

TEXT LISTING

068-001064-02

PROGRAM

ULMS DIAGNOSTIC

TEXT TAPE

097-001064-02

### ABSTRACT

THE ULMS DIAGNOSTIC PERFORMS A GATE BY GATE TEST OF MOST OF THE LOGIC ON THE SYNCHRONOUS ASYNCHRONOUS COMMUNICATIONS BOARD. THE TEST IS EXECUTED USING JUMPER PLUGS WHICH CONNECT EVEN NUMBERED ASYNC TRANSMITTERS TO ODD NUMBERED ASYNC RECEIVERS AND VICE VERSA.

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MACRO REV 06.30 09:00:25 05/16/79  
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NAME: ULM50.TX PART NUMBER: 097-001064  
DESCRIPTION: ULMS DIAGNOSTIC  
REVISION HISTORY:  
REV. DATE  
00 03/01/78  
01 06/16/78  
02 12/15/78  
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PROGRAM NAME: ULM5D.SR  
REVISION HISTORY:  
REV. DATE CHANGES  
00 03/01/78  
01 06/09/78  
02 12/01/78  
UPDATE FOR STANDARDS,  
SOT IS AVAILABLE.  
CHANGES FOLLOW:-  
CHANGE ALL OCCURANCES OF SAC TO ULMS  
INSERT A ROUTINE (FOR BUS ASSEMBLY) DURING  
INITIAL MESSAGE INDICATING PROGRAM IS  
INSERT MESSAGE TO REMOVE EXISTING END OF  
PASS ROUTINE  
CHANGE FILE NAME TO 4243.D  
REFLECT THE ABOVE CHANGES IN THE TEXT FILE TO  
MACHINE REQUIREMENTS:  
NOVA (EXCEPT MICRO)/ECLIPSE FAMILY PROCESSOR  
16K READWRITE MEMORY  
16K LOGIC MEMORY  
SYNCHRONOUS ASYNCHRONOUS COMMUNICATIONS (ULMS)  
BOARD  
TEST PLUGS  
TEST REQUIREMENTS:  
SAME AS IN 3.  
SUMMARY:  
THE ULMS DIAGNOSTIC PERFORMS A GATE BY GATE  
TEST OF MOST OF THE LOGIC ON THE SYNCHRONOUS  
FUNCTIONS COMMUNICATIONS BOARD. THE TEST IS  
PERFORMED ASYNCHRONOUSLY TO THE BOARD. THE  
ASYNCH RECEPTORS AND VICE VERSA. THE TEST PLUGS  
ALSO CONNECT MODEM OUTPUTS TO MODEM INPUTS IN  
THE FOLLOWING MANNER:  
RTS X TO RING X AND DSR X+1  
RTS X+1 TO RING X+1 AND DSR X  
DTR X TO CTS X AND CD X+1  
DTR X+1 TO CTS X+1 AND CD X  
X = ANY EVEN NUMBERED LINE  
OTR SYNC TO RING AND CTS  
TO DSR AND CD  
REMARKS: ALL HANDLE ONLY ONE ULMS BOARD  
AT A TIME. THE BOARD IS TO BE USED IN THE  
SYSTEM USING THE SAME DEVICE CODES AS THE ULMS  
BOARD MUST BE PULLED OUT OF THE SYSTEM IN ORDER

FOR THE PROGRAM TO RUN PROPERLY.

