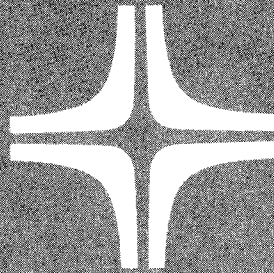


System Maintenance Facilities

OS/3



Introduction

Environment: System 80

SPERRY  UNIVAC

UP-8872

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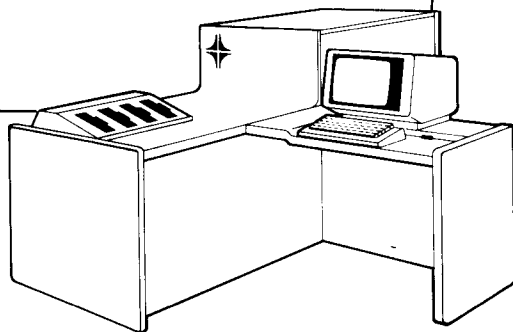
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THE SYSTEM MAINTENANCE
FACILITIES ENSURE THAT YOUR
SYSTEM AND PERIPHERAL
DEVICES ARE WORKING
PROPERLY



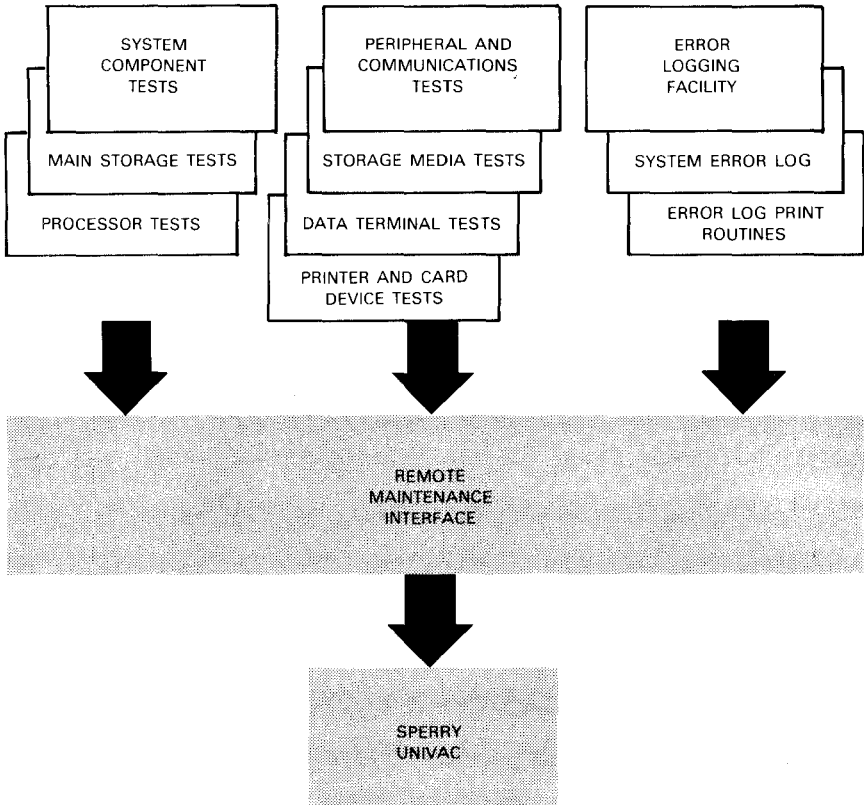


what are the system maintenance facilities

The system maintenance facilities are designed to provide confidence and diagnostic testing of your system to ensure that all components are operating smoothly and to quickly isolate malfunctions. The test programs included are easy-to-use interactive tests conducted through the system console or a designated workstation. All input to the test programs is entered through simple key-in responses to system generated queries. The results of the tests are displayed on the system console or listed on a printer.

To further assist your maintenance effort, Sperry Univac provides an error logging facility. This facility accumulates and records software detected hardware errors for subsequent print-out and analysis. A remote maintenance interface is also available to permit rapid transfer of maintenance information to Sperry Univac.

