SPERRY UNIVAC
COMPUTER SYSTEMS

RECEIVED
MAR 26 1981
District of Coquitlam
Administration

PUBLICATIONS UPDATE

Operating System/3 (OS/3)

Online Diagnostics

Operator Reference

UP-8512 Rev. 1-B

This Library Memo announces the release and availability of Updating Package B to "Sperry Univac Online Dignostics Operator Reference", UP-8512 Rev. 1.

This update documents the ONWORK test program (workstation tests) for Online Diagnostics for the 7.0 release.

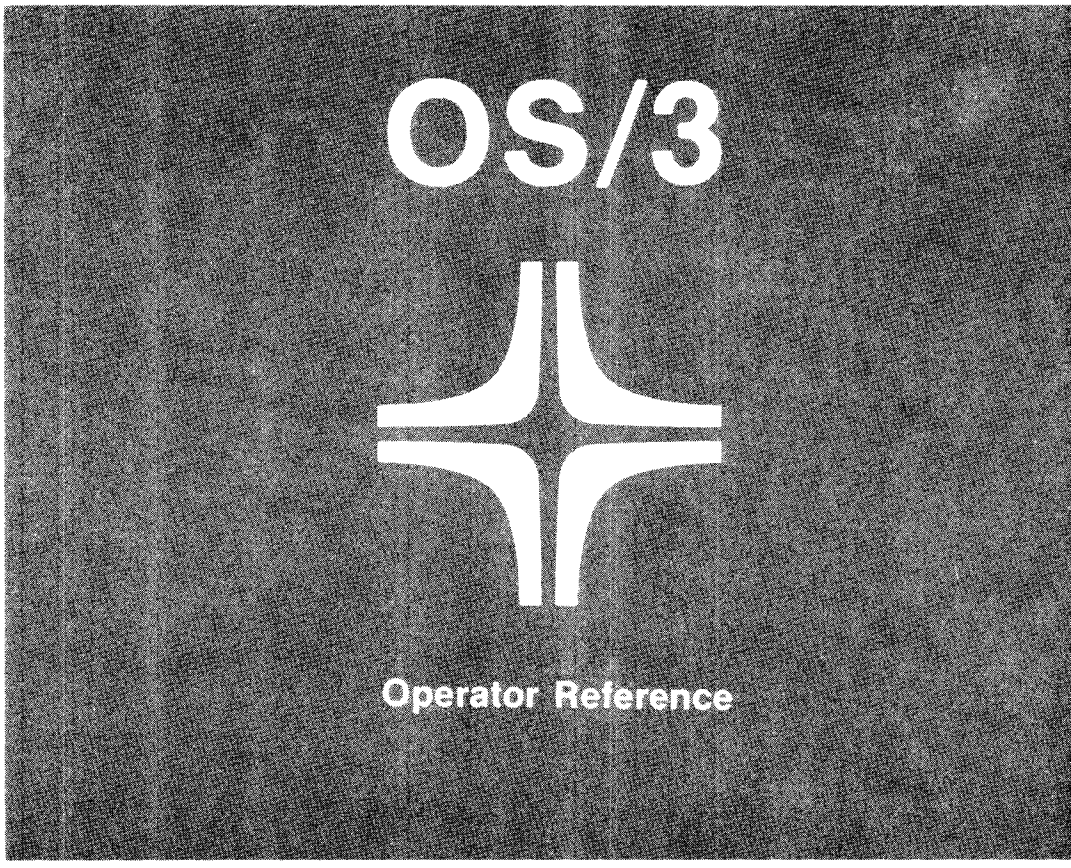
All other changes are corrections or expanded discriptions, applicable to features present in Online Diagnostics prior to the 7.0 release.

Copies of Updating Package B are now available for requisitioning. Either the updating package only or the complete manual with the updating package may be requisitioned by your local Sperry Univac representative. To receive only the updating package, order UP-8512 Rev. 1-B. To receive the complete manual, order UP-8512 Rev. 1.

LIBRARY MEMO ONLY	LIBRARY MEMO AND ATTACHMENTS	THIS SHEET IS
Mailing Lists BZ, CZ and MZ	Mailing Lists 18, 18U, 19, 19U, 20, 20U, 75, 75U, 76 and 76U (Package B to UP-8512 Rev. 1, Covers and 23 pages plus Memo)	Library Memo

RELEASE DATE:
February, 1981

Online Diagnostics



Environment: 90/25, 30, 30B, 40 Systems

SPERRY UNIVAC

This document contains the latest information available at the time of preparation. Therefore, it may contain descriptions of functions not implemented at manual distribution time. To ensure that you have the latest information regarding levels of implementation and functional availability, please consult the appropriate release documentation or contact your local Sperry Univac representative.

Sperry Univac reserves the right to modify or revise the content of this document. No contractual obligation by Sperry Univac regarding level, scope, or timing of functional implementation is either expressed or implied in this document. It is further understood that in consideration of the receipt or purchase of this document, the recipient or purchaser agrees not to reproduce or copy it by any means whatsoever, nor to permit such action by others, for any purpose without prior written permission from Sperry Univac.

Sperry Univac is a division of the Sperry Corporation.

FASTRAND, SPERRY UNIVAC, UNISCOPE, UNISERVO, and UNIVAC are registered trademarks of the Sperry Corporation. ESCORT, PAGEWRITER, PIXIE, and UNIS are additional trademarks of the Sperry Corporation.

This document was prepared by Systems Publications using the SPERRY UNIVAC UTS 400 Text Editor. It was printed and distributed by the Customer Information Distribution Center (CIDC), 555 Henderson Rd., King of Prussia, Pa., 19406.

©1977, 1978 — SPERRY CORPORATION

PRINTED IN U.S.A.

