

**DataGeneral**

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**TECHNICAL  
STATEMENT**

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TEXT LISTING

068-000063-05

PROGRAM

CASSETTE TELETYPE TEST

TEXT TAPE

097-000063-05

ABSTRACT

TELETYPE TEST IS A MAINTENANCE PROGRAM DESIGNED TO DETECT MALFUNCTIONS IN THE TELETYPE LOGIC, INTERRUPT SYSTEM, AND THE I/O BUS LOGIC. THE PROGRAM MAY BE USED TO TEST TELETYPE MODELS 4010A-B-C AND 4023B. THE PROGRAM CONTAINS ROUTINES TO PUNCH AND READ RANDOM DATA, ECHO TYPED KEYS, PUNCH FROM THE SWITCH REGISTER, ETC.

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0003 .MAIN  
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PROGRAM PASS THE WORD PASS IS PRINTED.  
IF AFTER A FEW MINUTES THE WORD PASS IS  
NOT PRINTED THE PROGRAM MAY BE IN A LOOP  
OR THERE MAY BE A TELETYPE MALFUNCTION.

0004 .MAIN

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INITIALIZE TESTS (START ADDRESS 501)  
THIS ROUTINE WILL ASK FOR THE EVEN NUMBERED  
DEVICE CODE. THE PROGRAM WILL MODIFY ALL  
TTI AND TTD INSTRUCTIONS, THEN ASK FOR  
PARITY OPTION TEST.  
THE PUNCH SWITCHES (START ADDRESS 503)  
OPERATOR TO SCOPE THE TELETYPE PERMITS THE  
LOGIC. THE ROUTINE ISSUES A I/O RESET  
PULSE, SENDS THE CONTENTS OF THE SWITCHES  
RIGHT HALF, WAITS, AND ITERATES THE  
SEQUENCE.  
ECHO TEST (START ADDRESS 504)  
THE ECHO TEST PROVIDES A MEANS OF DETER-  
MINING IF THE CODES PRODUCED BY THE KEY-  
BOARD ARE CORRECT. WHEN THE OPERATOR STRIKES  
A KEY THE PROGRAM RECEIVES THE CHARACTER AND  
CHECKS IT FOR EVEN PARITY.... THE CHARAC-  
TOR IS STORED IN A BUFFER AND ECHOED BACK  
TO THE OPERATOR. IF A TAB HAS BEEN TYPED  
A RUBOUT IS ALSO ECHOED. THE OPERATOR MUST  
CHECK THE CHARACTER PRINTED TO BE THE SAME  
AS THE KEY DEPRESSED. WHEN THE CARRIAGE  
RETURN KEY IS STRUCK THE PROGRAM CLEARS  
THE BUFFER AND ECHOES A CARRIAGE RETURN  
LINE FEED SEQUENCE. IF THE OPERATOR TERMIN-  
ATES A LINE WITH A "CTRL Z" KEY THE PROGRAM  
WILL INSERT A CARRIAGE RETURN AND ECHO THE  
LINE UNTILL ANOTHER KEY IS STRUCK.  
THE CHARACTER IS READ IN THROUGH EACH  
MEMORY BOARD IN THE SYSTEM. THESE CHARACTERS  
ARE CHECKED WITH THE CHARACTER READ VIA  
MEMORY MODULE 0. THE CHARACTER ECHOED IS  
SEQUENCED THROUGH EACH MEMORY IN THE SYSTEM,  
THUS IF EVERY THIRD CHARACTER IN A 12K  
SYSTEM FAILS TO ECHO PROPERLY THE MEMORY IS  
AT FAULT.  
PRINT CHARACTER SET (START ADDRESS 505)  
A PORTION OF THE ASCII CHARACTER SET IS  
REPEATLY TYPED.  
PUNCH AND READ RANDOM (START ADDRESS 506)  
THIS IS THE PRIME TEST OF THE TELETYPE  
READER AND PUNCH IN FULL DUPLEX OPERATION.  
THE MSKO INSTRUCTION AND THE INTERRUPT SYS-  
TEM ARE USED TO PROVIDE RANDOM START-STOP  
SEQUENCES TO THE READER AND PUNCH. THE DATA  
PUNCHED IS EVEN PARITY... RANDOM NUMBERS.  
PUNCH AND READ COUNT (START ADDRESS 507)  
THIS TEST IS SIMILAR TO THE PREVIOUS TEST  
EXCEPT THAT A COUNT PATTERN IS USED.



10007 .MAIN

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WHEN THE PROGRAM HAS COMPLETED SEVERAL PASSES SET THE DATA SWITCHES TO 000505. PRESS RESET SET THE READER SWITCH TO FREE. PRESS THE PUNCH OFF BUTTON PRESS START A SUBSET OF THE ASCII CHARACTER SET WILL BE PRINTED. THE SET BEGINS WITH THE SEQUENCE "MMM" TO PERMIT CARRIAGE RETURN ADJUSTMENTS ON A WIDE LETTER. AFTER SEVERAL LINES HAVE BEEN PRINTED PRESS RESET AND EXAMINE THE PRINTED DATA. PRESS START SET THE DATA SWITCHES TO 000504 STRIKE EACH KEY ON THE KEYBOARD AND CHECK TO INSURE THAT IT IS ECHOED PROPERLY. SET THE DATA SWITCHES TO 000506 PRESS RESET. REMOVE THE PUNCHED TAPE FROM THE READER AND PUNCH. PRESS THE PUNCH ON BUTTON PRESS START INSERT THE LEADER OF ALL ZEROS INTO THE READER. SET THE READER SWITCH TO START. THE PROGRAM SHOULD PUNCH AND READ RANDOM DATA UNTILL MANUALLY STOPPED OR A ERROR IS DETECTED. TELETYPES WHICH DO NOT CONTAIN THE READER AND PUNCH OPTIONS MAY BE TESTED BY SETTING DATA SWITCHES FOR A STARTING ADDRESS=507 WHICH OMITTS THOSE STEPS PERTAINING TO THE READING AND PUNCHING OF TAPE.

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10008 .MAIN
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PROGRAM OUTPUT/ERROR DESCRIPTION  
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:10.1 WHEN A HALT IS EXECUTED IN ROUTINES OTHER THAN THE DIAGNOSTIC CONSULT THE LISTING FOR THE CAUSE OF ERROR.  
:10.2 PUNCH SWITCHES ROUTINE (START ADDRESS 503) THIS ROUTINE MAY BE USED FOR SCOPING THE TELETYPE OUTPUT LOGIC. THE ROUTINE TRANSMITS A CHARACTER INDEPENDENT OF THE TELETYPE BUSY OR DONE FLAG. THE CHARACTER TRANSMITTED IS A FUNCTION OF THE RIGHT HALF DATA SWITCHES. TERMINATING A LINE INPUTTED IN THE ECHO TEST WITH "CTRL Z" WILL CAUSE THE LINE TO BE REPEATED UNTILL ANOTHER KEY IS STRUCK. THIS PERMITS SPECIAL CODE COMBINATIONS, FOR MECHANICAL ADJUSTMENTS, TO BE TYPED.  
0?0TD 11  
RESTRICTIONS/MISC  
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:12.1 THE DIAGNOSTIC ROUTINE WILL PRINT VARIOUS INDETERMINATE CHARACTORS.  
:13. RUNTIME N/A  
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.EOT

0009 .MAIN

\*\*00005 TOTAL ERRORS. 00000 PASS 1 ERRORS

0010 .MAIN

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STMPD 0000000U

9/20  
5/01