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7.1  PROGRAM OF LOGIC THEORY OF OPERATION:
7.1  THE LOGIC IS A GATE BY GATE TEST
7.1  OF MOST OF THE LOGIC ON THE I/O BOARD. THE
7.1  CONTROL SECTION AND SYNCHRONOUS LINE
7.1  TRANSMITTER/RECEIVER ARE DONE IN THE DIAGNOSTIC
7.1  MODELS. THE LOGIC IS A GATE BY GATE TEST
7.1  FROM I/O BOARD WITH AN I/O RESETTING SUBROUTINE
7.1  (SETUP) AND ENDS WITH AN ITERATION SUBROUTINE (LOOP
7.1  UK LOOP) AND SET UP THE SUBLETS. IS AS FOLLOWS:
7.2  1. CHECK FOR I/O BOARD BUSY SET AND RESET, BOARD
7.2  1. CHECK FOR I/O BOARD BUSY SET AND RESET, BOARD
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01 SWITCH SETTINGS
02
03 LOCATION "SWREG" IS USED TO SELECT THE PROGRAM OPTIONS
04 AND SYSTEMS FOUR. LOCATION 1 IS USED TO RUN THE PROGRAM UNDER OTIOS,
05 THIS LOCATION WILL TRY THE MONITOR.
06 HOWEVER UNDER STAND ALONE AND PROGRAM LOAD MODES THIS
07 LOCATION WILL BE SET ACCORDING TO THE ANSWERS SUPPLIED
08 BY THE OPERATOR. IN ANY CASE THE OPTIONS CAN BE CHANGED
09 OR VERIFIED BY USING ONE OF THE COMMANDS GIVEN IN SEC.
10 8.2
11
12 SWITCH OPTIONS AND THEIR INTERPRETATION AT LOCATION
13 "SWREG" IS AS FOLLOWS:
14
15 BIT OCTAL BINARY INTERPRETATION
16 VALUE VALUE
17
18 1 40000 0 LOOP ON ERROR
19 2 20000 1 SKIP LOOPING ON ERROR
20 3 10000 0 PRINT TO CONSOLE
21 4 04000 1 ABORT PRINT OUT TO CONSOLE
22 5 02000 0 DO NOT PRINT % FAILURE
23 6 01000 1 PRINT % FAILURE
24 7 00400 0 ALLOW END OF PASS PRINT OUT
25 8 00200 1 SUPPRESS END OF PASS PRINT OUT
26
27 DO NOT PRINT ON THE LINE PRINTER
28 PRINT ON THE LINE PRINTER
29 DO NOT HALT ON ERROR
30 HALT ON ERROR
31 DO NOT PRINT SUMMARY AND/OR
32 PASSING OF EACH SUBTEST
33 PRINT SUMMARY AND/OR
34 PASSING OF EACH SUBTEST
35 PRINT ONLY THE FIRST ERROR
36 PRINT EVERY ERROR
37
38 SWITCH COMMANDS
39
40 ONCE THE PROGRAM STARTS EXECUTING THE STATE OF ANY OF
41 THE BITS CAN BE CHANGED BY HITTING KEYS 1-9, A-F, THE OTHERS.
42 THE PROGRAM WILL CONTINUE RUNNING AFTER UPDATING THE OPTIONS.
43 EACH KEY WILL COMPLETE THE STATE OF A BIT AND WILL AT
44 THE END OF THE PROGRAM PRINT THE LOCATION NUMBER "X" WITH SET TO 0.
45 (DEFAULT MODE IS DEFINED AS ALL BITS OF SWREG SET TO 0)
46 THE PROGRAM CAN BE LOCKED INTO SWITCH MODIFICATION MODE
47 BY HITTING A OR IN WHICH CASE MORE THAN ONE BIT CAN BE
48 MAIN PROGRAM.
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50 OTHER COMMANDS
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"CR" A "RETURN" CAN BE TYPED TO CONTINUE THE PROGRAM
AFTER ITS LOCKED IN A SWITCH MODIFICATION MODE
"D THIS COMMAND GIVEN AT ANY TIME WILL RESET "SWREG"
TO DEFAULT MODE AND RESTART THE PROGRAM.
"R THIS COMMAND GIVEN AT ANY TIME WILL RESTART THE
PROGRAM. SWITCHES ARE LEFT WITH THE VALUES THEY
HAD BEFORE THE COMMAND WAS ISSUED.
"O THIS COMMAND GIVEN AT ANY TIME WILL CAUSE THE
PROGRAM TO GO TO THE OPTION MODE. THIS IS AN
OPTIONAL COMMAND AND IS AVAILABLE ONLY IF
ODTPK IS PRESENT)
M THIS COMMAND GIVEN AT ANY TIME WILL PRINT THE
CURRENT OPERATING MODES.