PAGE STATUS SUMMARY

ISSUE: Update B – UP-8512 Rev. 1
RELEASE LEVEL: 7.0 Forward

Part/Section	Page Number	Update Level
Cover/Disclaimer		B
PSS	1	B
Preface	1	B
Contents	1 thru 4 5 thru 7	A B
1	1 2 3 thru 5 6 7, 8 9	A B Orig. A Orig. A
2	1, 2 2a 3 thru 14 15, 16 17 thru 19 20 thru 27 28 thru 33 34 35, 36	A A Orig. A Orig. A Orig. A A
3	1 thru 4 5 6 thru 12	Orig. A Orig.
4	1 thru 14	Orig.
5	1 thru 11	Orig.
6	1 thru 16	Orig.
7	1 thru 12	Orig.
8	1 thru 7	Orig.
9	1 thru 15 16 thru 20 21 thru 39 40 41 thru 48 49 50 thru 57 58 59 thru 70	A A Orig. A Orig. A Orig. A A
10	1 thru 7	Orig.
11	1 thru 9	B*
Appendix A	1, 2	Orig.
Appendix B	1, 2 3 thru 5	A Orig.
Appendix C	1 thru 10	Orig.
Index	1 thru 4 5 6, 7 8	A B A B
User Comment Sheet		

*New pages

All the technical changes are denoted by an arrow (➔) in the margin. A downward pointing arrow (↓) next to a line indicates that technical changes begin at this line and continue until an upward pointing arrow (↑) is found. A horizontal arrow (➔) pointing to a line indicates a technical change in only that line. A horizontal arrow located between two consecutive lines indicates technical changes in both lines or deletions.

Preface

This manual is designed to instruct and guide the operator in the procedures required to run the online diagnostic programs supplied with the SPERRY UNIVAC Operating System/3 (OS/3). Its intended audience is the operator with a basic knowledge of data processing operations but whose experience is limited to systems other than those of Sperry Univac.

Prerequisite to the use of these programs is a thorough knowledge of the operating procedures for the processor and peripheral devices. These are described in the appropriate operations handbook for operators for the data processing system you are running.

One other document relating to the operation of the data processing system under control of OS/3 is the system messages programmer/operator reference, UP-8076 (current version). This manual describes all the system messages you could encounter while operating the processor and peripheral devices and gives the appropriate responses, when necessary.

The information contained in this manual is presented as follows:

- Section 1. General Information

  States the scope and purpose of diagnostic and online maintenance programs and describes the action designators, relational symbols, parameters, and options referred to throughout the manual.

- Sections 2 through 11. Subsystem Tests

  Contain the information and procedures needed to run the online diagnostic programs supplied with OS/3 for the peripheral and communication devices in your system.

- Appendix A. Message and Command Format Conventions

  Describes the conventions used to illustrate the message and command formats presented in this manual.

- Appendix B. Console Keyin Procedures

  Contains the basic system command conventions for running jobs and describes the general keyin procedures for operator communication with the operating system. These procedures are also contained in the operation handbooks for operators, but are repeated here for your convenience and reference.

- Appendix C. OLM Command Conventions

  Describes the rules for composing and issuing diagnostic and online maintenance commands used by the programs described in this manual.

9.5.4. **Data Communications Terminal DCT 1000** 9-65
9.5.4.1. DC1000 Procedure for Testing the DCT 1000 9-65
9.5.4.2. DC1000 Test Parameters and Features 9-69
9.5.4.3. DC1000 Action Designators 9-70
9.5.4.4. DC1000 Variable Options 9-70
9.5.4.5. DC1000 Test Response Messages 9-70

10. CHANNEL ADAPTER SUBSYSTEM TESTS

10.1. ONCCA PROGRAM 10-1

10.2. PROCEDURE FOR TESTING THE CHANNEL ADAPTER 10-1

10.3. CHANNEL ADAPTER TEST PARAMETERS AND FEATURES 10-4

10.4. CHANNEL ADAPTER ACTION DESIGNATORS 10-4

10.5. CHANNEL ADAPTER VARIABLE OPTIONS 10-5

10.6. CHANNEL ADAPTER TEST RESPONSE MESSAGES 10-5

11. WORKSTATION SUBSYSTEM TESTS

11.1. ONWORK PROGRAM 11-1

11.2 PROCEDURE FOR TESTING WORKSTATION SUBSYSTEMS 11-1

11.3. WORKSTATION SUBSYSTEM TEST PARAMETERS AND FEATURES 11-4

11.4. WORKSTATION SUBSYSTEM ACTION DESIGNATORS 11-6

11.5. WORKSTATION SUBSYSTEM VARIABLE OPTIONS 11-6

11.6. WORKSTATION SUBSYSTEM TEST RESPONSE MESSAGES 11-7

APPENDIXES

A. MESSAGE AND COMMAND FORMAT CONVENTIONS

B. CONSOLE KEYIN PROCEDURES

B.1. GENERAL B-1

B.2. KEYIN PROCEDURE B-1
B.2.1. System Command Characteristics B-2
B.2.2. System Message Characteristics B-3
B.2.2.1. Solicited Messages B-4
B.2.2.2. Unsolicited Messages B-4

C. OLM COMMAND CONVENTIONS

C.1. GENERAL C-1

C.2. OLM COMMAND FORMAT C-1

C.3. RULES REGARDING THE CONSTRUCTION AND TRANSMISSION OF OLM COMMANDS C-1
C.3.1. Special Rules Regarding the Use of the D (Delete) Action Designator C-3
C.3.2. Special Considerations Regarding the Use of Standard Variable Options C-4

