8586	8658	8712
		8737	8773	8803	8830	8868	9150	9214	9239	9267	9297	9330	9364	9513
		9549	9633	9668	9702	9851	9887	9971	10038	10063	10091	10121	10148	10178
		10218	10367	10413	10497	10537	10573	10722	10767	10851	10930	10955	10982	11012
		11045	11075	11111	11260	11296	11445	11472	11512	11661	11708	11857	11929	11954
		11984	12014	12041	12071	12111	12260	12307	12456	12527	12552	12579	12609	12636
		12670	12731	12763	12797	12959	13022	13047	13075	13105	13138	13172	13256	13292
		13376	13430	13455	13482	13512	13539	13579	13604	13857	13909	13934	13961	13993
		14029												
ERR007	016254RG	2534#	5561											
ERR008	016343RG	2544#	5416											
ERR009	016422RG	2553#	5443	5649	5784	6047	6268	6625	7171	7500	7827	8160	8455	8725
		9227	10051	10943	11942	12540	13035	13443	13922					
ERR010	016506RG	2562#	5467	5691	5822	5865	5919	5962	6075	6102	6145	6172	6296	6341
		6394	6463	6516	6652	6682	6709	6951	7079	7198	7227	7253	7527	7556
		7582	7856	7886	7913	8187	8217	8244	8482	8512	8539	8761	8791	8818
		9255	9285	9318	9656	10079	10109	10136	10166	10521	10970	11000	11033	11063
		11460	11972	12002	12029	12059	12567	12597	12624	12751	13063	13093	13126	13470
		13500	13527	13949	13981	14017								
ERR011	016571RG	2571#	6128	6198										
ERR012	016637RG	2578#	6743	6987	7287	7616	7947	8278	8574	8856	9352	9537	9690	9875
		10206	10401	10561	10755	11099	11284	11500	11696	12099	12295	12658	12785	13160
		13280	13567											
ERR013	016720RG	2588#	6766	7010	7310	7639	7970	8301	8597	8879	9375	9560	9713	9898
		10229	10424	10584	10778	11122	11307	11523	11719	12122	12318	12681	12808	13183
		13303	13615											
ERR014	016751RG	2593#	6778	7022	7322	7651	7982	8313	8609	8891	9387	9572	9725	9910
		10241	10436	10596	10790	11134	11319	11535	11731	12134	12330	12693	12820	13195
		13315	13627											
ERR015	017017RG	2600#	6815	7033	7359	7688	8019	8980	9424	9762	10278	10633	11171	11356
		11572	11768	12171	12367	12857	13716							
ERR016	017050RG	2605#	6827	7045	7371	7700	8031	8992	9436	9774	10290	10645	11183	11368

PARAMETER CODING MACY11 30(1046) 11-JAN-83 12:03 PAGE 302
 CZUABA.MAC 10-JAN-83 12:46 CROSS REFERENCE TABLE -- USER SYMBOLS

11174	11186	11198	11212	11225	11239	11251	11263	11287	11299	11310	11322	11334
11348	11359	11371	11383	11397	11410	11424	11436	11448	11463	11475	11503	11515
11526	11538	11550	11564	11575	11587	11599	11613	11626	11640	11652	11664	11699
11711	11722	11734	11746	11760	11771	11783	11795	11809	11822	11836	11848	11860
11871	11908	11920	11932	11945	11957	11975	11987	12005	12017	12032	12044	12062
12074	12102	12114	12125	12137	12149	12163	12174	12186	12198	12212	12225	12239
12251	12263	12298	12310	12321	12333	12345	12359	12370	12382	12394	12408	12421
12435	12447	12459	12470	12506	12518	12530	12543	12555	12570	12582	12600	12612
12627	12639	12661	12673	12684	12696	12710	12722	12734	12754	12766	12788	12800
12811	12823	12835	12849	12860	12872	12884	12898	12911	12924	12938	12950	12962
12966	13001	13013	13025	13038	13050	13066	13078	13096	13108	13129	13141	13163
13175	13186	13198	13210	13224	13235	13247	13259	13283	13295	13306	13318	13330
13344	13355	13367	13379	13384	13409	13421	13433	13446	13458	13473	13485	13503
13515	13530	13542	13570	13582	13595	13607	13618	13630	13642	13656	13668	13682
13694	13708	13719	13731	13743	13757	13769	13783	13795	13809	13822	13836	13848
13860	13864	13882	13886	13900	13912	13925	13937	13952	13964	13984	13996	14020
14032	14092	14216	14256	14290								
1068#	4485	4496										
1068#	4506	4517										
1068#	1074	2306	2320	2334	2354	2392	2430	2444	2466	2500	4373	4382
4460	4477	4489	4498	4510	4519	4532	4541	4561	4588	4603	4630	4632
4646	4673	4675	4688	4715	4717	4729	4756	4758	4777	4802	4806	4808
4827	4852	4856	4858	4875	4887	4899	4924	4939	4951	4955	4957	5383
5395	5407	5419	5431	5446	5458	5470	5482	5486	5488	5503	5515	5527
5570	5589	5593	5595	5615	5627	5639	5652	5664	5694	5706	5722	5726
5728	5750	5762	5774	5787	5799	5825	5837	5868	5880	5894	5922	5934
5965	5977	5991	5996	5998	6013	6025	6037	6050	6062	6078	6090	6105
6117	6131	6148	6160	6175	6187	6201	6206	6208	6234	6246	6258	6271
6283	6299	6311	6344	6356	6397	6409	6428	6466	6478	6519	6531	6550
6557	6559	6587	6589	6603	6615	6628	6640	6655	6667	6685	6697	6712
6724	6746	6758	6769	6781	6793	6807	6818	6830	6842	6856	6869	6883
6895	6907	6911	6913	6914	6930	6940	6954	6966	6990	7002	7013	7025
7036	7048	7068	7082	7108	7110	7111	7113	7137	7149	7161	7174	7186
7201	7213	7230	7242	7256	7268	7290	7302	7313	7325	7337	7351	7362
7374	7386	7400	7412	7424	7436	7440	7442	7466	7478	7490	7503	7515
7530	7542	7559	7571	7585	7597	7619	7631	7642	7654	7666	7680	7691
7703	7715	7729	7741	7753	7765	7769	7771	7793	7805	7817	7830	7842
7859	7871	7889	7901	7916	7928	7950	7962	7973	7985	7997	8011	8022
8034	8046	8060	8074	8086	8098	8102	8104	8126	8138	8150	8163	8175
8190	8202	8220	8232	8247	8259	8281	8293	8304	8316	8328	8342	8354
8368	8380	8392	8396	8398	8421	8433	8445	8458	8470	8485	8497	8515
8527	8542	8554	8577	8589	8600	8612	8625	8637	8649	8661	8665	8567
8691	8703	8715	8728	8740	8764	8776	8794	8806	8821	8833	8859	8871
8882	8894	8906	8920	8932	8946	8958	8972	8983	8995	9023	9036	9050
9062	9076	9088	9102	9115	9129	9141	9153	9157	9159	9193	9205	9217
9230	9242	9258	9270	9288	9300	9321	9333	9355	9367	9378	9390	9402
9416	9427	9439	9451	9465	9478	9492	9504	9516	9540	9552	9563	9575
9587	9601	9612	9624	9636	9659	9671	9693	9705	9716	9728	9740	9754
9765	9777	9789	9803	9816	9830	9842	9854	9878	9890	9901	9913	9925
9939	9950	9962	9974	9978	9980	10017	10029	10041	10054	10066	10082	10094
10112	10124	10139	10151	10169	10181	10209	10221	10232	10244	10256	10270	10281
10293	10305	10319	10332	10346	10358	10370	10404	10416	10427	10439	10451	10465
10476	10488	10500	10524	10536	10564	10576	10587	10599	10611	10625	10636	10648
10660	10674	10687	10701	10713	10725	10758	10770	10781	10793	10805	10819	10830
10842	10854	10862	10864	10909	10921	10933	10946	10958	10973	10985	11003	11015
11036	11048	11066	11078	11102	11114	11125	11137	11149	11163	11174	11186	11198

F\$CLEA= 000007
 F\$DU = 000016
 F\$END = 000041

PARAMETER CODING MACY11 30(1046) 11-JAN-83 12:03 PAGE 305
CZUABA.MAC 10-JAN-83 12:46 CROSS REFERENCE TABLE -- USER SYMBOLS

5515	5527	5570	5589	5593#	5595#	5615#	5627	5639	5652	5664	5694	5706
5722	5726#	5728#	5750#	5762	5774	5787	5799	5825	5837	5868	5880	5894
5922	5934	5965	5977	5991	5996#	5998#	6013#	6025	6037	6050	6062	6078
6090	6105	6117	6131	6148	6160	6175	6187	6201	6206#	6208#	6234#	6246
6258	6271	6283	6299	6311	6344	6356	6397	6409	6428	6466	6478	6519
6531	6550	6557#	6559#	6587#	6589	6603	6615	6628	6640	6655	6667	6685
6697	6712	6724	6746	6758	6769	6781	6793	6807	6818	6830	6842	6856
6869	6883	6895	6907	6914	6930	6940	6954	6966	6990	7002	7013	7025
7036	7048	7068	7082	7111#	7113#	7137#	7149	7161	7174	7186	7201	7213
7230	7242	7256	7268	7290	7302	7313	7325	7337	7351	7362	7374	7386
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7729	7741	7753	7765	7769#	7771#	7793#	7805	7817	7830	7842	7859	7871
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LDBUFC	024530RG	3924#	5904	5942	6442	6489						
LDDEST	024602RG	3960#	6735	6979	7277	7606	7939	8270	8566	8844	9344	9529
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		13272	13553									
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JSJMP = 000167
LDBUF 024466RG
LDBUFC 024530RG
LDDEST 024602RG
LDMEM 011302RG

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 CZUABA.MAC 10-JAN-83 12:46 CROSS REFERENCE TABLE -- USER SYMBOLS

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L\$EXP5	000066RG	1141#							
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L\$LADP	000026RG	1109#							
L\$LAST	071210RG	1110	14288#						
L\$LOAD	000100RG	1151#							
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L\$MREV	000050RG	1127#							
L\$NAME	000000RG	1084#							
L\$PRIO	000042RG	1121#							
L\$PROT	025410RG	1162	4390#						
L\$PRT	000112RG	1161#							
L\$REPP	000062RG	1137#							
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L\$RPT	025402RG	1138	4369#						
L\$SOFT	071106RG	1104	14256	14257#					
L\$SPC	000056RG	1133#							
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L\$SPTP	000024RG	1107#							
L\$STA	000030RG	1111#							
L\$SW	000224RG	1108	1237	1238#					
L\$TEST	000114RG	1163#							
L\$TIML	000014RG	1099#							
L\$UNIT	000012RG	1097#	4436						
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L10001	000226R	1237	1245#						
L10002	015064R	2304#							
L10003	015112R	2318#							
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L10005	015216R	2352#							
L10006	015360R	2390#							
L10007	015522R	2428#							
L10010	015554R	2442#							
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L10013	025406R	4374	4380#						
L10015	025614R	4458#							
L10016	025616R	4475#							
L10017	025624R	4490	4496#						
L10020	025632R	4511	4517#						
L10021	025640R	4533	4539#						
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L10027	026274R	4756#							
L10030	026350R	4806#							
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L10032	026654R	4888	4900	4925	4940	4952	4955#		