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9.1 OPERATING PROCEDURE (USERATOR INPUT: EITHER RECEIVER
CONNECT THE MODEM AND START THE PROGRAM.
TEST PLUGS SELECT THE DESIRED SYNCHRONOUS LINE
CLOCK, DEFAULT BAUD RATE FOR ASING LINES,
BOARD ID AND DEVICE CODE BY USING THE APPROPRIATE
JUMPERS ON THE BOARD. REMOVE ANY "CTS" JUMPERS
UNLESS ALL JUMPERS THAT MAY HAVE BEEN INSTALLED.
CHECK XCP - 0.
LOAD THE TEST PROGRAM VIA THE BINARY LOADER
LOAD DIAGNOSTIC OPERATING SYSTEM.
THE PROGRAM WILL START AT LOCATION 200 FOR
A Baud Clock Testing (ONLY ON LOGIC OTHERWISE A
Baud Clock Testing Mode Followed by a Carriage
RETURN IS EXPECTED.
THE PROGRAM WILL REQUEST THE DEVICE CODE OF THE
OPERATOR SHOULD RESPOND
WITH THE DEVICE CODE OR 40. TO RECEIVE CODE OF THE
BOARD (EITHER WILL REQUEST TO THE BOARD ID. TYPE 9 IF
THE BOARD ID JUMPER IS 0 IF NOT.
THE PROGRAM WILL REQUEST THE BOARD CONFIGURATION.
IF ALL SYNC ONLY AND ASYNC LINES ARE PRESENT,
IF ASYNC LINES ARE PRESENT THE PROGRAM WILL REQUEST
DEFAULT (INITIAL) Baud Clock Jumper Configuration
AND WILL BIT 3 (MOST SIGNIFICANT) AND BIT 1,
A VALUE OF 2 WILL BE SET TO 0.
A VALUE OF 0 TO 17 (UNLESS SPECIFIED) IS
THE PROGRAM WILL ASK WHETHER THE BOARD, THE ZOMA
CURRENT LOOP INTERFERENCE IS BEING USED.
UNLESS BOARD CURRENT LOOP IS USED, THE PROGRAM
BOARD SHOULD BE TESTED USING THE EIA INTERFACE FIRST.

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01 AND AFTER PASSING ALL THE TESTS, SELECT THE ROMA
02 CURRENT LOOP IF DESIRED, AND RESTART THE PROGRAM.
03 IF SUCCESSFUL, THE PROGRAM WILL REPEAT THE TESTS
04 FOR AN INFINITE PERIOD.
05 FOR AN INFINITE PERIOD.
06 WHEN ANSWERING ANY OF THE ABOVE INPUT REQUESTS, IF
07 THE OPERATOR INPUT IS NOT ABOVE PILED, THE PROGRAM
08 WILL DETECT AN ERROR AND REPEAT THE INPUT REQUEST.
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110.1 PROGRAM OUTPUT/ERROR DESCRIPTION: THE PROGRAM
111 WHEN A SUBJECT DETECTS A FAILURE, THE PROGRAM
112 WILL STOP AND PRINT THE ADDRESS OF THE
113 PROGRAM COUNT FROM WHICH THE ADDRESS OF
114 THE NEXT INSTRUCTION IS TO BE PRINTED.
115 LINE NUMBER BEING TESTED AT THAT TIME.
116 THE FOLLOWING TIMES, AND "RESTART" WILL RESET AT
117 THE ADDRESS OF THE NEXT INSTRUCTION.
118 THE ADDRESS OF THE NEXT INSTRUCTION WILL
119 BE PRINTED AFTER A LOOP IS COMPLETED.
120 THE MESSAGE "AN ERROR MESSAGE" WILL BE
121 PRINTED AT THE END OF EVERY "PASS" FOLLOWED BY THE PASS COUNT IS PRINTED.