C.4. OLM COMMAND PROCESSING C-4

C.5. PROCEDURE FOR RUNNING OLM PROGRAMS FOR DIAGNOSTIC AND MAINTENANCE PURPOSES C-10

INDEX

USER COMMENT SHEET

FIGURES

B-1. Typical System Console Messages B-5

C-1. OLM Command Format C-1

TABLES

1-1. OS/3 Online Diagnostic and Maintenance Programs 1-1
1-2. Action Designators for OLM Programs 1-3
1-3. Relational Symbols 1-5
1-4. Parameter Types Used With OLM Programs 1-5
1-5. Standard Variable Options 1-6

2-1. ONDISC Test Parameters and Features 2-4
2-2. ONDISC Test Response Messages 2-13
2-3. ONIDA Test Parameters 2-19
2-4. ONIDA Test Response Messages 2-22
2-5. ONIDSK Test Parameters and Features 2-30
2-6. ONIDSK Test Response Messages 2-32
2-7. Test Criteria Guidelines for ONMEST Program 2-36

3-1. ONTAPE Test Parameters and Features 3-5
3-2. ONTAPE Test Response Messages 3-8

4-1. Printer Test Parameters and Features 4-6
4-2. ONPRNT Test Response Messages 4-10
4-3. ONIPNT Test Response Messages 4-12

5-1. ONCRDR and ONIRDR Parameters and Features 5-4
5-2. ONCRDR Test Response Messages 5-7
5-3. ONIRDR Card Reader Test Response Messages 5-9

6-1. ONPNCH and ONIPCH Test Parameters and Features 6-9
6-2. ONPNCH Test Response Messages 6-13
6-3. ONIPCH Test Response Messages 6-15

7-1. ONODR Test Parameters and Features 7-3
7-2. ONODR Test Response Messages 7-10

8-1. ONPTRP Test Parameters and Features 8-4
8-2. ONPTRP Test Response Messages 8-6

9-1. ONTERM Test Parameters and Features 9-9
9-2. ONTERM Test Response Messages 9-21
9-3. Mnemonics Peculiar to ONTERM Test Response Messages 9-23
9-4. ONCAT Test Parameters and Features 9-27
9-5. ONCAT Test Response Messages 9-31
9-6. Logical Status Codes Used in ONCAT Test Response Messages 9-34
9-7. ONCAP Test Commands 9-38
9-8. REMRBT Test Parameters and Features 9-48
9-9. REMRBT Test Response Messages 9-51
9-10. ONRTTY Test Parameters and Features 9-56
9-11. ONR100 Test Parameters and Features 9-62
9-12. DC1000 Test Parameters and Features 9-69

10-1. ONCCA Test Parameters 10-4
10-2. ONCCA Test Response Messages 10-6

11-1. ONWORK Test Parameters and Features 11-4
11-2. ONWORK Test Response Messages 11-7

C-1. OLM Command Processing Error Messages C-5
C-2. Mnemonics Used in OLM Messages C-7

1. General Information

1.1. SCOPE AND PURPOSE OF DIAGNOSTIC PROGRAMS

The online diagnostic and maintenance programs (OLMs) supplied with SPERRY UNIVAC Operating System/3 (OS/3) are designed to be used by maintenance engineers to diagnose malfunctions in the peripheral subsystems supported by OS/3. The operator, however, may use these same programs to establish confidence in his peripheral subsystems, should he suspect them of malfunctioning. No matter how they are used, they can be run under control of OS/3 either as the only program entered or in a multiprogram environment. In the latter case, the majority of the system can still be dedicated to running user jobs while OLMs are being executed. Only the peripheral devices being tested are unavailable for use by user jobs.

Table 1–1 lists the peripheral subsystems for which OLMs are available and the names of the OLM programs used to test each subsystem. The standard OS/3 supervisors (SY$STD and STD$63) support the running of all OLM jobs; the basic OS/3 supervisors (SY$BAS and BAS$63) only provide for running tests on the:

SPERRY UNIVAC 8413 Diskette Subsystem
SPERRY UNIVAC 8416/8418 Disk Subsystem
SPERRY UNIVAC 0717 Card Reader
SPERRY UNIVAC 0719 Card Reader
SPERRY UNIVAC 0605 Card Punch
SPERRY UNIVAC 0773 Printer
SPERRY UNIVAC 0778 Printer

The minimum OS/3 supervisors (SY$MIN and MIN$63) do not support OLM testing.

Table 1—1. OS/3 Online Diagnostic and Maintenance Programs (Part 1 of 2)

Peripheral Subsystem	Program Name
Disk Subsystems:	
8413 diskette	ONIDSK
8411/8414/8424/8425/8430/8433	ONDISC
	ONMEST ←
8415/8416/8418	ONIDA
	ONMEST ←
Magnetic Tape Subsystems:	
UNISERVO VI-C, 10, 12/16, 14, and 20	ONTAPE

Table 1—1. OS/3 Online Diagnostic and Maintenance Programs (Part 2 of 2)

Peripheral Subsystem	Program Name
Printer Subsystems:	
0768	ONPRNT
0770	ONPRNT
0773	ONIPNT
0776	ONPRNT
0778	ONIPNT
Card Reader Subsystems:	
0716	ONCRDR
0717	ONIRDR
0719	ONIRDR
Card Punch Subsystems:	
0604	ONPNCH
0605	ONIPCH
Optical Document Reader Subsystem:	
2703	ONODR
Paper Tape Subsystem:	
0920	ONPTRP
Data Communications Subsystems:	
Communications adapter F1625	ONCAT
Communications output printer	ONCOMM
DCT 475,500, and 524 data communications terminals	ONTERM
DCT 1000 data communications terminal	ONCOMM ONCAP
DCT 200 data communications terminal	ONCAP
TELETYPE* models 28, 32, 33, 35, and 37	ONCOMM
Terminal multiplexer	ONTERM
1004/1005 card processor	ONCOMM
9200/9300 processor	ONCOMM
UNISCOPE 100 and 300 display terminals	ONCOMM ONCAP
UTS 400 universal terminal system	ONCAP
Channel Adapter:	
9000 Series channel adapter	ONCCA
Workstation Subsystem:	
9000 Series workstations	ONWORK

*TELETYPE is a registered trademark of Teletype Corporation.