PARAMETER CODING		MACY11 30(1046)		11-JAN-83 12:03 PAGE 308											
CZUABA.MAC 10-JAN-83 12:46				CROSS REFERENCE TABLE -- USER SYMBOLS											
L10033	032500R	5396	5408	5420	5432	5447	5459	5471	5483	5486#					
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L10035	033314R	5628	5640	5653	5665	5695	5707	5723	5726#						
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L10037	035034R	5992	5996#												
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L10041	040140R	6202	6206#												
L10042	037372R	6247	6259	6272	6284	6300	6312	6345	6357	6398	6410	6429	6467	6479	
L10043	040136R	6520	6532	6551	6557#										
L10044	041252R	6604	6616	6629	6641	6656	6668	6686	6698	6713	6725	6747	6759	6770	
L10045	042364R	6782	6794	6808	6819	6831	6843	6857	6870	6884	6896	6908	6931	6941	
L10046	043472R	6955	6967	6991	7003	7014	7026	7037	7049	7069	7083	7111#			
L10047	044470R	7108#													
L10050	045362R	7150	7162	7175	7187	7202	7214	7231	7243	7257	7269	7291	7303	7314	
L10051	047156R	7326	7338	7352	7363	7375	7387	7401	7413	7425	7437	7440#			
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L10053	055114R	7655	7667	7681	7692	7704	7716	7730	7742	7754	7766	7769#			
L10054	060514R	7806	7818	7831	7843	7860	7872	7890	7902	7917	7929	7951	7963	7974	
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L10056	064272R	8139	8151	8164	8176	8191	8203	8221	8233	8248	8260	8282	8294	8305	
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PARAMETER CODING
CZUABA.MAC

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CROSS REFERENCE TABLE -- USER SYMBOLS

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6682	6683	6685	6686	6692	6693	6694	6695	6697	6698	6707	6708	6709
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7187	7196	7197	7198	7199	7201	7202	7208	7209	7210	7211	7213	7214
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7474	7475	7476	7478	7479	7485	7486	7487	7488	7490	7491	7498	7499
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7559	7560	7566	7567	7568	7569	7571	7572	7580	7581	7582	7583	7585
7586	7592	7593	7594	7595	7597	7598	7614	7615	7616	7617	7619	7620
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7650	7651	7652	7654	7655	7661	7662	7663	7664	7666	7667	7675	7676
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7754	7760	7761	7762	7763	7765	7766	7770	7800	7801	7802	7803	7805
7806	7812	7813	7814	7815	7817	7818	7825	7826	7827	7828	7830	7831
7837	7838	7839	7840	7842	7843	7854	7855	7856	7857	7859	7860	7866
7867	7868	7869	7871	7872	7884	7885	7886	7887	7889	7890	7896	7897
7898	7899	7901	7902	7911	7912	7913	7914	7916	7917	7923	7924	7925
7926	7928	7929	7945	7946	7947	7948	7950	7951	7957	7958	7959	7960
7962	7963	7968	7969	7970	7971	7973	7974	7980	7981	7982	7983	7985
7986	7992	7993	7994	7995	7997	7998	8006	8007	8008	8009	8011	8012
8017	8018	8019	8020	8022	8023	8029	8030	8031	8032	8034	8035	8041
8042	8043	8044	8046	8047	8055	8056	8057	8058	8060	8061	8069	8070
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8096	8098	8099	8102	8133	8134	8135	8136	8138	8139	8145	8146	8147
8148	8150	8151	8156	8159	8160	8161	8163	8164	8170	8171	8172	8173
8175	8176	8185	8186	8187	8188	8190	8191	8197	8198	8199	8200	8202
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8277	8278	8279	8281	8282	8288	8289	8290	8291	8293	8294	8299	8300
8301	8302	8304	8305	8311	8312	8313	8314	8316	8317	8323	8324	8325
8326	8328	8329	8337	8338	8339	8340	8342	8343	8349	8350	8351	8352
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8381	8387	8388	8389	8390	8392	8393	8397	8428	8429	8430	8431	8433
8434	8440	8441	8442	8443	8445	8446	8453	8454	8455	8456	8458	8459
8465	8466	8467	8468	8470	8471	8480	8481	8482	8483	8485	8486	8492
8493	8494	8495	8497	8498	8510	8511	8512	8513	8515	8516	8522	8523
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8552	8554	8555	8572	8573	8574	8575	8577	8578	8584	8585	8586	8587
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8644	8645	8646	8647	8649	8650	8656	8657	8658	8659	8661	8662	8666
8698	8699	8700	8701	8703	8704	8710	8711	8712	8713	8715	8716	8723
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8761	8762	8764	8765	8771	8772	8773	8774	8776	8777	8789	8790	8791
8792	8794	8795	8801	8802	8803	8804	8806	8807	8816	8817	8818	8819
8821	8822	8828	8829	8830	8831	8833	8834	8854	8855	8856	8857	8859
8860	8866	8867	8868	8869	8871	8872	8877	8878	8879	8880	8882	8883
8889	8890	8891	8892	8894	8895	8901	8902	8903	8904	8906	8907	8915
8916	8917	8918	8920	8921	8927	8928	8929	8930	8932	8933	8941	8942
8943	8944	8946	8947	8953	8954	8955	8956	8958	8959	8967	8968	8969
8970	8972	8973	8978	8979	8980	8981	8983	8984	8990	8991	8992	8993

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9071	9072	9073	9074	9076	9077	9083	9084	9085	9086	9088	9089	9097
9098	9099	9100	9102	9103	9110	9111	9112	9113	9115	9116	9124	9125
9126	9127	9129	9130	9136	9137	9138	9139	9141	9142	9148	9149	9150
9151	9153	9154	9158	9200	9201	9202	9203	9205	9206	9212	9213	9214
9215	9217	9218	9225	9226	9227	9228	9230	9231	9237	9238	9239	9240
9242	9243	9253	9254	9255	9256	9258	9259	9265	9266	9267	9268	9270
9271	9283	9284	9285	9286	9288	9289	9295	9296	9297	9298	9300	9301
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9452	9460	9461	9462	9463	9465	9466	9473	9474	9475	9476	9478	9479
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9549	9550	9552	9553	9558	9559	9560	9561	9563	9564	9570	9571	9572
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9625	9631	9632	9633	9634	9636	9637	9654	9655	9656	9657	9659	9660
9666	9667	9668	9669	9671	9672	9688	9689	9690	9691	9693	9694	9700
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9725	9726	9728	9729	9735	9736	9737	9738	9740	9741	9749	9750	9751
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9777	9778	9784	9785	9786	9787	9789	9790	9798	9799	9800	9801	9803
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10136	10137	10139	10140	10146	10147	10148	10149	10151	10152	10164	10165	10166
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10265	10266	10267	10268	10270	10271	10276	10277	10278	10279	10281	10282	10288
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10631	10632	10633	10634	10636	10637	10643	10644	10645	10646	10648	10649	10655
10656	10657	10658	10660	10661	10669	10670	10671	10672	10674	10675	10682	10683
10684	10685	10687	10688	10696	10697	10698	10699	10701	10702	10708	10709	10710
10711	10713	10714	10720	10721	10722	10723	10725	10726	10753	10754	10755	10756

PARAMETER CODING MACY11 30(1046) 11-JAN-83 12:03 PAGE 317
 CZUABA.MAC 10-JAN-83 12:46 CROSS REFERENCE TABLE -- USER SYMBOLS

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10814	10815	10816	10817	10819	10820	10825	10826	10827	10828	10830	10831	10837
10838	10839	10840	10842	10843	10849	10850	10851	10852	10854	10855	10863	10916
10917	10918	10919	10921	10922	10928	10929	10930	10931	10933	10934	10941	10942
10943	10944	10946	10947	10953	10954	10955	10956	10958	10959	10968	10969	10970
10971	10973	10974	10980	10981	10982	10983	10985	10986	10998	10999	11000	11001
11003	11004	11010	11011	11012	11013	11015	11016	11031	11032	11033	11034	11036
11037	11043	11044	11045	11046	11048	11049	11061	11062	11063	11064	11066	11067
11073	11074	11075	11076	11078	11079	11097	11098	11099	11100	11102	11103	11109
11110	11111	11112	11114	11115	11120	11121	11122	11123	11125	11126	11132	11133
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11186	11187	11193	11194	11195	11196	11198	11199	11207	11208	11209	11210	11212
11213	11220	11221	11222	11223	11225	11226	11234	11235	11236	11237	11239	11240
11246	11247	11248	11249	11251	11252	11258	11259	11260	11261	11263	11264	11282
11283	11284	11285	11287	11288	11294	11295	11296	11297	11299	11300	11305	11306
11307	11308	11310	11311	11317	11318	11319	11320	11322	11323	11329	11330	11331
11332	11334	11335	11343	11344	11345	11346	11348	11349	11354	11355	11356	11357
11359	11360	11366	11367	11368	11369	11371	11372	11378	11379	11380	11381	11383
11384	11392	11393	11394	11395	11397	11398	11405	11406	11407	11408	11410	11411
11419	11420	11421	11422	11424	11425	11431	11432	11433	11434	11436	11437	11443
11444	11445	11446	11443	11449	11458	11459	11460	11461	11463	11464	11470	11471
11472	11473	11475	11476	11498	11499	11500	11501	11503	11504	11510	11511	11512
11513	11515	11516	11521	11522	11523	11524	11526	11527	11533	11534	11535	11536
11538	11539	11545	11546	11547	11548	11550	11551	11559	11560	11561	11562	11564
11565	11570	11571	11572	11573	11575	11576	11582	11583	11584	11585	11587	11588
11594	11595	11596	11597	11599	11600	11608	11609	11610	11611	11613	11614	11621
11622	11623	11624	11626	11627	11635	11636	11637	11638	11640	11641	11647	11648
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11697	11699	11700	11706	11707	11708	11709	11711	11712	11717	11718	11719	11720
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11747	11755	11756	11757	11758	11760	11761	11766	11767	11768	11769	11771	11772
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11805	11806	11807	11809	11810	11817	11818	11819	11820	11822	11823	11831	11832
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11858	11860	11861	11872	11915	11916	11917	11918	11920	11921	11927	11928	11929
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11957	11958	11970	11971	11972	11973	11975	11976	11982	11983	11984	11985	11987
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12149	12150	12158	12159	12160	12161	12163	12164	12169	12170	12171	12172	12174
12175	12181	12182	12183	12184	12186	12187	12193	12194	12195	12196	12198	12199
12207	12208	12209	12210	12212	12213	12220	12221	12222	12223	12225	12226	12234
12235	12236	12237	12239	12240	12246	12247	12248	12249	12251	12252	12258	12259
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12360	12365	12366	12367	12368	12370	12371	12377	12378	12379	12380	12382	12383
12389	12390	12391	12392	12394	12395	12403	12404	12405	12406	12408	12409	12416
12417	12418	12419	12421	12422	12430	12431	12432	12433	12435	12436	12442	12443
12444	12445	12447	12448	12454	12455	12456	12457	12459	12460	12471	12513	12514
12515	12516	12518	12519	12525	12526	12527	12528	12530	12531	12538	12539	12540