**SPERRY UNIVAC PROVIDES FACILITIES TO
MEET ALL OF YOUR SYSTEM
MAINTENANCE NEEDS**



testing your central complex

The system maintenance facilities provide a number of tests that can be run to establish confidence in your system's central complex components or to isolate any faults that may occur in these areas. The test programs are supplied on diskettes and are conducted interactively. The tests are initiated at the system console and issue a series of queries presented as screen displays. You supply input to the programs by keying in responses to the displayed questions. There are separate tests for each of the components that make up the central complex. You can run all the tests to check the operation of the entire system or only the tests indicated for a particular error condition. Two types of tests are supplied to test the system: microdiagnostics and macrodiagnostics.

The microdiagnostic tests, consisting of static and dynamic tests, check the central processor, the main storage processor, the main storage unit, and the control only storage. These tests should be run if you get an indication, such as a system console message, that a central complex hardware fault has occurred.

The macrodiagnostic tests are designed to provide extensive testing of the central processor and channel hardware to ensure that the instruction sets for these units are operable. The macrodiagnostic tests should be run if a console message indicated a software error occurred or if a program that had previously executed properly could not be successfully completed.

The results of the microdiagnostic and macrodiagnostic test programs are recorded and reported to Sperry Univac so that proper corrective actions can be taken.

SAMPLE DIAGNOSTIC SCREEN DISPLAYS

```
LOADER VERSION X.X DATE MM/DD/YY
ENTER HARD COPY DEVICE (CUU.NO.?)
330
ENTER DATE (MM/DD/YY)
04/07/80
ENTER TIME (HH:MM:SS)
00:00:00
DOCUMENT MODE? (YES.NO.?)
NO
```

```
ENTER TIME (HH:MM:SS, NO)
00:00:00
DOCUMENT MODE? (YES,NO.?)
NO
LONG FORM MESSAGES? (YES,NO.?)
NO
CONTINUE ON TEST ERROR? (YES,NO.?)
NO
RUN TEST PROGRAMS IN PRESELECTED ORDER (YES,NO.?)
YES
LAST ADDRESS OF AVAILABLE MAIN STORE IS 00311295.
LOADER READY
RUN TEST
```

```
TEST XXXXX ERROR REPORT ON PROBLEM PRB10041 SUBTEST 0000
INSTRUCTION UNDER TEST ++55E05F02+++++ MODE:NATIVE, EBCDIC
CC PRESET 2, CC EXPECTED 2, CC AFTER TEST 2
LENGTH IN BYTES: OPERAND 1 0004, OPERAND 2 0004.
OPERAND 1: FFFFFFFF (PROB.REG.E)
OPERAND 2: FFFFFFFF
EXP. RES.: NONE
ACT. RES.: NONE
INTERRUPT CODE EXP.: 00, INTERRUPT CODE RECEIVED: 06
PSW EXP.: 80060008AF00DE06, ACTUAL PSW: 80060006AF00DE06
RESPOND WITH C, N OR H
C=CONTINUE: N=NEXT TEST: H=HALT
```

THE TEST PROGRAMS INCLUDED WITH YOUR SYSTEM MAINTENANCE FACILITIES ARE ALL DESIGNED TO BE CONDUCTED INTERACTIVELY THROUGH THE SYSTEM CONSOLE OR A DESIGNATED WORKSTATION. TEST RESULTS CAN BE DISPLAYED ON THE SCREEN OR LISTED ON A PRINTER.