11. Workstation Subsystem Tests

11.1. ONWORK PROGRAM

The ONWORK program tests workstations that may be used in a SPERRY UNIVAC system running under OS/3. It causes the workstations to perform basic functional operations and then monitor their responses to determine their operational status. The ONWORK program can test up to eight workstations at a time.

The ONWORK program is run under the job name ONWORK.

11.2. PROCEDURE FOR TESTING WORKSTATION SUBSYSTEMS

To test any of the workstation subsystems, proceed as follows:

1. Using the SET IO command, set the workstations to be tested *DOWN*, to prevent them from being allocated to another job while under test.

2. Using the RUN command, initiate the running of ONWORK. When the system is ready to execute the job, the following messages are displayed on the system console:

   ji JC08 USING DEV=did TYPE=PRNTR

   ji JC01 JOB ONWORK EXECUTING JOB STEP ONWORK00 #001

   ji jobnumber ONWORK REV. revision/level

   ji jobnumber ONWORK PARAMETERS PRESELECTED BY ONWORK

   ji A T2-7,15,16,18,19,21, V7/20

   ji jobnumber ONWORK PARAMETERS FROM CONTROL STREAM

   ji {**NONE**} / {**V7/nn**}

   ji? ONWORK ENTER PARAMETERS:

   NOTE:

   If test response messages other than those presented in this procedure appear on the system console, refer to 11.6.

The first two messages are standard job control messages that identify the printer that will be used by the job (device identification-did), and the name of the job step that is being processed. If a printer is not available, the first message is omitted, and the system console is used to display all output messages. The third message identifies the job number assigned to the job and the revision level of the program being executed. The fourth through seventh messages identify the test parameters and variable option entries preselected for the job. These parameters determine what tests will be run and the environment they will be run in. If a printer or a spoolout file was allocated for the job, the V7 parameter is displayed on the seventh message; otherwise, NONE is displayed. All test parameters, action designators, variable options, and features associated with the workstation subsystem tests are described in 11.3 through 11.5.

The last message, which must be answered before any workstation testing can begin, allows you to:

- obtain a hard-copy listing of both preselected and available parameters associated with the test;
- identify the workstation units to be tested;
- enter additional test parameters; or
- delete any preselected parameters you don't want.

Generally, however, test parameters are changed only under the guidance of a Sperry Univac customer engineer.

If you don't want a hard-copy listing, skip to step 4; if you do want a listing, proceed to step 3.

3. This step produces a hard-copy listing of the parameters associated with the test program. This is the only point in the program where you can obtain this listing because the parameters are overwritten following the next step.

   NOTE:

   A hard-copy listing should be requested the first time you run the program. Once obtained, it may be saved for future reference.

   If you want a hard-copy listing, reply to the ENTER PARAMETERS message with the following keyin:

   ji PRINT

   NOTE:

   If OLM commands are keyed in incorrectly, the test program is suspended, and an error message is displayed on the system console. See C.4 for a description of the error messages that are displayed in such an instance and the operator actions required to continue the test.

   After this message reply is processed, the ENTER PARAMETERS message reappears, allowing you to key in additional test parameters, variable options, and features.

4. Identify the workstations to be tested and initiate testing with the following keyin:

   ji A did$_1$[,...did$_n$].B

where:

A
Is the action designator meaning add.

$did_1[,...,did_n]$
Are the 3-digit device identification numbers of the workstations to be tested.

B
Is the action designator meaning begin testing.

After testing begins, the following message is displayed each time the ONWORK program begins a test on a workstation:

ji ENTERING TEST n test name

NOTE:

The test numbers and names are listed in Table 11—1.

When all tests are completed on all of the workstations that you specified, the following messages are displayed on the system console for each workstation:

ji DEVICE did TERMINATION SUMMARY

ji TOTAL WRITES=n

ji TOTAL WRITE ERRORS=n

ji TOTAL READS=n

ji TOTAL READ ERRORS=n

ji TOTAL READS BACKWARD=n

ji TOTAL READ BACKWARD ERRORS=n

ji TOTAL BYTES TRANSFERRED=n

After the last device termination summary message is displayed, the following job control message is displayed on the system console:

ji JC02 JOB ONWORK TERMINATED NORMALLY

This message is displayed even if errors were detected during the tests. If errors are detected, the test program lists them on the printer (if one was assigned to the job) or on the system console (if a printer or spoolout file was not available). Each error listing identifies the type of error encountered, the unit on which it was encountered, and the number of the test that detected the error, plus any other test data that may be meaningful to a Sperry Univac customer engineer. All error listings should be reported to your Sperry Univac customer engineer for his analysis. He will advise you on the course of action that should follow. If no errors are detected, the units can be considered operational, and no further action is required.

The types of errors that may be detected by the ONWORK program are listed and described in Table 11-2.

11.3. WORKSTATION SUBSYSTEM TEST PARAMETERS AND FEATURES

The test parameters and features used in the ONWORK program are listed and described in Table 11-1. The action designators and variable options are discussed in subsequent subsections.