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12541	12543	12544	12550	12551	12552	12553	12555	12556	12565	12566	12567	12568	
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12601	12607	12608	12609	12610	12612	12613	12622	12623	12624	12625	12627	12628	
12634	12635	12636	12637	12639	12640	12656	12657	12658	12659	12661	12662	12668	
12669	12670	12671	12673	12674	12679	12680	12681	12682	12684	12685	12691	12692	
12693	12694	12696	12697	12705	12706	12707	12708	12710	12711	12717	12718	12719	
12720	12722	12723	12729	12730	12731	12732	12734	12735	12749	12750	12751	12752	
12754	12755	12761	12762	12763	12764	12766	12767	12783	12784	12785	12786	12788	
12789	12795	12796	12797	12798	12800	12801	12806	12807	12808	12809	12811	12812	
12818	12819	12820	12821	12823	12824	12830	12831	12832	12833	12835	12836	12844	
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12869	12870	12872	12873	12879	12880	12881	12882	12884	12885	12893	12894	12895	
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13045	13046	13047	13048	13050	13051	13061	13062	13063	13064	13066	13067	13073	
13074	13075	13076	13078	13079	13091	13092	13093	13094	13096	13097	13103	13104	
13105	13106	13108	13109	13124	13125	13126	13127	13129	13130	13136	13137	13138	
13139	13141	13142	13158	13159	13160	13161	13163	13164	13170	13171	13172	13173	
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13292	13293	13295	13296	13301	13302	13303	13304	13306	13307	13313	13314	13315	
13316	13318	13319	13325	13326	13327	13328	13330	13331	13339	13340	13341	13342	
13344	13345	13350	13351	13352	13353	13355	13356	13362	13363	13364	13365	13367	
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13933	13934	13935	13937	13938	13947	13948	13949	13950	13952	13953	13959	13960	
13961	13962	13964	13965	13979	13980	13981	13982	1398	13985	13991	13992	13993	
13994	13996	13997	14015	14016	14017	14018	14020	14021	14027	14028	14029	14030	
14032	14033	14055	14056	14057	14058	14059	14060	14062	14063	14064	14065	14066	
14067	14069	14070	14071	14072	14073	14074	14076	14077	14078	14079	14080	14081	
14083	14084	14085	14086	14087	14088	14093	14216	14220	14221	14222	14223	14225	
14226	14227	14228	14230	14256	14260	14261	14262	14266	14285	14286	14287		
	1068#	6589	6914										
	1068#	1226	1245	2304	2318	2332	2352	2390	2428	2442	2464	2498	4380
	4458	4475	4496	4517	4539	4559	4586	4630	4673	4715	4756	4800	4806
	4850	4856	4955	5486	5593	5726	5996	6206	6557	6911	7108	7111	7440

SVCSUB= 000001
SVCTAG= 000001

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		7769	8102	8396	8665	9157	9978	10862	11871	12470	12966	13384	13864	14092
		14231	14267											
SVCTST=	000001	1068#	4603	4646	4688	4729	4777	4827	4875	5383	5503	5615	5750	6013
		6234	6587	7137	7466	7793	8126	8421	8691	9193	10017	10909	11908	12506
		13001	13409	13882										
SWADDR	013124RG	2051#	14010											
SWHDR	070424RG	14069	14154#											
SWPACK	070270RG	14009	14035	14043	14101#									
S&LSYM=	010000	1068#	1227#	1246#	2305#	2319#	2333#	2353#	2391#	2429#	2443#	2465#	2499#	4381#
		4459#	4476#	4497#	4518#	4540#	4560#	4587#	4631#	4674#	4716#	4757#	4784#	4807#
		4834#	4857#	4956#	5487#	5594#	5727#	5997#	6207#	6558#	6912#	7109#	7112#	7441#
		7770#	8103#	8397#	8666#	9158#	9979#	10863#	11872#	12471#	12967#	13385#	13865#	14093#
		14232#	14268#											
TBUF	001072RG	1422#	1630	1735	1640	1645	1650	1655	1660	1665	1670	1675	1680	1685
		1690	1695	1700	1705	1710	1725	1730	1735	1740	1745	1750	1755	1760
		1765	1770	1775	1780	1785	1790	1795	1800	1805	1919	1923	1927	1931
		1935	1947	1951	3570	3659	3898	3931	4298	5814	5911	6328	6450	7279*
		7280*	7608*	7609*	8847									
TBUF2	001472RG	1423#	1715	1939										
TBUF3	002072RG	1424#	1720	1943										
TBUF4	002472RG	1425#												
TBUF5	003072RG	1426#												
TBUF6	003472RG	1427#												
TBUF7	004072RG	1428#												
TBUF8	004472RG	1429#												
TDRB	000572RG	1419#	1531	4074	6784	6798	7328	7342	7657	7671	7988	8002	8319	8333
		8345	8359	8897	8911	8923	8937	8949	8963	9393	9407	9578	9592	9731
		9745	9916	9930	10247	10261	10442	10456	10602	10616	10796	10810	11140	11154
		11325	11339	11541	11555	11737	11751	12140	12154	12336	12350	12700	12826	12840
		13201	13215	13321	13335	13633	13647	13659	13673	13685	13699			
TDRBXX	012002RG	1729#	8559											
TDRB1A	011542RG	1629#	6728	6971	7932	9337	9522	9675	9860	10191	10386	10546	10740	11084
		11269	11485	11681	12084	12230	13145	13265						
TDRB1B	011602RG	1649#	7271	7600										
TDRB1C	011642RG	1669#	12643	12770										
TDRB2A	011702RG	1689#	8263											
TDRB3A	011742RG	1709#	8837	13546										
TDRMSK=	007777 G	1387#	3120											
TDRX	000672RG	1421#	1538	4105										
TDR14A	012512RG	1918#	6796	8000	9405	9743	10259	10614	11152	11337	11553	11749	12152	12348
		13213												
TDR15A	012522RG	1922#	7340	7669										
TDR18A	012532RG	1926#	8331											
TDR18B	012542RG	1930#	8357											
TDR20A	012552RG	1934#	8909	13645										
TDR20B	012562RG	1938#	6935	13671										
TDR20C	012572RG	1942#	8961	13697										
TDR21X	012602RG	1946#	9590	9928	10454	10808	13333							
TDR25A	012612RG	1950#	12838											
TIMASK=	177400 G	1384#	4343											
TINIT	025334RG	4341#	4876	5384	5504	5616	5751	6014	6235	6592	6919	7138	7467	7794
		8127	8422	8692	9194	10018	10910	11909	12507	13002	13410	13889		
TXI =	010000 G	1334#	3315	3496	3498									
T\$ARGC=	000002	1085#	1086#	1087#	1088#	1089#	1090#	1091#	1092#	2297#	2302	2310#	2316	2324#
		2330	2338#	2343	2345#	2350	2358#	2364	2366#	2372	2374#	2380	2382#	2388
		2396#	2402	2404#	2410	2412#	2418	2420#	2426	2434#	2440	2448#	2454	2456#

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TSCODE= 000130
TSERRN= 001114

2462	2470#	2475	2477#	2482	2484#	2489	2491#	2496	14055#	14060	14062#	14067
14069#	14074	14076#	14081	14083#	14088							
14220#	14225#	14260#										
1068#	4618#	4661#	4703#	4744#	4794#	4844#	4883#	4895#	4920#	4935#	4947#	5391#
5403#	5415#	5427#	5442#	5454#	5466#	5478#	5511#	5523#	5560#	5585#	5623#	5635#
5648#	5660#	5690#	5702#	5718#	5758#	5770#	5783#	5795#	5821#	5833#	5864#	5876#
5890#	5918#	5930#	5961#	5973#	5987#	6021#	6033#	6046#	6058#	6074#	6086#	6101#
6113#	6127#	6144#	6156#	6171#	6183#	6197#	6242#	6254#	6267#	6279#	6295#	6307#
6340#	6352#	6393#	6405#	6424#	6462#	6474#	6515#	6527#	6546#	6599#	6611#	6624#
6636#	6651#	6663#	6681#	6693#	6708#	6720#	6742#	6754#	6765#	6777#	6789#	6803#
6814#	6826#	6838#	6852#	6865#	6879#	6891#	6903#	6926#	6936#	6950#	6962#	6986#
6998#	7009#	7021#	7032#	7044#	7055#	7064#	7078#	7089#	7096#	7103#	7145#	7157#
7170#	7182#	7197#	7209#	7226#	7238#	7252#	7264#	7286#	7298#	7309#	7321#	7333#
7347#	7358#	7370#	7382#	7396#	7408#	7420#	7432#	7474#	7486#	7499#	7511#	7526#
7538#	7555#	7567#	7581#	7593#	7615#	7627#	7638#	7650#	7662#	7676#	7687#	7699#
7711#	7725#	7737#	7749#	7761#	7801#	7813#	7826#	7838#	7855#	7867#	7885#	7897#
7912#	7924#	7946#	7958#	7969#	7981#	7993#	8007#	8018#	8030#	8042#	8056#	8070#
8082#	8094#	8134#	8146#	8159#	8171#	8186#	8198#	8216#	8228#	8243#	8255#	8277#
8289#	8300#	8312#	8324#	8338#	8350#	8364#	8376#	8388#	8429#	8441#	8454#	8466#
8481#	8493#	8511#	8523#	8538#	8550#	8573#	8585#	8596#	8608#	8621#	8633#	8645#
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8878#	8890#	8902#	8916#	8928#	8942#	8954#	8968#	8979#	8991#	9019#	9032#	9046#
9058#	9072#	9084#	9098#	9111#	9125#	9137#	9149#	9201#	9213#	9226#	9238#	9254#
9266#	9284#	9296#	9317#	9329#	9351#	9363#	9374#	9386#	9398#	9412#	9423#	9435#
9447#	9461#	9474#	9488#	9500#	9512#	9536#	9548#	9559#	9571#	9583#	9597#	9608#
9620#	9632#	9655#	9667#	9689#	9701#	9712#	9724#	9736#	9750#	9761#	9773#	9785#
9799#	9812#	9826#	9838#	9850#	9874#	9886#	9897#	9909#	9921#	9935#	9946#	9958#
9970#	10025#	10037#	10050#	10062#	10078#	10090#	10108#	10120#	10135#	10147#	10165#	10177#
10205#	10217#	10228#	10240#	10252#	10266#	10277#	10289#	10301#	10315#	10328#	10342#	10354#
10366#	10400#	10412#	10423#	10435#	10447#	10461#	10472#	10484#	10496#	10520#	10532#	10560#
10572#	10583#	10595#	10607#	10621#	10632#	10644#	10656#	10670#	10683#	10697#	10709#	10721#
10754#	10766#	10777#	10789#	10801#	10815#	10826#	10838#	10850#	10917#	10929#	10942#	10954#
10969#	10981#	10999#	11011#	11032#	11044#	11062#	11074#	11098#	11110#	11121#	11133#	11145#
11159#	11170#	11182#	11194#	11208#	11221#	11235#	11247#	11259#	11283#	11295#	11306#	11318#
11330#	11344#	11355#	11367#	11379#	11393#	11406#	11420#	11432#	11444#	11459#	11471#	11499#
11511#	11522#	11534#	11546#	11560#	11571#	11583#	11595#	11609#	11622#	11636#	11648#	11660#
11695#	11707#	11718#	11730#	11742#	11756#	11767#	11779#	11791#	11805#	11818#	11832#	11844#
11856#	11916#	11928#	11941#	11953#	11971#	11983#	12001#	12013#	12028#	12040#	12058#	12070#
12098#	12110#	12121#	12133#	12145#	12159#	12170#	12182#	12194#	12208#	12221#	12235#	12247#
12259#	12294#	12306#	12317#	12329#	12341#	12355#	12366#	12378#	12390#	12404#	12417#	12431#
12443#	12455#	12514#	12526#	12539#	12551#	12566#	12578#	12596#	12608#	12623#	12635#	12657#
12669#	12680#	12692#	12706#	12718#	12730#	12750#	12762#	12784#	12796#	12807#	12819#	12831#
12845#	12856#	12868#	12880#	12894#	12907#	12920#	12934#	12946#	12958#	13009#	13021#	13034#
13046#	13062#	13074#	13092#	13104#	13125#	13137#	13159#	13171#	13182#	13194#	13206#	13220#
13231#	13243#	13255#	13279#	13291#	13302#	13314#	13326#	13340#	13351#	13363#	13375#	13417#
13429#	13442#	13454#	13469#	13481#	13499#	13511#	13526#	13538#	13566#	13578#	13591#	13603#
13614#	13626#	13638#	13652#	13664#	13678#	13690#	13704#	13715#	13727#	13739#	13753#	13765#
13779#	13791#	13805#	13818#	13832#	13844#	13856#	13896#	13908#	13921#	13933#	13948#	13960#
13980#	13992#	14016#	14028#									
14220#	14224	14225#	14229									
4373#	4375	4489#	4510#	4512	4532#	4534	4887#	4899#	4924#	4939#	4951#	5395#
5407#	5419#	5431#	5446#	5458#	5470#	5482#	5515#	5527#	5570#	5589#	5627#	5639#
5652#	5664#	5694#	5706#	5722#	5762#	5774#	5787#	5799#	5825#	5837#	5868#	5880#
5924#	5922#	5934#	5965#	5977#	5991#	6025#	6037#	6050#	6062#	6078#	6090#	6105#
6117#	6131#	6148#	6160#	6175#	6187#	6201#	6246#	6258#	6271#	6283#	6299#	6311#
6344#	6356#	6397#	6409#	6428#	6466#	6478#	6519#	6531#	6550#	6603#	6615#	6628#