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DETERMINING AN ERROR, EXAMINE THE CONTENTS OF ACCUMULATORS PRINTED OUT ON THE CONSOLE FOR PERTINENT DATA AND SEE THE COMMENTS UNDER THE "HALT" PROGRAM ROUTINE. IF THE CALLING SUBST FOR WHEN LOOPING ON ERROR, THE PROGRAM WILL START LOOPING AT THE SECOND INSTRUCTION FOLLOWING "JSH IDENTFR", WHICH IS NORMALLY AN "JOSTH" INSTRUCTION. IN SOME CASES, THIS MAY BE USED TO SYNC UP TO OTHER CASES. THIS MAY BE SET "DONE" ON THE CONTROLLER I/O INSTRUCTION OR THE "DONE" FLAG.

11.2. OCTAL DEBUG TOOL (ODT)  
 THE DIAGNOSTIC IS EQUIPPED WITH A NULL IN ODT WHICH CAN BE EXECUTED BY TYPING CONTROL 0 (0) AT ANY TIME DURING THE EXECUTION OF THE PROGRAM (AFTER SETTING THE PARAMETERS).

11.2.1 CONVENTIONS AND SYMBOLS  
 THE FOLLOWING CONVENTIONS ARE USED BY THE ODT:  
 ? PENDING WITH A "?"  
 @ ODT IS READY AND AT YOUR SERVICE.

11.2.2 COMMAND STRUCTURE  
 AN ODT COMMAND HAS THE FOLLOWING FORMAT:  
 [ARGUMENT] [COMMAND]  
 AN ARGUMENT MAY BE ONE OF THE FOLLOWING:  
 "EXP" - EXPRESSION TO BE EVALUATED. CONTAINS OF OCTAL NUMBERS  
 "VAL" - VALUE TO BE SET. CONTAINS OF (-) SIGNS. LEADING ZEROS NEED NOT BE TYPED.  
 "ADR" - AN ADDRESS IS THE SAME AS AN EXPRESSION EXCEPT THAT BIT 0 IS NEGLECTED.  
 A COMMAND IS A SINGLE TELETYPE CHARACTER

11.2.3 ODT COMMANDS THAT CAN BE EXAMINED AND MODIFIED BY THE USER ARE CALLED CELLS. THESE CELLS ARE OF TWO TYPES: INTERNAL CPU CELLS AND MEMORY LOCATIONS.

11.2.3.1 OPENING INTERNAL CELLS  
 THE COMMAND TO OPEN ONE OF THE INTERNAL REGISTERS IS OF THE FORM "INA" WHERE N IS ANY OCTAL EXPRESSION BETWEEN 0 AND 7  
 FOR ACCUMULATORS 0-3 INSTRUCTION TO BE EXECUTED IN PLACE OF THE NEXT INSTRUCTION  
 CPU AND I/O STATUS  
 BIT INTERPRETATION  
 15 STATUS OF I/O DONE FLAG  
 14 STATUS OF INTERCRPTS (I/O FLAG)  
 13 STATUS OF I/O ERROR FLAG  
 ADDRESS OF THE LOCATION HAVING THE BREAK POINT (IF ANY)

7 INSTRUCTION AT THE BREAK POINT LOCATION  
 OTHER COMMANDS TO OPEN CELLS ARE:  
 "ADR"/ OPEN THE CELL AND PRINT ITS CONTENTS.  
 "/ AND PRINT THE CELL CURRENTLY POINTED TO BY THE POINTER  
 "+ADR"/ AND PRINT ITS CONTENTS. THE POINTER, OPEN THE CELL  
 "--ADR"/ AND PRINT ITS CONTENTS FROM THE POINTER, OPEN THE CELL AND PRINT ITS CONTENTS.  
 "CR" THE RETURN KEY IS USED TO CLOSE THE OPEN CELL  
 "LFP" WITH THE RETURN KEY TO MOVE THE POINTER TO THE OPEN CELL WITHOUT MODIFICATION AND TO OPEN THE SUCCEEDING CELL.  
 "C" CLOSE THE OPEN CELL WITH OR WITHOUT MODIFICATION  
 "/ AND OPEN THE PRECEDING CELL WITHOUT MODIFICATION, AND  
 "O" OPEN THE CELL POINTED TO BY THE POINTER, AND  
 "+ADR"/ CLOSE THE OPEN CELL WITHOUT MODIFICATION, AND  
 "--ADR"/ OPEN THE CELL POINTED TO BY ITS CONTENTS, + "ADR".