Table 11—1. ONWORK Test Parameters and Features (Part 1 of 2)

Test	Name	Function
2	NO-OP Test	A NO-OP command is issued to the workstation controller. This is the lowest level at which the subsystem communicates with the host. Expected status is channel end and device end. This test loops 10 times.
3	Sense Test and Read Event Test (AER)	This test is designed to test the proper operation of the sense command and the read event command. a. The input buffer is filled with hexadecimal FF, and the sense command is issued with byte counts ranging from 1 to 8. The data in the input buffer is then checked to insure that the required number of sense bytes was transferred. The presence of hexadecimal FF in the expected data indicates that no data byte was expected. The presence of hexadecimal FF in the received data indicates that no data byte was received. A sense command with a byte count of 10 is issued. The program checks that only eight sense bytes were transferred and there is a remaining byte count of 2. The sense command is also issued with a maximum byte count; the input buffer is checked to insure that the sense bytes are transferred. More detailed sense testing is accomplished in other independent valid command tests. b. The asynchronous event register (AER) is read three times with byte counts ranging from 1 to 3. The remaining byte counts should be 0, 0, and 1, respectively. If an error occurs, an AER data compare error message is displayed.
4	Invalid Command Test	There are 10 commands that the subsystem recognizes as valid. Command bytes using all invalid hexadecimal combinations are issued. The status and sense bytes that are returned are tested for the presence of unit check and command reject.
5	Valid Command Test	This test is designed to test the ability of the subsystem to accept the following valid commands: Enter workarea mode (hex. 23) User write (hex. 09) Read event (hex. 32) User read (hex. 0A) Diagnostic write (hex. 81) Diagnostic read (hex. 82) Enter system response mode (hex. 43) System message write (hex. 01) Workstation reset (hex. 0B) Halt IPCA (hex. 13) Diagnostic write IPCA (hex. 72) Diagnostic read IPCA (hex. 73) User read/write and diagnostic read/write are issued three times. The ending status will be checked for channel end and device end. The remaining count will be 0 for any read and write commands and 2 for other commands. Sense byte 0 is checked to insure that the command reject bit is not set. Sense bytes 1-5 are ignored.
6	IPCA Buffer Test	Subtest 1 issues the diagnostic read IPCA and diagnostic write IPCA commands with a byte count of 50. Ending status is checked for successful completion. Subtest 2 issues the same sequence with a byte count of 250. The remaining byte count is then checked to see if it is hex. 7A. Subtest 3 issues all hex. values from 00 through FF. The write and read sequence includes a compare after every read to be sure that what was written is the same as what was read. Ending status is checked for successful completion after each I/O.

Table 11—1. ONWORK Test Parameters and Features (Part 2 of 2)

Test	Name	Function
7	Workstation Buffer Test	Subtest 1 issues the diagnostic read and diagnostic write commands with a byte count of 50. Ending status is checked for successful completion. Subtest 2 issues the same sequence with a byte count of 250. The remaining byte count is then checked to see if it is hex. 7A. Subtest 3 issues all hex. values from 00 through FF. The write and read sequence includes a compare after every read to to be sure that what was written is the same as what was read. Ending status is for successful completion after each I/O.
15	Mode Select and Invalid Mode Test	a. WS mode is selected and sense checked to see if the mode bit is set to 0 and the AER mode bit is set to 0. A system message read is issued and unit check is expected. Sense contains command reject and program alert. b. System mode is selected and sense checked to see if the mode bit is set to 1 and the AER mode is set to 1. A user read is issued and unit check is expected. Sense contains command reject, program alert, and mode bit set. A user write is issued and unit check is expected. Sense contains program alert, invalid command at workstation, and mode bit set. A message waiting command is issued and channel end, device end, and unit check are expected. Sense contains program alert, invalid command at workstation, and mode bit set.
16	Workstation Reset Test	This test places the workstation in the workarea mode and issues a workstation reset command (0B). Channel end and device end status is expected. Sense should contain 0's. The workstation is then placed in the system response mode. The workstation reset command is issued again and device end status is expected. Sense should contain 0's, indicating that the workstation was placed back in the workarea mode.
17	System Message Read/Write Test	The workstation is placed in the system response mode and a system message write command is issued. Channel end and device end status and a sense containing mode bit set are expected. Then, a system message read command is issued expecting the same status and sense. The test loops 82 times, incrementing the byte count by 1 each time from 0–81. Status for the 81st command should result in unit check and a sense with data check set for the last read command.
18	User Read/Write Test	This test insures that the subsystem performs the user read and user write commands properly. It also tests the ability of every character to write to the screen. User read and user write commands are issued with the expected status of channel end and device end. This test loops 2 times and prints 48 characters per loop.
19	Write Display Test	This test should write every displayable character in every position on the screen. Each character will be written to the full screen of 1920 bytes until all 96 characters have been displayed.
20	Protect/Unprotect Test	Protected and unprotected lines of data are displayed on the screen alternately. Then, a user write command is issued to the protected fields one at a time. This is followed by a user write command to the same line to insure that the protected line was not written over.
21	Duplicate/Insert Test	A message is written on line 3 with a user write command. A user read command is issued and a duplicate copy of line 3 is displayed on line 4. An insert line function is then issued to line 3, with messages starting in columns 1, 31, and 61, respectively.

NOTE:

There are no feature entries for the ONWORK program.

11.4. WORKSTATION SUBSYSTEM ACTION DESIGNATORS

Test program ONWORK may include the use of all action designators listed and described in Table 1-2.