TSEXCP= 000000
TSFLAG= 000040

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6640#	6655#	6667#	6685#	6697#	6712#	6724#	6746#	6758#	6769#	6781#	6793#	6807#
6818#	6830#	6842#	6856#	6869#	6883#	6895#	6907#	6930#	6940#	6754#	6966#	6990#
7002#	7013#	7025#	7036#	7048#	7068#	7082#	7149#	7161#	7174#	7186#	7201#	7213#
7230#	7242#	7256#	7268#	7290#	7302#	7313#	7325#	7337#	7351#	7362#	7374#	7386#
7400#	7412#	7424#	7436#	7478#	7490#	7503#	7515#	7530#	7542#	7559#	7571#	7585#
7597#	7619#	7631#	7642#	7654#	7666#	7680#	7691#	7703#	7715#	7729#	7741#	7753#
7765#	7805#	7817#	7830#	7842#	7859#	7871#	7889#	7901#	7916#	7928#	7950#	7962#
7973#	7985#	7997#	8011#	8022#	8034#	8046#	8060#	8074#	8086#	8098#	8138#	8150#
8163#	8175#	8190#	8202#	8220#	8232#	8247#	8259#	8281#	8293#	8304#	8316#	8328#
8342#	8354#	8368#	8380#	8392#	8433#	8445#	8458#	8470#	8485#	8497#	8515#	8527#
8542#	8554#	8577#	8589#	8600#	8612#	8625#	8637#	8649#	8661#	8703#	8715#	8728#
8740#	8764#	8776#	8794#	8806#	8821#	8833#	8859#	8871#	8882#	8894#	8906#	8920#
8932#	8946#	8958#	8972#	8983#	8995#	9023#	9036#	9050#	9062#	9076#	9088#	9102#
9115#	9129#	9141#	9153#	9205#	9217#	9230#	9242#	9258#	9270#	9288#	9300#	9321#
9333#	9355#	9367#	9378#	9390#	9402#	9416#	9427#	9439#	9451#	9465#	9478#	9492#
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9693#	9705#	9716#	9728#	9740#	9754#	9765#	9777#	9789#	9803#	9816#	9830#	9842#
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10066#	10082#	10094#	10112#	10124#	10139#	10151#	10169#	10181#	10209#	10221#	10232#	10244#
10256#	10270#	10281#	10293#	10305#	10319#	10332#	10346#	10358#	10370#	10404#	10416#	10427#
10439#	10451#	10465#	10476#	10488#	10500#	10524#	10536#	10564#	10576#	10587#	10599#	10611#
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11212#	11225#	11239#	11251#	11263#	11287#	11299#	11310#	11322#	11334#	11348#	11359#	11371#
11383#	11397#	11410#	11424#	11436#	11448#	11463#	11475#	11503#	11515#	11526#	11538#	11550#
11564#	11575#	11587#	11599#	11613#	11626#	11640#	11652#	11664#	11699#	11711#	11722#	11734#
11746#	11760#	11771#	11783#	11795#	11809#	11822#	11836#	11848#	11860#	11920#	11932#	11945#
11957#	11975#	11987#	12005#	12017#	12032#	12044#	12062#	12074#	12102#	12114#	12125#	12137#
12149#	12163#	12174#	12186#	12198#	12212#	12225#	12239#	12251#	12263#	12298#	12310#	12321#
12333#	12345#	12359#	12370#	12382#	12394#	12408#	12421#	12435#	12447#	12459#	12518#	12530#
12543#	12555#	12570#	12582#	12600#	12612#	12627#	12639#	12661#	12673#	12684#	12696#	12710#
12722#	12734#	12754#	12766#	12788#	12800#	12811#	12823#	12835#	12849#	12860#	12872#	12884#
12898#	12911#	12924#	12938#	12950#	12962#	13013#	13025#	13038#	13050#	13066#	13078#	13096#
13108#	13129#	13141#	13163#	13175#	13186#	13198#	13210#	13224#	13235#	13247#	13259#	13283#
13295#	13306#	13318#	13330#	13344#	13355#	13367#	13379#	13421#	13433#	13446#	13458#	13473#
13485#	13503#	13515#	13530#	13542#	13570#	13582#	13595#	13607#	13618#	13630#	13642#	13656#
13668#	13682#	13694#	13708#	13719#	13731#	13743#	13757#	13769#	13783#	13795#	13809#	13822#
13836#	13848#	13860#	13886#	13900#	13912#	13925#	13937#	13952#	13964#	13984#	13996#	14020#
14032#												
1068#												
14220#	14223	14225#	14228									
1068#	14286#											
14220#	14222	14225#	14227									
1068#	1227	1246	2305	2319	2333	2353	2391	2429	2443	2465	2499	4381
4459	4476	4497	4518	4540	4560	4587	4631	4674	4716	4757	4807	4857
4956	5487	5594	5727	5997	6207	6558	6912	7109	7112	7441	7770	8103
8397	8666	9158	9979	10863	11872	12471	12967	13385	13865	14093	14232	14268
14289#												
1068#	1074#	1219#	1226#	1237#	1245#	2295#	2304#	2308#	2318#	2322#	2332#	2336#
2352#	2356#	2390#	2394#	2428#	2432#	2442#	2446#	2464#	2468#	2498#	4369#	4380#
4390#	4397#	4406#	4458#	4471#	4475#	4485#	4496#	4506#	4517#	4528#	4539#	4556#
4559#	4576#	4586#	4604#	4630#	4647#	4673#	4689#	4715#	4730#	4756#	4778#	4784#
4800#	4806#	4828#	4834#	4850#	4856#	4876#	4955#	5384#	5486#	5504#	5593#	5616#
5726#	5751#	5996#	6014#	6206#	6235#	6557#	6588#	6590#	6911#	6915#	7108#	7111#
7138#	7440#	7467#	7769#	7794#	8102#	8127#	8396#	8422#	8665#	8692#	9157#	9194#