11.2.3.2 MODIFICATION OF A CELL  
 ONCE A CELL HAS BEEN OPENED ITS CONTENTS CAN BE MODIFIED BY TYPING THE NEW VALUE OF THE CELL IS TO CONTAIN IN THE FORM OF AN OCTAL EXPRESSION FOLLOWED BY "CR" OR "LFP".  
 A "C" OR "L" IS TYPED AS THE FIRST CHARACTER OF THE EXPRESSION TO REMOVE THE OLD CONTENT AND PREPARE TO TYPE THE ADDRESS TO BE SET. THE EXPRESSION IS ADDED TO THE ADDRESS CAN BE DEPOSITED BY TYPING "A" OR "L" TO THE ADDRESS-ION". A RETURN COMMAND GIVEN RIGHT AFTER OPENING A CELL CLOSING THE OPEN CELL. THE LOCATION OF ITS CONTENTS IS TYPED IN JUST BEFORE THE COMMAND WAS ISSUED.

11.2.3.3 OTHER ODT COMMANDS  
 THIS KEY IS USED TO DELETE ERRONEOUSLY TYPED DIGITS. EACH TIME THE KEY IS PRESSED THE RIGHT MOST DIGIT OF THE PREVIOUS EXPRESSION IS DELETED. IF THE RIGHT MOST DIGIT OF THE PREVIOUS EXPRESSION IS DELETED THE RIGHT MOST DIGIT OF THE CELL CONTENTS. THIS ALLOWS THE MODIFICATION OF THE CELL AS IF ITS CONTENTS WERE TYPED IN JUST BEFORE THE KEY WAS PRESSED. QUIT AT LOCATION "ADR"  
 "ADR" BREAK POINT CAN BE INSERTED AND ANY ENTRY TO ODT AFTER EXECUTING A BREAK POINT WILL CAUSE IT TO BE DELETED.  
 U DELETE THE BREAK POINT IF ANY  
 P RESUME THE EXECUTION OF THE PROGRAM AT LOCATION  
 "ADR" START EXECUTING THE PROGRAM AT "ADR" AFTER AN  
 K KILL THE STRING TYPED SO FAR. THE ODT RESPONDS WITH "A ?" AND THE OPEN CELL IS CLOSED WITHOUT MODIFICATION.  
 = PRINT THE OCTAL VALUE OF THE INPUT ONLY.

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THIS WILL CLOSE ANY OPEN CELLS WITHOUT
MODIFICATION AND WILL NOT OPEN A CELL

IN PROGRAMS WHICH RELOCATE THEMSELVES THE
THE USER SHOULD PLACE BREAK POINTS ONLY IN THE
ORIGINAL PROGRAM AREA. IF A BREAK POINT IS
PLACED OUTSIDE THIS AREA THE RESULTS WILL
BE UNPREDICTABLE.

NOTE:

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11.3 DESCRIPTION OF MOST COMMON MACROS AND SUBROUTINES:
11.3.1 SETUP MACRO IS USED TO START A SUBTEST. IT EXPANDS
TO A CALL TO THE ROUTINE, BOTH LOOP AND
CALLS "YCR" WHEN A SUBTEST IS BEING
CALLED. "YCR" IS USED TO SET UP THE
INFORMATION READ IN THE EXPLANATION
OF THE PROGRAM WHERE THESE ROUTINES
ARE LOCATED. THE FIRST ARGUMENT IS
A CALL TO A ROUTINE FOLLOWED BY THE
ROUTINE NAME. THE SECOND ARGUMENT
AND SENDS OUT
11.3.3 A "MACRO" USES ONE ARGUMENT
THE ARGUMENT.
11.3.4 THE "DCLK" MACRO USES ONE ARGUMENT
AND SENDS OUT
11.3.5 "CALC" IS A CALL TO "AMOFF" SUBROUTINE. THIS
TURNS OFF ALL THE MODE SECTION
11.3.6 TURNS ON THE CALL TO "XMIT" SUBROUTINE. THIS
TURNS ON THE PRIME LINE TRANSMITTER
MODE. SHIFTS OUT THE PRIME MODE
TO "X" IS A CALL TO "XRD" SUBROUTINE. THIS
TURNS ON THE SYNCHRONOUS LINE TRANSMITTER, LOOP-
BACK MODE, AND CLOCKS IT IN THE DIAGNOSTIC MODE.
DIVIDES AND GETS HIGH. WHEN CLEAR DONE WITH
A SYNC CHARACTER INTO THE XMITTER BUFFER.
11.3.8 P?STM
THIS MACRO IS USED TO HANDLE ALL POST-DIAGNOSTIC
PROGRAM COMMUNICATIONS WITH DTS
IT'S PURPOSE IS TO MONITOR THE EGGS BLOCK AND THE DTS
PASS COUNTERS (PASSIN AND PASS)
IT WILL DECIDE WHETHER TO RETURN TO THE START OF THE
FOR PRINT ROUTINE, OR TO START THE CATWRITING MACRO
THE USER MAY DEFINE FOUR ARGUMENTS IN THE MACRO
CALL. THE FIRST ARGUMENT MUST BE DEFINED, THE
NEXT TWO ARE OPTIONAL. THESE ARE:
ARG 1 THE "START OF A NEW PASS" ADDRESS
ARG 2 (OPTIONAL) THE USER CAN EITHER PASS THE MACRO
CALL "P?PAS" AS THE SECOND ARGUMENT, IN WHICH
CASE, THE FOLLOWING MESSAGE WILL BE PRINTED:
WHERE # IS THE PRESENT PASS COUNT IN DECIMAL
OR HE COULD PASS A CALL TO A USER DEFINED
ROUTINE. THE CALL TO WHICH SENDS OUT A
FOR PRINT ROUTINE. THE SECOND ARGUMENT MUST BE
INITIAL TO USE THE COMMAND ARGUMENT FOR PRINT
ROUTINE (DESIRED) HOWEVER HE DOES NOT INTEND TO USE
THE THIRD ARGUMENT (L?CAT) HE SHOULD PLACE TWO

```

0013 .MAIN

ARG 3 (OPTIONAL) IF THE USER WANTS THE CAT/KITTEN PROGRAM TO RUN HE MUST PASS "L?CAT" AS THE THIRD ARGUMENT OF THE MACRO CALL.

ARG 4 (OPTIONAL) THIS ARGUMENT MAY BE USED TO INSERT USER DEFINED CODE.

THE CALLING SEQUENCE IS:

?P?STM ARG 1, ARG 2, L?CAT, ARG 4

WHERE ARG 1 IS THE STARTING ADDRESS OF A NEW PASS

ARG 2 (OPTIONAL) THE USER CAN EITHER PASS THE MACRO CALL "P?P?AS" AS THE SECOND ARGUMENT, IN WHICH CASE THE FOLLOWING MESSAGE WILL BE PRINTED:

"PASS" # IN DECIMAL

OR THE USER COULD PASS A CALL TO A USER DEFINED PRINT MACRO OR A USER DEFINED EXPANSION TO A USER DEFINED EXPANSION (IF THE USER DOES NOT INTEND TO USE THE SECOND ARGUMENT (NO PRINT-OUT DESIRED) HOWEVER HE DOES INTEND TO USE THE THIRD ARGUMENT (L?CAT) HE SHOULD PLACE A COMMENT (C?CAT) COMMAS DIRECTLY AFTER ARGUMENT 1)