11.5. WORKSTATION SUBSYSTEM VARIABLE OPTIONS

All the variable options used by OLM programs are listed and described in Table 1-5. Those options used by the ONWORK program are:

Option	Description
V1	Allow error reporting
V2/xxxx	Delay operation (in milliseconds)
V3/n	Retry failing I/O (n=number of times)
V4	Stop on error. All error messages are displayed on the system console or terminal. After the message is displayed, the program waits for a reply. The valid replies are as follows:

Reply	Meaning
B	Begin with first selected test
C	Continue testing
E	End the program
NT	Go to the next test
R	Retry the failing I/O
RST	Restart the program
RM	Repeat the error message
RML	Repeat the error message with the long format
RML-ALL	Repeat the error message, using the long format, including the test description
?	Give explanation for all valid replies

V7/xxxx	Report errors on high speed printer (xxxx=number of allowable error messages printed per device before program is ended)
V9/nn	Loop operation (nn=number of times)
V10	Display current status (current test and subtest)
V11	Long message format (detail error message)
V13/nn	Loop subtest (nn=number of times)
V14/nn	Loop test (nn=number of times)

V28 Display every I/O status (BCW and ending status)

NOTE:

Error messages are automatically routed to the system console if the V4 or V7 options are not selected. The program continues after messages are printed.

11.6. WORKSTATION SUBSYSTEM TEST RESPONSE MESSAGES

The ONWORK test program originates three groups of test response messages:

1. Parameter error messages (Table C-1), which are detected when insufficient or erroneous parameters are entered.

2. Subsystem error messages, which inform the operator of an abnormal or unexpected condition that was detected during the execution of the test. These include I/O error messages and data error messages.

3. Information/action messages, which inform the operator of the test output expected or procedures to follow during execution of a test program.

Table 11-2 lists the test response messages that may be displayed by the ONWORK program. The test response messages are grouped into categories relating to the type of message displayed. Reference should be made to Table C-2 for meanings of mnemonics, and to the I/O sense data byte definitions in the hardware and software summary, UP-8203 (current version) for interpretations of sense bits used in the test response messages.

Table 11–2. ONWORK Test Response Messages (Part 1 of 3)

Message	Meaning
I/O Error Messages	
UNIT xxx TEST n SUBTEST n testname **ERROR IN I/O ENDING CONDITIONS** **ERRORS=** ***0** **SB SB SB SB SB SB SB SB SB SB** **CS DS 00 01 02 03 04 05 06 07 08 09 RBC** **EXPECTED** xx xx xx xx xx xx xx xx xx xx xxxx **RECEIVED** xx xx xx xx xx xx xx xx xx xx xxxx **BCW CHAIN** xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx ***0-RECEIVED AND EXPECTED BYTES SHOULD BE EQUAL**	Indicates an abnormal result that is repeated during I/O operation. Record the message and refer to Sperry Univac customer engineer.

Table 11–2. ONWORK Test Response Messages (Part 2 of 3)

Message	Meaning
Data Error Messages	
UNIT xxx TEST n SUBTEST n testname DATA COMPARE ERROR FIRST BYTE=0 v v v v v v v v EXPECTED DATAxxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx RECEIVED DATA xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx . . . FIRST BYTE=n v v v v v v v v v v v v EXPECTED DATA xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx RECEIVED DATA xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx TOTAL DATA BYTES COMPARED=n	Indicates an error was detected, as compared with expected data. Record the message and refer to Sperry Univac engineer.
Information Messages	
ENTERING TEST n testname	Displayed whenever a test is begun.
DEVICE did TERMINATION SUMMARY TOTAL WRITES=n TOTAL WRITE ERRORS=n TOTAL READS=n TOTAL READ ERRORS=n TOTAL BYTES TRANSFERRED=n	Self-explanatory.
Action Messages	
SUSPENDED--AWAITING UNSOLICITED REPLY (B,C,E,RST,?)	Program was halted. To resume testing, enter valid response.
UNABLE TO INITIALIZE xxx DEVICE xxx DELETED	xxx=device ID. Device not set for test, invalid device ID, or device not set DOWN. Check for correct device ID, and set the device DOWN prior to test initiation.

Table 11–2. ONWORK Test Response Messages (Part 3 of 3)

Message	Meaning
Action Messages (cont)	
DEVICE xxx IS NOT A WORKSTATION DO YOU WISH TO DELETE xxx ? REPLY Y-YES, N-NO	The device entered was not the correct device type. Check the device address. If it is correct, answer N. If it is incorrect, answer Y. Then add the correct address.
STOP ON ERROR ? ENTER B, C, E, NT, R, RST, RM, RM-ALL, ?	Reply to V4 STOP ON ERROR message. Enter valid reply.
PLEASE GO TO WORKSTATION xxx. PLACE IT IN SYSTEM RESPONSE MODE AND TRANSMIT.	Test 17 instruction message. Self-explanatory.
PLEASE GO TO WORKSTATION xxx. PLEASE KEY IN AS INDICATED AT WORKSTATION	Test 20 instruction message. Self-explanatory.

Term	Reference	Page
ONRTTY module	See ONCOMM test program, ONRTTY module.	
ONTAPE test program (magnetic tape subsystem)		
action designators	3.4	3—6
general	3.1	3—1
parameters and features	3.3	3—4
	Table 3—1	3—5
procedures	3.2	3—1
response messages	3.6	3—7
	Table 3—2	3—8
variable options	3.5	3—6
ONTERM test program		
action designators	9.2.3	9—14
general	9.2	9—1
mnemonics peculiar to ONTERM test response messages	Table 9—3	9—23
parameters and features	9.2.2	9—9
	Table 9—1	9—9
procedures	9.2.1	9—2
response messages	9.2.5	9—15
	Table 9—2	9—21
variable options	9.2.4	9—14
ONWORK test program (workstation subsystem)		
action designators	11.4	11—6
function	11.1	11—1
parameters and features	11.3	11—4
procedure	11.2	11—1
response messages	11.6	11—7
variable options	11.5	11—6
Optical document reader, 2703	See ONODR test program.	
Output printer, communications	See ONTERM test program.	