TSGMAN= 000000
TSHILI= 000776
TSLAST= 000001
TSLOLI= 000000
TSLSYM= 010000

TSLTNO= 000034
TSLNEST= 177777

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	9978#	10018#	10862#	10910#	11871#	11909#	12470#	12507#	12966#	13002#	13384#	13410#	13864#
	13883#	14092#	14216#	14230#	14256#	14266#	14290#						
TSNSO = 000000	1074#	14290											
TSNS1 = 000005	1219#	1226	1237#	1245	2295#	2304	2308#	2318	2322#	2332	2336#	2352	2356#
	2390	2394#	2428	2432#	2442	2446#	2464	2468#	2498	4369#	4380	4390#	4397
	4406#	4458	4471#	4475	4485#	4496	4506#	4517	4528#	4539	4556#	4559	4576#
	4586	4604#	4630	4647#	4673	4689#	4715	4730#	4756	4778#	4806	4828#	4856
	4876#	4955	5384#	5486	5504#	5593	5616#	5726	5751#	5996	6014#	6206	6235#
	6557	6588#	7111	7138#	7440	7467#	7769	7794#	8102	8127#	8396	8422#	8665
	8692#	9157	9194#	9978	10018#	10862	10910#	11871	11909#	12470	12507#	12966	13002#
TSNS2 = 000002	13384	13410#	13864	13883#	14092	14216#	14230	14256#	14266				
TSPTNU= 000000	4784#	4800	4834#	4850	6590#	6911	6915#	7108					
TSSAVL= 177777	1068#												
TSSEGL= 177777	1068#												
TSSEKO= 010000	1068#	4784#	4800#	4802	4834#	4850#	4852						
TSUBN= 000000	4784#	4800	4834#	4850									
	1068#	4603#	4646#	4688#	4729#	4777#	4827#	4875#	5383#	5503#	5615#	5750#	6013#
	6234#	6587#	6589#	6914#	7137#	7466#	7793#	8126#	8421#	8691#	9193#	10017#	10909#
	11908#	12506#	13001#	13409#	13882#								
TSTAGL= 177777	1068#												
TSTAGN= 010064	1068#	1219#	1237#	2295#	2308#	2322#	2336#	2356#	2394#	2432#	2446#	2468#	4369#
	4390#	4406#	4471#	4485#	4506#	4528#	4556#	4576#	4604#	4647#	4689#	4730#	4778#
	4828#	4876#	5384#	5504#	5616#	5751#	6014#	6235#	6588#	6590#	6915#	7138#	7467#
	7794#	8127#	8422#	8692#	9194#	10018#	10910#	11909#	12507#	13002#	13410#	13883#	14216#
	14256#												
TSTEMP= 000000	1180#	1181#	1182#	1183#	1184#	1185#	1186#	1187#	1188#	1189#	1190#	1191#	1192#
	1193#	1194#	1195#	1196#	1197#	1198#	1199#	1200#	1201#	1202#	1203#	1204#	1205#
	1206#	1207#	1208#	1226#	1245#	2304#	2318#	2332#	2352#	2394#	2428#	2442#	2464#
	2498#	4373#	4374	4380#	4397#	4458#	4475#	4489#	4490	4496#	4510#	4511	4517#
	4532#	4533	4539#	4559#	4586#	4630#	4673#	4715#	4756#	4800#	4806#	4850#	4856#
	4887#	4888	4899#	4900	4924#	4925	4939#	4940	4951#	4952	4955#	5335#	5396
	5407#	5408	5419#	5420	5431#	5432	5446#	5447	5458#	5459	5470#	5471	5482#
	5483	5486#	5515#	5516	5527#	5528	5570#	5571	5589#	5590	5593#	5627#	5628
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	5762#	5763	5774#	5775	5787#	5788	5799#	5800	5825#	5826	5837#	5838	5868#
	5869	5880#	5881	5894#	5895	5922#	5923	5934#	5935	5965#	5966	5977#	5978
	5991#	5992	5996#	6025#	6026	6037#	6038	6050#	6051	6062#	6063	6078#	6079
	6090#	6091	6105#	6106	6117#	6118	6131#	6132	6148#	6149	6160#	6161	6175#
	6176	6187#	6188	6201#	6202	6206#	6246#	6247	6258#	6259	6271#	6272	6283#
	6284	6299#	6300	6311#	6312	6344#	6345	6356#	6357	6397#	6398	6409#	6410
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	6603#	6604	6615#	6616	6628#	6629	6640#	6641	6655#	6656	6667#	6668	6685#
	6686	6697#	6698	6712#	6713	6724#	6725	6746#	6747	6758#	6759	6769#	6770
	6781#	6782	6793#	6794	6807#	6808	6818#	6819	6830#	6831	6842#	6843	6856#
	6857	6869#	6870	6883#	6884	6895#	6896	6907#	6908	6911#	6930#	6931	6940#
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	7036#	7037	7048#	7049	7068#	7069	7082#	7083	7108#	7111#	7149#	7150	7161#
	7162	7174#	7175	7186#	7187	7201#	7202	7213#	7214	7230#	7231	7242#	7243
	7256#	7257	7268#	7269	7290#	7291	7302#	7303	7313#	7314	7325#	7326	7337#
	7338	7351#	7352	7362#	7363	7374#	7375	7386#	7387	7400#	7401	7412#	7413
	7424#	7425	7436#	7437	7440#	7478#	7479	7490#	7491	7503#	7504	7515#	7516
	7530#	7531	7542#	7543	7559#	7560	7571#	7572	7585#	7586	7597#	7598	7619#
	7620	7631#	7632	7642#	7643	7654#	7655	7666#	7667	7680#	7681	7691#	7692
	7703#	7704	7715#	7716	7729#	7730	7741#	7742	7753#	7754	7765#	7766	7769#
	7805#	7806	7817#	7818	7830#	7831	7842#	7843	7859#	7860	7871#	7872	7889#
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8164	8175#	8176	8190#	8191	8202#	8203	8220#	8221	8232#	8233	8247#	8248
8259#	8260	8281#	8282	8293#	8294	8304#	8305	8316#	8317	8328#	8329	8342#
8343	8354#	8355	8368#	8369	8380#	8381	8392#	8393	8396#	8433#	8434	8445#
8446	8458#	8459	8470#	8471	8485#	8486	8497#	8498	8515#	8516	8527#	8528
8542#	8543	8554#	8555	8577#	8578	8589#	8590	8600#	8601	8612#	8613	8625#
8626	8637#	8638	8649#	8650	8661#	8662	8665#	8703#	8704	8715#	8716	8728#
8729	8740#	8741	8764#	8765	8776#	8777	8794#	8795	8806#	8807	8821#	8822
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8921	8932#	8933	8946#	8947	8958#	8959	8972#	8973	8983#	8984	8995#	8996
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9103	9115#	9116	9129#	9130	9141#	9142	9153#	9154	9157#	9205#	9206	9217#
9218	9230#	9231	9242#	9243	9258#	9259	9270#	9271	9288#	9289	9300#	9301
9321#	9322	9333#	9334	9355#	9356	9367#	9368	9378#	9379	9390#	9391	9402#
9403	9416#	9417	9427#	9428	9439#	9440	9451#	9452	9465#	9466	9478#	9479
9492#	9493	9504#	9505	9516#	9517	9540#	9541	9552#	9553	9563#	9564	9575#
9576	9587#	9588	9601#	9602	9612#	9613	9624#	9625	9636#	9637	9659#	9660
9671#	9672	9693#	9694	9705#	9706	9716#	9717	9728#	9729	9740#	9741	9754#
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9926	9939#	9940	9950#	9951	9962#	9963	9974#	9975	9978#	10029#	10030	10041#
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10139#	10140	10151#	10152	10169#	10170	10181#	10182	10209#	10210	10221#	10222	10232#
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10782	10793#	10794	10805#	10806	10819#	10820	10830#	10831	10842#	10843	10854#	10855
10862#	10921#	10922	10933#	10934	10946#	10947	10958#	10959	10973#	10974	10985#	10986
11003#	11004	11015#	11016	11036#	11037	11048#	11049	11066#	11067	11078#	11079	11102#
11103	11114#	11115	11125#	11126	11137#	11138	11149#	11150	11163#	11164	11174#	11175
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11437	11448#	11449	11463#	11464	11475#	11476	11503#	11504	11515#	11516	11526#	11527
11538#	11539	11550#	11551	11564#	11565	11575#	11576	11587#	11588	11599#	11600	11613#
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12299	12310#	12311	12321#	12322	12333#	12334	12345#	12346	12359#	12360	12370#	12371
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12583	12600#	12601	12612#	12613	12627#	12628	12639#	12640	12661#	12662	12673#	12674
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12767	12788#	12789	12800#	12801	12811#	12812	12823#	12824	12835#	12836	12849#	12850
12860#	12861	12872#	12873	12884#	12885	12898#	12899	12911#	12912	12924#	12925	12938#
12939	12950#	12951	12962#	12963	12966#	13013#	13014	13025#	13026	13038#	13039	13050#
13051	13066#	13067	13078#	13079	13096#	13097	13108#	13109	13129#	13130	13141#	13142
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TSTEST= 000034

TSTSTM= 177777

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13516	13530#	13531	13542#	13543	13570#	13571	13582#	13583	13595#	13596	13607#	13608
13618#	13619	13630#	13631	13642#	13643	13656#	13657	13668#	13669	13682#	13683	13694#
13695	13708#	13709	13719#	13720	13731#	13732	13743#	13744	13757#	13758	13769#	13770
13783#	13784	13795#	13796	13809#	13810	13822#	13823	13836#	13837	13848#	13849	13860#
13861	13864#	13886#	13887	13900#	13901	13912#	13913	13925#	13926	13937#	13938	13952#
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14225#	14230#	14260#	14266#	14290#								
1068#	4603#	4646#	4688#	4729#	4777#	4827#	4875#	5383#	5503#	5615#	5750#	6013#
6234#	6587#	6589	6914	7137#	7466#	7793#	8126#	8421#	8691#	9193#	10017#	10909#
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2481	2488	2495	2499	4381	4412	4417	4422	4427	4440	4456	4459	4476
4489	4497	4518	4540	4609	4617	4623	4625	4628	4631	4652	4660	4666
4668	4671	4674	4694	4702	4708	4710	4713	4716	4735	4743	4749	4751
4754	4757	4784	4793	4801	4807	4834	4843	4851	4857	4882	4887	4894
4899	4919	4924	4934	4939	4946	4951	4956	5390	5395	5402	5407	5414
5419	5426	5431	5441	5446	5453	5458	5465	5470	5477	5482	5487	5510
5515	5522	5527	5536	5540	5559	5565	5568	5570	5576	5579	5584	5589
5594	5622	5627	5634	5639	5647	5652	5659	5664	5689	5694	5701	5706
5717	5722	5727	5757	5762	5769	5774	5782	5787	5794	5799	5820	5825
5832	5837	5863	5868	5875	5880	5889	5894	5917	5922	5929	5934	5960
5965	5972	5977	5986	5991	5997	6020	6025	6032	6037	6045	6050	6057
6062	6073	6078	6085	6090	6100	6105	6112	6117	6126	6131	6143	6148
6155	6160	6170	6175	6182	6187	6196	6201	6207	6241	6246	6253	6258
6266	6271	6278	6283	6294	6299	6306	6311	6339	6344	6351	6356	6392
6397	6404	6409	6423	6428	6461	6466	6473	6478	6514	6519	6526	6531
6545	6550	6558	6590	6598	6603	6610	6615	6623	6628	6635	6640	6650
6655	6662	6667	6680	6685	6692	6697	6707	6712	6719	6724	6741	6746
6753	6758	6764	6769	6776	6781	6788	6793	6802	6807	6813	6818	6825
6830	6837	6842	6851	6856	6864	6869	6878	6883	6890	6895	6902	6907
6912	6915	6925	6930	6935	6940	6949	6954	6961	6966	6985	6990	6997
7002	7008	7013	7020	7025	7031	7036	7043	7048	7054	7063	7068	7077
7082	7088	7095	7102	7109	7112	7144	7149	7156	7161	7169	7174	7181
7186	7196	7201	7208	7213	7225	7230	7237	7242	7251	7256	7263	7268
7285	7290	7297	7302	7308	7313	7320	7325	7332	7337	7346	7351	7357
7362	7369	7374	7381	7386	7395	7400	7407	7412	7419	7424	7431	7436
7441	7473	7478	7485	7490	7498	7503	7510	7515	7525	7530	7537	7542
7554	7559	7566	7571	7580	7585	7592	7597	7614	7619	7626	7631	7637
7642	7649	7654	7661	7666	7675	7680	7686	7691	7698	7703	7710	7715
7724	7729	7736	7741	7748	7753	7760	7765	7770	7800	7805	7812	7817
7825	7830	7837	7842	7854	7859	7866	7871	7884	7889	7896	7901	7911
7916	7923	7928	7945	7950	7957	7962	7968	7973	7980	7985	7992	7997
8006	8011	8017	8022	8029	8034	8041	8046	8055	8060	8069	8074	8081
8086	8093	8098	8103	8133	8138	8145	8150	8158	8163	8170	8175	8185
8190	8197	8202	8215	8220	8227	8232	8242	8247	8254	8259	8276	8281
8288	8293	8299	8304	8311	8316	8323	8328	8337	8342	8349	8354	8363
8368	8375	8380	8387	8392	8397	8428	8433	8440	8445	8453	8458	8465
8470	8480	8485	8492	8497	8510	8515	8522	8527	8537	8542	8549	8554
8572	8577	8584	8589	8595	8600	8607	8612	8620	8625	8632	8637	8644
8649	8656	8661	8666	8698	8703	8710	8715	8723	8728	8735	8740	8759
8764	8771	8776	8789	8794	8801	8806	8816	8821	8828	8833	8854	8859
8866	8871	8877	8882	8889	8894	8901	8906	8915	8920	8927	8932	8941