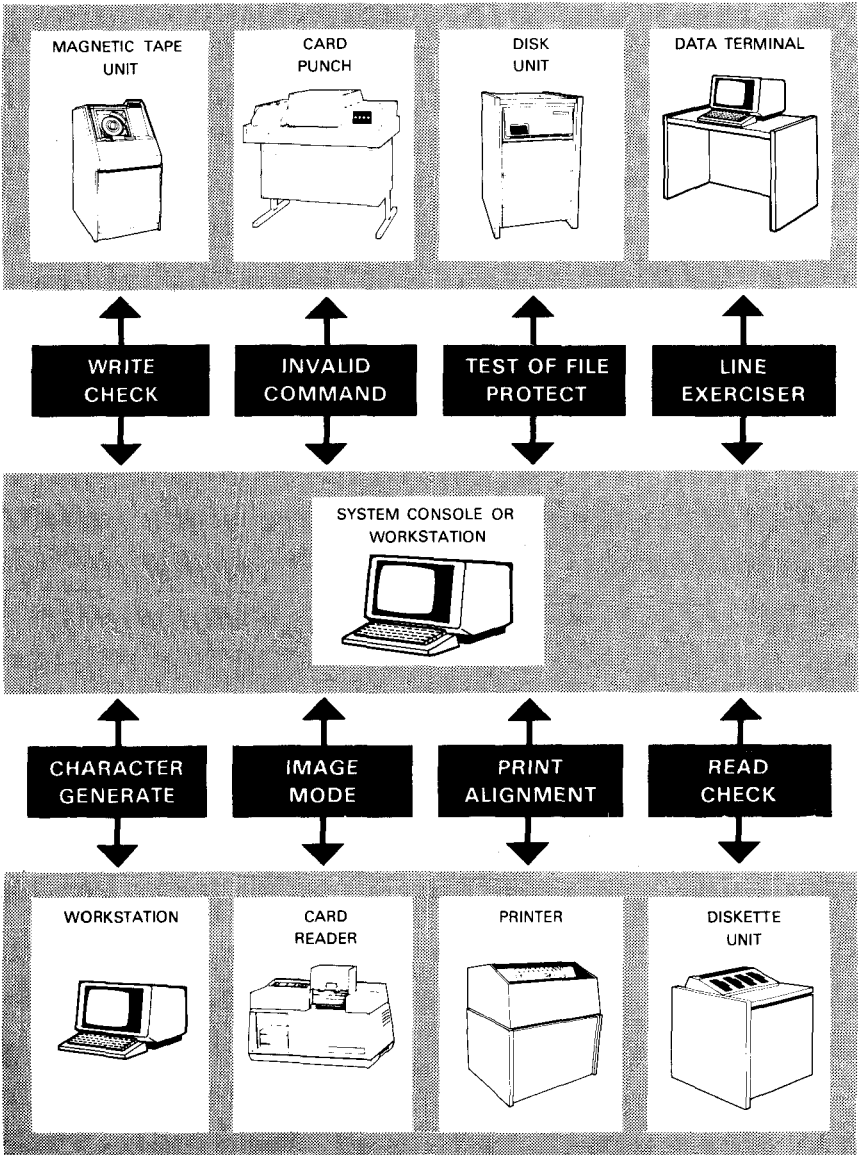
testing your peripheral and communications devices

The online communications and peripheral tests allow you to establish that the peripheral and communications devices configured with your system are operating properly. They can also be used to isolate malfunctions within the devices in the event a fault is indicated. When included as part of your software, the online test programs reside on your system resident disk pack. The online diagnostics are interactive programs that can be run along with your production programs.

A separate diagnostic test is supplied for each device available as peripheral or communications equipment. Each test checks the basic functions of a device first then the more complex functions. The mechanical functions of all devices are also checked. For storage devices, numerous read and write accuracy tests are made. The remote data communications devices are tested for reliable telephone connections as well as for proper functioning of the devices themselves.

Prior to initiating any of the tests, you can have the system display a list of all devices currently configured with your system and the tests associated with each device. As with the central complex diagnostic tests, the results of the online tests are recorded and reported to Sperry Univac so that corrective action can be taken.

ONLINE COMMUNICATIONS AND PERIPHERAL DIAGNOSTIC PROGRAMS TEST THE INTEGRITY OF PERIPHERAL AND DATA COMMUNICATION DEVICES

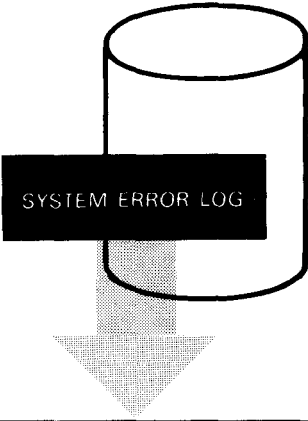


error logging

The error logging facility provides an effective way of isolating errors and gathering statistics for the occurrence of an error. Error logging consists of the system error log file and the error log printing and analysis routines. All software detected hardware errors including communications and peripheral device errors, processor, and main storage errors are recorded in the error log. Errors are recorded with relevant information such as the device or component involved, the type of error, and the time and date when the error occurred. An examination of the error log can be the first step in determining the nature of a fault. In addition, periodic examinations of the error log can reveal a trend of errors that could indicate the imminent failure of a system component.