P

Term	Reference	Page
Paper tape, 0920	See ONPTRP test program.	
Parameter-type designators, OLM programs	1.2.3	1—5
	Table 1—4	1—5
Parameters	See test parameters and features.	
Parameters, OLM programs	1.2.4	1—6
Printer, communications output	9.5.3	9—58
Printer, 0768, 0770, and 0776	See ONPRNT test program.	
Printer, 0773 and 0778	See ONIPNT test program.	
Procedures	See test procedures.	
Processor, 9200/9300	See ONCOMM test program, REMRBT module.	

R

Term	Reference	Page
Relational symbols, OLM programs	1.2.2	1—4
	Table 1—3	1—5
Remote batch terminal		
1004/1005 card processor	See ONCOMM test program, REMRBT module.	
9200/9300 processor	See ONCOMM test program, REMRBT module.	
REMRBT module	See ONCOMM test program, REMRBT module.	
Response messages	See test response messages.	

Term	Reference	Page
S		
Scope, diagnostic programs	1.1	1—1
Special considerations, OLM	C.3.1	C—3
Special rules, OLM	C.3.2	C—4
Standard variable options	1.2.3	1—5
	1.2.4	1—6
	Table 1—5	1—6
Subsystems		
card processor, 1004/1005	9.5.1	9—40
card punch, 0604 and 0605	6.1	6—1
card reader, 0716, 0717 and 0719	5.1	5—1
channel adapter, 9000 series	10.1	10—1
communications adapter, F1625	9.3	9—25
communications output printer (COP)	9.5.3	9—58
data communications terminals	9.5.4	9—65
	9.4	9—34
DCT 475, 500, and 524	9.2	9—1
DCT 1000	9.5.4	9—65
DCT 2000	9.4	9—34
disk, 8411, 8414, 8424, 8425, 8430, and 8433	2.2	2—1
disk, 8415, 8416, and 8418	2.3	2—16
diskette, 8413	2.4	2—27
display terminal, UNISCOPE 100/200	9.5	9—40
	9.5.3	9—58
magnetic tape, UNISERVO VI-C, 10, 12, 14, 16, and 20	3.1	3—1
optical document reader	7.1	7—1
output printer, communications	9.5.3.1	9—58
paper tape, 0920	8.1	8—1
printer, 0768, 0770, and 0776	4.1	4—1
printer, 0773 and 0778	4.1	4—1
processor, 9200/9300	9.5.1	9—40
TELETYPE, models 28, 32, 33, 35, and 37	9.5.2	9—52
UNISCOPE 100/200 display terminal	9.5.3	9—58
	9.4	9—34
universal terminal system, UTS 400	9.4	9—34
UTS 400 universal terminal system	9.4	9—34

Term	Reference	Page
T		
TELETYPE, models 28, 32, 33, 35, and 37	See ONCOMM test program, ONRTTY module.	
Terminal multiplexer	9.2.1	9—2
Test action designators	1.2.1	1—3
	Table 1—2	1—3
Test parameters and features		
card processor, 1004/1005	9.5.1.3	9—47
	Table 9—8	9—48
card punch, 0604	6.3	6—8
	Table 6—1	6—9
card punch, 0605	6.3	6—8
	Table 6—1	6—9
card reader, 0716	5.3	5—4
	Table 5—1	5—4
card reader, 0717 and 0719	5.3	5—4
	Table 5—1	5—4
channel adapter, 9000 series	10.3	10—4
	Table 10—1	10—4
communications adapter, F1625	9.3.2	9—26
	Table 9—4	9—27
communications output printer	9.2.2	9—9
	Table 9—1	9—9
DCT 475, 500, and 524	9.2.2	9—9
	Table 9—1	9—9
disk, 8411, 8414, 8424, 8425, 8430, and 8433	2.2.2	2—4
	Table 2—1	2—4
disk, 8415, 8416, and 8418	2.3.2	2—19
	Table 2—3	2—19
diskette, 8413	2.4.2	2—29
	Table 2—5	2—30
general parameters	1.2.3	1—5
	1.2.4	1—6
	Table 1—4	1—5
magnetic tape, UNISERVO VI-C, 10, 12, 14, 16, and 20	3.3	3—4
	Table 3—1	3—5
optical document reader, 2703	7.3	7—3
	Table 7—1	7—3
paper tape reader, 0920	8.3	8—3
	Table 8—1	8—4
printer, 0773 and 0778	4.4	4—6
	Table 4—1	4—6
printer, 0768, 0770, and 0776	4.4	4—6
	Table 4—1	4—6
processor, 9200/9300	9.5.1.3	9—47
	Table 9—8	9—48
	10.3	10—4
TELETYPE, models 28, 32, 33, 35, and 37	9.5.2.3	9—56
UNISCOPE 100/200 display terminal	9.5.3.2	9—62
	Table 9—11	9—62