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9129	9136	9141	9148	9153	9158	9200	9205	9212	9217	9225	9230	9237
9242	9253	9258	9265	9270	9283	9288	9295	9300	9316	9321	9328	9333
9350	9355	9362	9367	9373	9378	9385	9390	9397	9402	9411	9416	9422
9427	9434	9439	9446	9451	9460	9465	9473	9478	9487	9492	9499	9504
9511	9516	9535	9540	9547	9552	9558	9563	9570	9575	9582	9587	9596
9601	9607	9612	9619	9624	9631	9636	9654	9659	9666	9671	9688	9693
9700	9705	9711	9716	9723	9728	9735	9740	9749	9754	9760	9765	9772
9777	9784	9789	9798	9803	9811	9816	9825	9830	9837	9842	9849	9854
9873	9878	9885	9890	9896	9901	9908	9913	9920	9925	9934	9939	9945
9950	9957	9962	9969	9974	9979	10024	10029	10036	10041	10049	10054	10061
10066	10077	10082	10089	10094	10107	10112	10119	10124	10134	10139	10146	10151
10164	10169	10176	10181	10204	10209	10216	10221	10227	10232	10239	10244	10251
10256	10265	10270	10276	10281	10288	10293	10300	10305	10314	10319	10327	10332
10341	10346	10353	10358	10365	10370	10399	10404	10411	10416	10422	10427	10434
10439	10446	10451	10460	10465	10471	10476	10483	10488	10495	10500	10519	10524
10531	10536	10559	10564	10571	10576	10582	10587	10594	10599	10606	10611	10620
10625	10631	10636	10643	10648	10655	10660	10669	10674	10682	10687	10696	10701
10708	10713	10720	10725	10753	10758	10765	10770	10776	10781	10788	10793	10800
10805	10814	10819	10825	10830	10837	10842	10849	10854	10863	10916	10921	10928
10933	10941	10946	10953	10958	10968	10973	10980	10985	10998	11003	11010	11015
11031	11036	11043	11048	11061	11066	11073	11078	11097	11102	11109	11114	11120
11125	11132	11137	11144	11149	11158	11163	11169	11174	11181	11186	11193	11198
11207	11212	11220	11225	11234	11239	11246	11251	11258	11263	11282	11287	11294
11299	11305	11310	11317	11322	11329	11334	11343	11348	11354	11359	11366	11371
11378	11383	11392	11397	11405	11410	11419	11424	11431	11436	11443	11448	11458
11463	11470	11475	11498	11503	11510	11515	11521	11526	11533	11538	11545	11550
11559	11564	11570	11575	11582	11587	11594	11599	11608	11613	11621	11626	11635
11640	11647	11652	11659	11664	11694	11699	11706	11711	11717	11722	11729	11734
11741	11746	11755	11760	11766	11771	11778	11783	11790	11795	11804	11809	11817
11822	11831	11836	11843	11848	11855	11860	11872	11915	11920	11927	11932	11940
11945	11952	11957	11970	11975	11982	11987	12000	12005	12012	12017	12027	12032
12039	12044	12057	12062	12069	12074	12097	12102	12109	12114	12120	12125	12132
12137	12144	12149	12158	12163	12169	12174	12181	12186	12193	12198	12207	12212
12220	12225	12234	12239	12246	12251	12258	12263	12293	12298	12305	12310	12316
12321	12328	12333	12340	12345	12354	12359	12365	12370	12377	12382	12389	12394
12403	12408	12416	12421	12430	12435	12442	12447	12454	12459	12471	12513	12518
12525	12530	12538	12543	12550	12555	12565	12570	12577	12582	12595	12600	12607
12612	12622	12627	12634	12639	12656	12661	12668	12673	12679	12684	12691	12696
12705	12710	12717	12722	12729	12734	12749	12754	12761	12766	12783	12788	12795
12800	12806	12811	12818	12823	12830	12835	12844	12849	12855	12860	12867	12872
12879	12884	12893	12898	12906	12911	12919	12924	12933	12938	12945	12950	12957
12962	12967	13008	13013	13020	13025	13033	13038	13045	13050	13061	13066	13073
13078	13091	13096	13103	13108	13124	13129	13136	13141	13158	13163	13170	13175
13181	13186	13193	13198	13205	13210	13219	13224	13230	13235	13242	13247	13254
13259	13278	13283	13290	13295	13301	13306	13313	13318	13325	13330	13339	13344
13350	13355	13362	13367	13374	13379	13385	13416	13421	13428	13433	13441	13446
13453	13458	13468	13473	13480	13485	13498	13503	13510	13515	13525	13530	13537
13542	13565	13570	13577	13582	13590	13595	13602	13607	13613	13618	13625	13630
13637	13642	13651	13656	13663	13668	13677	13682	13689	13694	13703	13708	13714
13719	13726	13731	13738	13743	13752	13757	13764	13769	13778	13783	13790	13795
13804	13809	13817	13822	13831	13836	13843	13848	13855	13860	13865	13886	13895
13900	13907	13912	13920	13925	13932	13937	13947	13952	13959	13964	13979	13984
13991	13996	14015	14020	14027	14032	14059	14066	14073	14080	14087	14093	
	1068#	4604#	4647#	4689#	4730#	4778#	4828#	4876#	5384#	5504#	5616#	6014#

TSTSTS= 000001

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	6235#	6588#	7138#	7467#	7794#	8127#	8422#	8692#	9194#	10018#	10910#	11909#	12507#
TSSAU = 010021	13002#	13410#	13883#										
TSSAUT= 010016	4528#	4532	4539										
TSSCLE= 010017	4471#	4475											
TSSDU = 010020	4485#	4489	4496										
TSSHAR= 010062	4506#	4510	4517										
TSSHW = 010000	14216#	14231											
TSSINI= 010015	1219#	1226											
TSSMSG= 010012	4406#	4458											
	2295#	2304	2308#	2318	2322#	2332	2336#	2352	2356#	2390	2394#	2428	2432#
	2442	2446#	2464	2468#	2498								
TSSPRO= 010014	4390#												
TSSRPT= 010013	4369#	4373	4380										
TSSSEG= 010000	4784#	4800#	4834#	4850#									
TSSOF= 010063	14256#	14267											
TSSSRV= 010023	4556#	4559	4576#	4586									
TSSSUB= 010043	6590#	6911	6915#	7108									
TSSSW = 010001	1237#	1245											
TSTES= 010061	4604#	4630	4647#	4673	4689#	4715	4730#	4756	4778#	4806	4828#	4856	4876#
	4887	4897	4924	4939	4951	4955	5384#	5395	5407	5419	5431	5446	5458
	5470	5482	5486	5504#	5515	5527	5570	5589	5593	5616#	5627	5639	5652
	5664	5694	5706	5722	5726	5751#	5762	5774	5787	5799	5825	5837	5868
	5880	5894	5922	5934	5965	5977	5991	5996	6014#	6025	6037	6050	6062
	6078	6090	6105	6117	6131	6148	6160	6175	6187	6201	6206	6235#	6246
	6258	6271	6283	6299	6311	6344	6356	6397	6409	6428	6466	6478	6519
	6531	6550	6557	6588#	6603	6615	6628	6640	6655	6667	6685	6697	6712
	6724	6746	6758	6769	6781	6793	6807	6818	6830	6842	6856	6869	6883
	6895	6907	6930	6940	6954	6966	6990	7002	7013	7025	7036	7048	7068
	7082	7111	7138#	7149	7161	7174	7186	7201	7213	7230	7242	7256	7268
	7290	7302	7313	7325	7337	7351	7362	7374	7386	7400	7412	7424	7436
	7440	7467#	7478	7490	7503	7515	7530	7542	7559	7571	7585	7597	7619
	7631	7642	7654	7666	7680	7691	7703	7715	7729	7741	7753	7765	7769
	7794#	7805	7817	7830	7842	7859	7871	7889	7901	7916	7928	7950	7962
	7973	7985	7997	8011	8022	8034	8046	8060	8074	8086	8098	8102	8127#
	8138	8150	8163	8175	8190	8202	8220	8232	8247	8259	8281	8293	8304
	8316	8328	8342	8354	8368	8380	8392	8396	8422#	8433	8445	8458	8470
	8485	8497	8515	8527	8542	8554	8577	8589	8600	8612	8625	8637	8649
	8661	8665	8692#	8703	8715	8728	8740	8764	8776	8794	8806	8821	8833
	8859	8871	8882	8894	8906	8920	8932	8946	8958	8972	8983	8995	9023
	9036	9050	9062	9076	9088	9102	9115	9129	9141	9153	9157	9194#	9205
	9217	9230	9242	9258	9270	9288	9300	9321	9333	9355	9367	9378	9390
	9402	9416	9427	9439	9451	9465	9478	9492	9504	9516	9540	9552	9563
	9575	9587	9601	9612	9624	9636	9659	9671	9693	9705	9716	9728	9740
	9754	9765	9777	9789	9803	9816	9830	9842	9854	9878	9890	9901	9913
	9925	9939	9950	9962	9974	9978	10018#	10029	10041	10054	10066	10082	10094
	10112	10124	10139	10151	10169	10181	10209	10221	10232	10244	10256	10270	10281
	10293	10305	10319	10332	10346	10358	10370	10404	10416	10427	10439	10451	10465
	10476	10488	10500	10524	10536	10564	10576	10587	10599	10611	10625	10636	10648
	10660	10674	10687	10701	10713	10725	10758	10770	10781	10793	10805	10819	10830
	10842	10854	10862	10910#	10921	10933	10946	10958	10973	10985	11003	11015	11036
	11048	11066	11078	11102	11114	11125	11137	11149	11163	11174	11186	11198	11212
	11225	11239	11251	11263	11287	11299	11310	11322	11334	11348	11359	11371	11383
	11397	11410	11424	11436	11448	11463	11475	11503	11515	11526	11538	11550	11564
	11575	11587	11599	11613	11626	11640	11652	11664	11699	11711	11722	11734	11746
	11760	11771	11783	11795	11809	11822	11836	11848	11860	11871	11909#	11920	11932
	11945	11957	11975	11987	12005	12017	12032	12044	12062	12074	12102	12114	12125

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		12137	12149	12163	12174	12186	12198	12212	12225	12239	12251	12263	12298	12310
		12321	12333	12345	12359	12370	12382	12394	12408	12421	12435	12447	12459	12470
		12507#	12518	12530	12543	12555	12570	12582	12600	12612	12627	12639	12661	12673
		12684	12696	12710	12722	12734	12754	12766	12788	12800	12811	12823	12835	12849
		12860	12872	12884	12898	12911	12924	12938	12950	12962	12966	13002#	13013	13025
		13038	13050	13066	13078	13096	13108	13129	13141	13163	13175	13186	13198	13210
		13224	13235	13247	13259	13283	13295	13306	13318	13330	13344	13355	13367	13379
		13384	13410#	13421	13433	13446	13458	13473	13485	13503	13515	13530	13542	13570
		13582	13595	13607	13618	13630	13642	13656	13668	13682	13694	13708	13719	13731
		13743	13757	13769	13783	13795	13809	13822	13836	13848	13860	13864	13883#	13886
		13900	13912	13925	13937	13952	13964	13984	13996	14020	14032	14092		
T1	025700RG	1180	4603#											
T10	032766RG	1189	5615#											
T11	033316RG	1190	5750#											
T12	034272RG	1191	6013#											
T13	035036RG	1192	6234#											
T14	036244RG	1193	6587#											
T14.1	036244R	6589#												
T14.2	037374R	6914#												
T15	040142RG	1194	7137#											
T16	041254RG	1195	7466#											
T17	042366RG	1196	7793#											
T18	043474RG	1197	8126#											
T19	044472RG	1198	8421#											
T2	025776RG	1181	4646#											
T20	045364RG	1199	8691#											
T21	047160RG	1200	9193#											
T22	052042RG	1201	10017#											
T23	055116RG	1202	10909#											
T24	060516RG	1203	11908#											
T25	062554RG	1204	12506#											
T26	064274RG	1205	13001#											
T27	065606RG	1206	13409#											
T28	067336RG	1207	13882#											
T3	026076RG	1182	4688#											
T4	026176RG	1183	4729#											
T5	026276RG	1184	4777#											
T6	026352RG	1185	4827#											
T7	026426RG	1186	4875#											
T8	032206RG	1187	5383#											
T9	032502RG	1188	5503#											
UAM =	000200 G	1320#												
UDBB	000262RG	1418#	1466	1471	1476	1481	1486	1491	1520	1525	4137	5684*	5814*	5815*
		5857*	5858*	5911*	5912*	5954*	5955*	6328*	6329*	6333*	6381*	6382*	6386*	6450*
		6451*	6455*	6503*	6504*	6508*	14009*	14010*						
UDB10A	012204RG	1812#	5669											
UDB11A	012234RG	1826#	5811	5854	5908	5951	6325	6378	6447	6500				
UDB28A	013116RG	2047#	14006											
UNAPRI	000240RG	1409#	5532											
UNIHLT=	000005 G	1370#												
UNIT	000242RG	1410#	4434*	4435*	4436	4439	4622	4665	4707	4748				
WTMODE	011232RG	1500#	6066	6136	6288	6644	7189	7518	7847	8179	8474	8748	8752	9246
		10070	10962	11963	12559	12742	13054	13462						
WTMOD1	011242RG	1504#	6943											
WTMULA	011152RG	1470#	10155	10510	11052	12048								
WTPHYA	011132RG	1460#	6701	7245	7574	7905	8236	8531	8810	9304	9642	10128	11019	11452