The error log print routines are used to produce a printed listing of the contents of the error log. Recorded errors are listed by device type or component in chronological order. You will receive a warning message when the error log is nearly filled. When such a warning is issued, you can have a listing of the current contents of the error log produced and reset the file.

THE SYSTEM ERROR LOG HOLDS SOFTWARE DETECTED
 HARDWARE ERRORS. THE ERROR LOG PRINT ROUTINES
 CAN BE USED TO OBTAIN A LISTING OF THE ERROR LOG



```

ONUERL ERROR LOG REPORT .....
SERIAL# ..... yy/mm/dd hh:mm PAGE 1
OS/3 VER. xx. REV. x. DATE yy/mm/dd. TIME hh:mm:ss. FLAGS xxxxxxxx. CHARACTERISTICS xxxx
SYSRES xxx. PRINTER xxx. READER xxx. SYSELOG xxx. MAIN STORAGE SIZE xxxxxxxx. USER MEMORY SIZE xxxxxxxx

.....

CHAN. DVC ADDR.: 00 00
FEATURES:
24x60 SCREEN
LOGEMSK: xxxx. LOEMSK: xxxx

DEVICE: xxxx. CHDV: xxxx. FEATURE BYTES: xxxx. PHYSICAL ADDR.: x. DATE yy/mm/dd
          ("BCW)          CCW / BCW          DISK ADR DV/SC
TIME  JOB NAME  VSN  RT  R/U  DPR  I/O  S  "  CCAAAAAAAAAFBBBBBBB  CCAAAAAAAAAFBBBBBBB  CCG  HH  RR  STATS.  EMSK  SNS  BYTES  B-5
hh:mm:ss .....  xxx  x  xxxxx
xxxx 55B 6-23 .....

DEVICE: xxxx. CHDV: xxxx. MODE: xx. DATE yy/mm/dd
          ("BCW)          CCW / BCB          XPCT ACT. DV/SC
TIME  JOB NAME  VSN  RT  R/U  DPR  I/O  S  "  CCAAAAAAAAAFBBBBBBB  CCAAAAAAAAAFBBBBBBB  MODE  BLCK  BLCK  STATS.  EMSK  SNS  BYTES  B-5
hh:mm:ss .....  xxx  x  xxxxx

TIME  JOB NAME  START  SIZE  SIO  MACH  CHK  OLD  PSW  PGW  CHK  OLD  PSW
RELOC  RG  SUP  R-0  SUP  R-1
hh:mm:ss .....
  
```

maintenance interface

Sperry Univac provides extensive maintenance support through an established network of test facilities. Through an available remote maintenance interface, results of tests that you conducted or error logging information can be transferred directly to Sperry Univac personnel. In addition, the remote maintenance interface permits Sperry Univac personnel to operate your system to conduct more extensive testing. The remote maintenance interface permits immediate response to your maintenance needs and allows malfunctions to be corrected as quickly and conveniently as possible.

The remote maintenance interface is established through an acoustic telephone coupler connected to your system and a private telephone line to a Sperry Univac test site.

summary

The system maintenance facilities provide you with comprehensive tests that establish confidence in the operation of your computer system and efficiently locate trouble in any device including remote devices. They offer a way to accumulate and analyze errors to both isolate the cause of a fault and to predict to a certain extent the occurrence of a malfunction. The diagnostic tests are easy to conduct and in some cases can be run without interfering with normal programming activities.

The maintenance facilities along with the supplied documentation and procedures can help you avoid the problems caused by malfunctions and can help you get your system running as quickly as possible if a breakdown should occur.