Term	Reference	Page
Test procedures		
card processor, 1004/1005	9.5.1.1	9—41
	9.5.1.2	9—44
card punch, 0604	6.2	6—1
card punch, 0605	6.2	6—1
card reader, 0716	5.2	5—1
card reader, 0717 and 0719	5.2	5—1
channel adapter, 9000 series	10.2	10—1
communications adapter, F1625	9.3.1	9—25
communications output printer	9.5.3	9—58
DCT 475, 500, and 524	9.2.1	9—2
DCT 1000	9.5.3	9—58
DCT 2000	9.4.1	9—35
disk, 8411, 8414, 8424, 8425, 8430, and 8433	2.2.1	2—1
disk, 8415, 8416, and 8418	2.3.1	2—16
diskette, 8413	2.4.1	2—27
general	1.3	1—9
	Appendix B	
magnetic tape, UNISERVO VI-C, 10, 12, 14, 16, and 20	3.2	3—1
optical document reader, 2703	7.2	7—1
paper tape reader, 0920	8.2	8—1
printer, 0773 and 0778	4.2	4—1
printer, 0768, 0770, and 0776	4.3	4—3
processor, 9200/9300	9.5.1.1	9—41
	9.5.1.2	9—44
	10.2	10—1
TELETYPE, models 28, 32, 33, 35, and 37	9.5.2.2	9—52
UNISCOPE 100/200 display terminal	9.5.3	9—58
	9.4.1	9—35
UTS 400 universal terminal system	9.4.1	9—35
Test programs		
ONCAP	9.4	9—34
ONCAT	9.3	9—25
ONCCA	10.1	10—1
ONCOMM DC1000 module	9.5.4	9—65
ONCOMM ONR100 module	9.5.3	9—58
ONCOMM, ONRTTY module	9.5.2	9—52
ONCOMM, REMRBT module	9.5.1	9—40
ONCRDR	5.1	5—1
ONDISC	2.2	2—1
ONIDA	2.3	2—16
ONIDSK	2.4	2—27
ONIPCH	6.1	6—1
ONIPNT	4.1	4—1
ONIRDR	5.1	5—1
ONODR	7.1	7—1
ONPNCH	6.1	6—1
ONPRNT	4.1	4—1
ONPTRP	8.1	8—1
ONTAPE	3.1	3—1
ONTERM	9.2	9—1

Term	Reference	Page
Test response messages		
card processor, 1004/1005	9.5.1.6	9—50
card punch, 0604	6.6	6—12
	Table 6—2	6—13
card punch, 0605	6.6	6—12
	Table 6—3	6—15
card reader, 0716	5.5	5—6
	Table 5—2	5—7
card reader, 0717 and 0719	5.5	5—6
	Table 5—3	5—9
channel adapter, 9000 series	10.6	10—5
	Table 10—2	10—6
communications adapter, F1625	9.3.5	9—30
	Table 9—5	9—31
communications output printer	9.5.3.5	9—65
DCT 475, 500, and 524	9.2.5	9—20
	Table 9—2	9—21
DCT 1000	9.5.4.5	9—70
disk, 8411, 8414, 8424, 8425, 8430, and 8433	2.2.5	2—12
	Table 2—2	2—13
disk, 8415, 8416, and 8418	2.3.5	2—21
	Table 2—4	2—21
diskette, 8413	2.4.5	2—32
	Table 2—6	2—32
general	Table C—1	C—5
	Table C—2	C—7
magnetic tape, UNISERVO VI-C, 10, 12, 14, 16, and 20	3.6	3—7
	Table 3—2	3—8
optical document reader, 2703	7.6	7—9
	Table 7—2	7—10
paper tape reader, 0920	8.6	8—5
	Table 8—2	8—6
printer, 0773 and 0778	4.7	4—9
	Table 4—2	4—10
printer, 0768, 0770, and 0776	4.7	4—9
	Table 4—3	4—12
processor, 9200/9300	Table 9—9	9—51
	9.5.1.6	9—50
	10.6	10—5
TELETYPE, models 28, 32, 33, 35, and 37	Table 9—9	9—51
UNISCOPE 100/200 display terminal	9.5.3.5	9—65

Term	Reference	Page
Test variable options		
card processor, 1004/1005	9.5.1.5	9—49
card punch, 0604	6.5	6—12
card punch, 0605	6.5	6—12
card reader, 0716	5.5	5—6
card reader, 0717 and 0719	5.5	5—6
channel adapter, 9000 series	10.5	10—5
communications adapter, F1625	9.3.4	9—30
communications output printer	9.5.3.4	9—65
DCT 475, 500, and 524	9.2.4	9—19
DCT 1000	9.5.4.4	9—70
disk, 8411, 8414, 8424, 8425, 8430, and 8433	2.2.4	2—11
disk, 8415, 8416, and 8418	2.3.4	2—20
diskette, 8413	2.4.4	2—30
magnetic tape, UNISERVO VI-C, 10, 12, 14, 16, and 20	3.5	3—6
optical document reader, 2703	7.5	7—7
paper tape reader, 0920	8.5	8—5
printer, 0773 and 0778	4.6	4—9
printer, 0768, 0770, and 0776	4.6	4—9
processor, 9200/9300	9.5.1.5	9—49
	10.5	10—5
standard variable options	1.2.3	1—5
	1.2.4	1—6
	Table 1—5	1—6
TELETYPE, models 28, 32, 33, 35, and 37	9.5.2.5	9—58
UNISCOPE 100/200 display terminal	9.5.3.4	9—65

Term	Reference	Page
U		
UNISCOPE 100/200 display terminal	See ONCOMM test program.	
	See ONCAP test program.	
UNISERVO subsystems	See ONTAPE test program.	
Universal terminal system, UTS 400	See ONCAP test program.	
UTS 400 universal terminal system	See ONCAP test program.	
V		
Variable options	See test variable options.	
W		
Workstation	See ONWORK test program.	

SPERRY UNIVAC

USER COMMENT SHEET

Your comments concerning this document will be welcomed by Sperry Univac for use in improving subsequent editions.

Please note: This form is not intended to be used as an order blank.

_____

(Document Title)

_____ _____ _____

(Document No.) *(Revision No.)* *(Update No.)*

Comments:

Cut along line.

From:

_____

(Name of User)

_____

(Business Address)

Fold on dotted lines, and mail. (No postage stamp is necessary if mailed in the U.S.A.)
Thank you for your cooperation

FOLD

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 21 BLUE BELL, PA.

POSTAGE WILL BE PAID BY ADDRESSEE

SPERRY UNIVAC

ATTN.: SYSTEMS PUBLICATIONS

P.O. BOX 500
BLUE BELL, PENNSYLVANIA 19424

CUT

FOLD