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WTRNGS	011172RG	12021	12616	12776	13112	13519	8206	8501	8780	9274	10098	10989	11991	12586
		1480#	6671	7216	7545	7875								
		13082	13489											
XCRC	013202RG	2076#	2449	3615	4165									
XCRCB	013204RG	2077#	2448											
XDAT	013174RG	2073#	2435	3577*	3666*	3710*								
WR	= 100000 G	1353#												
XRDRB0	013142RG	2060#	2397	3112	4191									
XRDRB2	013144RG	2061#	2405											
XRDRB4	013146RG	2062#	2413											
XRDRB6	013150RG	2063#	2421											
XTDRB0	013162RG	2068#	2359	3263	4219									
XTDRB2	013164RG	2069#	2367											
XTDRB4	013166RG	2070#	2375											
XTDRB6	013170RG	2071#	2383											
X\$ALWA=	000000	1068#												
X\$FALS=	000040	1068#												
X\$OFFS=	000400	1068#												
X\$TRUE=	000020	1068#												
ZERO	= 000000 G	1382#	3703	4019	6138	6191								
\$PATCH	071164RG	14280#												
.	= 071210R	1417#	1418#	1419#	1420#	1421#	1422#	1423#	1424#	1425#	1426#	1427#	1428#	1429#
		1430#	1431#	1432#	1433#	1434#	1435#	1436#	1437#	2126#	2283#	4374	4490	4511
		4533	4888	4900	4925	4940	4952	5360#	5396	5408	5420	5432	5447	5459
		5471	5483	5516	5528	5571	5590	5628	5640	5653	5665	5695	5707	5723
		5763	5775	5788	5800	5826	5838	5869	5881	5895	5923	5935	5966	5978
		5992	6026	6038	6051	6063	6079	6091	6106	6118	6132	6149	6161	6176
		6188	6202	6247	6259	6272	6284	6300	6312	6345	6357	6398	6410	6429
		6467	6479	6520	6532	6551	6604	6616	6629	6641	6656	6668	6686	6698
		6713	6725	6747	6759	6770	6782	6794	6808	6819	6831	6843	6857	6870
		6884	6896	6908	6931	6941	6955	6967	6991	7003	7014	7026	7037	7049
		7069	7083	7150	7162	7175	7187	7202	7214	7231	7243	7257	7269	7291
		7303	7314	7326	7338	7352	7363	7375	7387	7401	7413	7425	7437	7479
		7491	7504	7516	7531	7543	7560	7572	7586	7598	7620	7632	7643	7655
		7667	7681	7692	7704	7716	7730	7742	7754	7766	7806	7818	7831	7843
		7860	7872	7890	7902	7917	7929	7951	7963	7974	7986	7998	8012	8023
		8035	8047	8061	8075	8087	8099	8139	8151	8164	8176	8191	8203	8221
		8233	8248	8260	8282	8294	8305	8317	8329	8343	8355	8369	8381	8393
		8434	8446	8459	8471	8486	8498	8516	8528	8543	8555	8578	8590	8601
		8613	8626	8638	8650	8662	8704	8716	8729	8741	8765	8777	8795	8807
		8822	8834	8860	8872	8883	8895	8907	8921	8933	8947	8959	8973	8984
		8996	9024	9037	9051	9063	9077	9089	9103	9116	9130	9142	9154	9206
		9218	9231	9243	9259	9271	9289	9301	9322	9334	9356	9368	9379	9391
		9403	9417	9428	9440	9452	9466	9479	9493	9505	9517	9541	9553	9564
		9576	9588	9602	9613	9625	9637	9660	9672	9694	9706	9717	9729	9741
		9755	9766	9778	9790	9804	9817	9831	9843	9855	9879	9891	9902	9914
		9926	9940	9951	9963	9975	10030	10042	10055	10067	10083	10095	10113	10125
		10140	10152	10170	10182	10210	10222	10233	10245	10257	10271	10282	10294	10306
		10320	10333	10347	10359	10371	10405	10417	10428	10440	10452	10466	10477	10489
		10501	10525	10537	10565	10577	10588	10600	10612	10626	10637	10649	10661	10675
		10688	10702	10714	10726	10759	10771	10782	10794	10806	10820	10831	10843	10855
		10922	10934	10947	10959	10974	10986	11004	11016	11037	11049	11067	11079	11103
		11115	11126	11138	11150	11164	11175	11187	11199	11213	11226	11240	11252	11264
		11288	11300	11311	11323	11335	11349	11360	11372	11384	11398	11411	11425	11437
		11449	11464	11476	11504	11516	11527	11539	11551	11565	11576	11588	11600	11614
		11627	11641	11653	11665	11700	11712	11723	11735	11747	11761	11772	11784	11796

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11810	11823	11837	11849	11861	11921	11933	11946	11958	11976	11988	12006	12018
12033	12045	12063	12075	12103	12115	12126	12138	12150	12164	12175	12187	12199
12213	12226	12240	12252	12264	12299	12311	12322	12334	12346	12360	12371	12383
12395	12409	12422	12436	12448	12460	12519	12531	12544	12556	12571	12583	12601
12613	12628	12640	12662	12674	12685	12697	12711	12723	12735	12755	12767	12789
12801	12812	12824	12836	12850	12861	12873	12885	12899	12912	12925	12939	12951
12963	13014	13026	13039	13051	13067	13079	13097	13109	13130	13142	13164	13176
13187	13199	13211	13225	13236	13248	13260	13284	13296	13307	13319	13331	13345
13356	13368	13380	13422	13434	13447	13459	13474	13486	13504	13516	13531	13543
13571	13583	13596	13608	13619	13631	13643	13657	13669	13683	13695	13709	13720
13732	13744	13758	13770	13784	13796	13810	13823	13837	13849	13861	13887	13901
13913	13926	13938	13953	13965	13985	13997	14021	14033	14143#	14243#	14281#	

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ENDSUB	1#	1068#	6910	7107											
ENDSW	1#	1068#	1244												
ENDTST	1#	1068#	4629	4672	4714	4755	4805	4855	4954	5485	5592	5725	5995	6205	6556
	7110	7439	7768	8101	8395	8664	9156	9977	10861	11870	12469	12965	13383	13863	14091
EQUALS	1#	1068#	1260												
ERRDF	1#	1068#	4616	4659	4701	4742									
ERRHRD	1#	1068#	4792	4842	4881	4893	4918	4933	4945	5389	5401	5413	5425	5440	5452
	5464	5476	5509	5521	5558	5583	5621	5633	5646	5658	5688	5700	5716	5756	5768
	5781	5793	5819	5831	5862	5874	5888	5916	5928	5959	5971	5985	6019	6031	6044
	6056	6072	6084	6099	6111	6125	6142	6154	6169	6181	6195	6240	6252	6265	6277
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	6343	6355	6396	6408	6427	6465	6477	6518	6530	6549	6602	6614	6627	6639	6654
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CZUABA.MAC 10-JAN-83 12:46 CROSS REFERENCE TABLE -- MACRO NAMES

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12370#	12371	12382#	12383	12394#	12395	12408#	12409	12421#	12422	12435#	12436	12447#	12448	12459#	
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	2394#	2428#	2432#	2442#	2446#	2464#	2468#	2498#	4369#	4380#	4390#	4406#	4458#	4471#	4475#
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	4715#	4729#	4756#	4777#	4800#	4806#	4827#	4850#	4856#	4875#	4955#	5383#	5486#	5503#	5593#
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	7440#	7466#	7769#	7793#	8102#	8126#	8396#	8421#	8665#	8691#	9157#	9193#	9978#	10017#	10862#
	10909#	11871#	11908#	12470#	12506#	12966#	13001#	13384#	13409#	13864#	13882#	14092#	14217#	14231#	14257#
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MSGETT	1#	1068#	4373#	4489#	4510#	4532#	4887#	4899#	4924#	4939#	4951#	5395#	5407#	5419#	5431#
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CZUABA.MAC 10-JAN-83 12:46 CROSS REFERENCE TABLE -- MACRO NAMES

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	1221	1237#	1238	1239	2091#	2108#	2116#	2295#	2308#	2322#	2336#	2356#	2394#	2432#	2446#
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MSGNIN	14288														
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	1127#	1128	1129	1130#	1131	1132#	1133#	1134	1135#	1136	1137#	1138	1139#	1140	1141#
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PARAMETER CODING
CZUABA.MACMACY11 30(1046)
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CROSS REFERENCE TABLE -- MACRO NAMES

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PARAMETER CODING MACY11 30(1046) 11-JAN-83 12:03 PAGE 340
CZUABA.MAC 10-JAN-83 12:46 CROSS REFERENCE TABLE -- MACRO NAMES

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 CZUABA.MAC 10-JAN-83 12:46 CROSS REFERENCE TABLE -- MACRO NAMES

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 CZUABA.MAC 10-JAN-83 12:46 CROSS REFERENCE TABLE -- MACRO NAMES

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MSPUT	11908#	11909	12506#	12507	13001#	13002	13409#	13410	13882#	13883	14216#	14256#			
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	4734	5532#	5533	5534	5535	14055#	14056	14057	14062#	14063	14064	14069#	14070	14071	14076#
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CZUABA.MAC 10-JAN-83 12:46 CROSS REFERENCE TABLE -- MACRO NAMES

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PARAMETER CODING
CZUABA.MAC

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CROSS REFERENCE TABLE -- MACRO NAMES

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	6157	6158	6170#	6171	6172	6173	6182#	6183	6184	6185	6196#	6197	6198	6199	6241#
	6242	6243	6244	6253#	6254	6255	6256	6266#	6267	6268	6269	6278#	6279	6280	6281
	6294#	6295	6296	6297	6306#	6307	6308	6309	6339#	6340	6341	6342	6351#	6352	6353
	6354	6392#	6393	6394	6395	6404#	6405	6406	6407	6423#	6424	6425	6426	6461#	6462
	6463	6464	6473#	6474	6475	6476	6514#	6515	6516	6517	6526#	6527	6528	6529	6545#
	6546	6547	6548	6598#	6599	6600	6601	6610#	6611	6612	6613	6623#	6624	6625	6626
	6635#	6636	6637	6638	6650#	6651	6652	6653	6662#	6663	6664	6665	6680#	6681	6682
	6683	6692#	6693	6694	6695	6707#	6708	6709	6710	6719#	6720	6721	6722	6741#	6742
	6743	6744	6753#	6754	6755	6756	6764#	6765	6766	6767	6776#	6777	6778	6779	6788#
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	7080	7088#	7089	7090	7091	7095#	7096	7097	7098	7102#	7103	7104	7105	7144#	7145
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PARAMETER CODING MACY11 30(1046) 11-JAN-83 12:03 PAGE 351
 CZUABA.MAC 10-JAN-83 12:46 CROSS REFERENCE TABLE -- MACRO NAMES

8093#	8094	8095	8096	8133#	8134	8135	8136	8145#	8146	8147	8148	8158#	8159	8160
8161	8170#	8171	8172	8173	8185#	8186	8187	8188	8197#	8198	8199	8200	8215#	8216
8217	8218	8227#	8228	8229	8230	8242#	8243	8244	8245	8254#	8255	8256	8257	8276#
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9237#	9238	9239	9240	9253#	9254	9255	9256	9265#	9266	9267	9268	9283#	9284	9285
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9446#	9447	9448	9449	9460#	9461	9462	9463	9473#	9474	9475	9476	9487#	9488	9489
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CZUABA.MAC 10-JAN-83 12:46 CROSS REFERENCE TABLE -- MACRO NAMES

11193#	11194	11195	11196	11207#	11208	11209	11210	11220#	11221	11222	11223	11234#	11235	11236
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11296	11297	11305#	11306	11307	11308	11317#	11318	11319	11320	11329#	11330	11331	11332	11343#
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11594#	11595	11596	11597	11608#	11609	11610	11611	11621#	11622	11623	11624	11635#	11636	11637
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12919#	12920	12921	12922	12933#	12934	12935	12936	12945#	12946	12947	12948	12957#	12958	12959
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13602#	13603	13604	13605	13613#	13614	13615	13616	13625#	13626	13627	13628	13637#	13638	13639
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13834	13843#	13844	13845	13846	13855#	13856	13857	13858	13886#	13895#	13896	13897	13898	13907#
13908	13909	13910	13920#	13921	13922	13923	13932#	13933	13934	13935	13947#	13948	13949	13950
13959#	13960	13961	13962	13979#	13980	13981	13982	13991#	13992	13993	13994	14015#	14016	14017
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MSXFER	1#	1068#	
OPEN	1#	1068#	
POINTE	1#	1068#	1080

PARAMETER CODING MACY11 30(1046) 11-JAN-83 12:03 PAGE 353
CZUABA.MAC 10-JAN-83 12:46 CROSS REFERENCE TABLE -- MACRO NAMES

PRINTB	1#	1068#	2296	2309	2323	2337	2344	2357	2365	2373	2381	2395	2403	2411	2419
	2433	2447	2455	2469	2476	2483	2490	14054	14061	14068	14075	14082			
PRINTF	1#	1068#													
PRINTS	1#	1068#													
PRINTX	1#	1068#													
READBU	1#	1068#													
REDEF	1#	1068#	4410	4415	4420	4425									
RFLAGS	1#	1068#													
SETPRI	1#	1068#	5538	5566	5577										
SETVEC	1#	1068#	4604	4647	4689	4730	5531								
SLASH	1#	1068#													
STARS	1#	1068#													
SVC	1#	1068#													
XFER	1#	1068#	4373#	4489#	4510#	4532#	13886#								
XFERF	1#	1068#													
XFERT	1#	1068#													

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071210 001

ERRORS DETECTED: 0
DEFAULT GLOBALS GENERATED: 0

CZUABA.OBJ,CZUABA.LST/CRF/SOL/NL:TOC=SVC34R.P11,CZUABA.MAC
RUN-TIME: 82 96 11 SECONDS
RUN-TIME RATIO: 305/189=1.6
CORE USED: 34K (68 PAGES)

LNKX11 V023 12-JAN-83 2:00

#CZUABA.BIN/B:2000,CZUABA.MAP=CZUABA/E

LOAD MAP

TRANSFER ADDRESS: 000001

LOW LIMIT: 002000

HIGH LIMIT: 073210

MODULE SECTION	PARAM ENTRY	ADDRESS	SIZE
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	BIT00	000001	
	BIT01	000002	
	BIT02	000004	
	BIT03	000010	
	BIT04	000020	
	BIT05	000040	
	BIT06	000100	
	BIT07	000200	
	BIT08	000400	
	BIT09	001000	
	BIT1	000002	
	BIT10	002000	
	BIT11	004000	
	BIT12	010000	
	BIT13	020000	
	BIT14	040000	
	BIT15	100000	
	BIT2	000004	
	BIT3	000010	
	BIT4	000020	
	BIT5	000040	
	BIT6	000100	
	BIT7	000200	
	BIT8	000400	
	BIT9	001000	
	BOE	000400	
	BUFL	100000	
	CMODE1	175015	
	DNI	004000	
	DTYPE	002540	
	EF.CON	000036	
	EF.NEW	000035	
	EF.PWR	000034	
	EF.RES	000037	
	EF.STA	000040	
	ENP	000400	
	ERRS	040000	
	EVL	000004	
	FATI	000400	
	GETCMD	000002	
	GETPCB	000001	
	GOODST	000000	

HOE 100000
 IBE 010000
 ICAB 040000
 IDU 000040
 IER 020000
 INITH 000000
 INL 000100
 INTR 000200
 ISR 000100
 IXE 004000
 LOE 040000
 LOT 000010
 NIHLT 000006
 NIUNI 000007
 ONES 177777
 OWN 100000
 PCEI 040000
 PCTO 000200
 PDMD 000010
 PNOP 000006
 PNT 001000
 POLYH 120001
 PRI 002000
 PRILD 000001
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 PRI02 000100
 PRI03 000140
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 PRI06 000300
 PRI07 000340
 RCBI 002000
 READY 000002
 RESET 000000
 RMTc 000010
 RSET 000040
 RUN 000003
 RXI 020000
 SERI 100000
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 SIZ8K 040000
 SLFT 000003
 SMASK 177770
 START 000004
 STMASK 140377
 STOP 000017
 STP 001000
 TDRMSK 007777
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 UN!HLT 000005
 XPWR 100000
 ZERO 000000

071210

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BTMSG0 072553
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CHKRCE 024666
CHKRDR 024754
CHKRXI 025054
CHKSER 025374
CHKSTR 025142
CHKTDR 025220
CHKTXI 025306
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CLRDNI 025434
CLRRCE 025502
CLRRXI 025550
CLRSER 025664
CLRSTA 013262
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CMPDAT 025732
CMPMEM 026062
CMPRNT 026142
CRCBLK 026222
CRCH 014202
CRC14A 014712
CRC15H 014716
CRC15L 014720
CRC16H 014722
CRC16L 014724
CRC20A 014726
CRC21A 014732
CRC21B 014736
CRC22A 014742
CRC22B 015012
CRC23B 015062
CRC25B 015066
CRC27A 015072
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DEFHDR 072300
DEST 002244
DFPTBL 002216
DMPMEM 013272
DNIFLG 015212
DPA 072260
ECODE 015206
ECRC 015176
ECRCB 015200
EDAT 015172
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EPCSR1 015130
ERDRB0 015132
ERDRB2 015134
ERDRB4 015136
ERDRB6 015140
ERRBLK 015234
ERRMSG 015232

1

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ERR002	020012
ERR003	020050
ERR004	020106
ERR005	020162
ERR006	020206
ERR007	020254
ERR008	020343
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ERR010	020506
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ERR012	020637
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ERR016	021050
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ERR018	021216
ERR019	021316
ERR020	021376
ERR021	021457
ERR022	021540
ERR023	021607
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ERR025	021676
ERR026	021730
ERR027	021777
ERR028	022104
ERR029	022212
ERR030	022317
ERR031	022424
ERR032	022532
ERR033	022637
ERR034	022726
ERR035	023016
ERR036	023105
ERR037	023173
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ERR039	023350
ERR040	023451
ERR041	023554
ERR042	023607
ERR043	023650
ERR044	023712
ERR045	024003
ERR046	024070
ERR047	024162
ERR048	024256
ERR049	024310
ERR050	024357
ERR051	024447
ETDRB0	015152
ETDRB2	015154
ETDRB4	015156
ETDRB6	015160
FRM001	015330
FRM002	015365

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 HEXH 026402
 HEXL 026440
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 HEXVAL 072277
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 ISRNXM 027642
 LDBUF 026466
 LDBUFC 026530
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 LDPCBB 026630
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 LDUDBB 027030
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 LPMSG 072272
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 LPTBL 072410
 LSMA 013102
 LSACP 002110
 LSAPT 002036
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 LSCCP 002106
 LSCLEA 027620
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L\$DISP	002124
L\$DLY	002116
L\$DTP	002040
L\$DTYP	002034
L\$DU	027626
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L\$DVTY	015236
L\$EF	002052
L\$EN :	002044
L\$ERRT	015226
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L\$HIME	002120
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L\$HPTP	002022
L\$HW	002216
L\$ICP	002104
L\$INIT	027416
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L\$LAST	073210
L\$LOAD	002100
L\$LUN	002074
L\$MREV	002050
L\$NAME	002000
L\$PRIO	002042
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L\$REPP	002062
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L\$RPT	027402
L\$SOFT	073106
L\$SPC	002056
L\$SPCP	002020
L\$SPTP	002024
L\$STA	002030
L\$SW	002224
L\$TEST	002114
L\$TIML	002014
L\$UNIT	002012
MEM10A	014214
MEM11A	014244
MEM13A	014246
MODE15	015076
MODE17	015100
MODE20	015102
MODE21	015104
MODE24	015106
MODE25	015110
MODE26	015112
MSG001	017042
MSG002	017066
MSG003	017114
MSG004	017146
MSG005	017220
MSG006	017362
MSG007	017524

MSG008	017556
MSG009	017640
MULTL	014322
MULTLC	014416
NEXMEM	015210
NOPF	013072
NORXI	027170
PATRN1	015216
PCBB	002252
PCSR0	002226
PCSR1	002230
PCSR2	002232
PCSR3	002234
RBUF	007072
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RBUF3	010072
RBUF4	010472
RBUF5	011072
RBUF6	011472
RBUF7	012072
RBUF8	012472
RDCNT	013202
RDDEFA	013112
RDMODE	013222
RDMULA	013142
RDPHYA	013122
RDRB	002632
RDRB1A	013342
RDRB1B	013402
RDRB2A	013442
RDRB3A	013502
RDRNGS	013162
RDR14A	014622
RDR15A	014632
RDR17A	014642
RDR17B	014652
RDR20A	014662
RDR20B	014672
RDR20C	014702
RDSTA	013252
RFRMT	013312
RFRMTX	013326
RREV	072266
SETBUF	027230
SFPTBL	002224
SMSG00	031060
SMSG01	031110
SMSG02	031137
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SMSG17	031516
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SMSG21	031555
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SMSG23	031605
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SMSG30	031701
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SMSG36	032263
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SMSG41	032467
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SMSG52	033264
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SMSG56	033563
SMSG57	033577
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SMSG64	033714
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SMSG66	033751
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SMSG70	034001
SMSG71	034022
SMSG72	034055
SMSG73	034101
SMSG74	034115
SMSG75	034131
SMSG76	034145
SMSG77	034161
STMSG	030656
STTBL	030660
SWADDR	015124
SWHDR	072424
SWPACK	072270
TBUF	003072
TBUF2	003472
TBUF3	004072
TBUF4	004472

TBUF 5	005072
TBUF 6	005472
TBUF 7	006072
TBUF 8	006472
TDRB	002572
TDRBXX	014002
TDRB1A	013542
TDRB1B	013602
TDRB1C	013642
TDRB2A	013702
TDRB3A	013742
TDRX	002672
TDR14A	014512
TDR15A	014522
TDR18A	014532
TDR18B	014542
TDR20A	014552
TDR20B	014562
TDR20C	014572
TDR21X	014602
TDR25A	014612
TINIT	027334
T1	027700
T10	034766
T11	035316
T12	036272
T13	037036
T14	040244
T15	042142
T16	043254
T17	044366
T18	045474
T19	046472
T2	027776
T20	047364
T21	051160
T22	054042
T23	057116
T24	062516
T25	064554
T26	066274
T27	067606
T28	071336
T3	030076
T4	030176
T5	030276
T6	030352
T7	030426
T8	034206
T9	034502
UDBB	002262
UDB10A	014204
UDB11A	014234
UDB28A	015114
UNAPRI	002240
UNIT	002242
WTMODE	013232
WTMOD1	013242
WTMULA	013152

WTPHYA 013132
WTRNGS 013172
XCRC 015202
XCRCB 015204
XDAT 015174
XRDRB0 015142
XRDRB2 015144
XRDRB4 015146
XRDRB6 015150
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SPATCH 073164

RUN-TIME: 3 SECONDS
5K CORE USED