L?CAT (OPTIONAL) IS THE CALL WHICH THE USER MUST SPECIFY IF HE WISHES THE CAT/KITTEN PROGRAM TO BE STARTED AFTER THE FIRST PASS, IF IT IS LOADED.

ARG 4 (OPTIONAL) IF USED, SHOULD BE A CODE.

EXAMPLE OF THE MACRO CALL:

?P?STM NIUPASS, L?CAT

THIS CALL WILL CAUSE THE MACRO ?P?STM TO RETURN DIRECTLY TO #NIUPASS. THE USER DEFINES THE START OF THE NEXT PASS OF THE DIAGNOSTIC PROGRAM. IT WILL NOT PRINT AFTER EACH PASS, BUT IT WILL RUN THE CAT/KITTEN PROGRAM.

PAGE ZERO REQUIREMENTS:

IF THE USER INTENDS TO ALLOW THE CAT/KITTEN PROGRAM TO

0014 .MAIN

RUN, HE MUST DEFINE IN PAGE ZERO THE FOLLOWING:

ICA?T: 0  
IF THE USER DOES NOT INTEND TO USE THE P?P?AS MACRO IN CONJUNCTION WITH THE P?STM MACRO HE MUST DEFINE THE STARTING ADDRESS OF THE CAT/KITTEN PROGRAM. THIS ADDRESS MUST BE STORED IN LOCATION "ICA?".

THE PRINT MACRO "P?P?AS" USES THE I?V?O PACKAGE, THEREFORE IF THE USER INTENDS TO USE THE USER PAGES MACRO HE SHOULD CALL THE "P?V?O" MACRO. IF THE USER PAGES MACRO WOULD USE THE PAGE ZERO DEFINITIONS MACROS, HE MUST ALSO DEFINE THE FOLLOWING PAGE ZERO POINTERS:

IEG?S: EGGS  
IP?S: P?S  
IP?S: P?S

IF THE USER DOES NOT INTEND TO USE EITHER THE DEFAULT PAGE ZERO DEFINITIONS MACRO (P?G?O) OR THE USER DEFINED PAGE ZERO DEFINITIONS MACRO (P?G?O), HE MUST DEFINE THE FOLLOWING IN PAGE ZERO:

IEG?S: EGGS  
IP?S: 0\*\*  
P?S: \*  
P?S: \*

\* THESE CONSTANTS MUST BE DEFINED WITH SOME VALUE OTHER THAN ZERO. IF THE USER DOES NOT INTEND TO USE THE INTERNAL PASS COUNTERS SET THEM TO "1".

\*\* ONLY THIS COUNTER IS DEFINED BY THE M?P?G?O MACRO.

PROGRAM SEQUENCE:

THE MACRO ?P?STM DOES THE FOLLOWING:

FIRST, IT WILL CHECK IF A PASS HAS BEEN COMPLETED. THIS OCCURS WHEN A CALL SPECIFIED BY ARGUMENT 1 OR ARGUMENT 2 OF THE CALL SPECIFIED BY ARGUMENT 2 HAS NOT BEEN SPECIFIED.

NEXT THE MACRO WILL CHECK IF IT HAS JUST COMPLETED THE FIRST PASS OF THE CAT/KITTEN PROGRAM. IF SO, IT WILL CHECK WHETHER THE CAT/KITTEN HAS BEEN LOADED BY DTOS. IF IT HAS IT WILL START THE CAT/KITTEN.

LASTLY, IT WILL CHECK THE MODE OF OPERATION. IF IT IS IN BLOCK MODE, IT WILL CHECK THE PASS COUNT IN THE EGGS REGISTER. IF THE PASS COUNT IS NOT EQUAL TO THE PASS COUNT OF THE DIAGNOSTIC PROGRAM, THE NEXT PASS OF THE DIAGNOSTIC PROGRAM WILL BE IN AUTO MODE WITH THE PASS COUNT EQUAL TO 0. THE PROGRAM WILL RETURN TO DTOS.

SPECIAL NOTES:

THE TEST ROUTINES SHOULD NOT BE RUN OUT OF SEQUENCE, AS A TEST MAY REQUIRE SETUP SUBROUTINES FROM THE PREVIOUS TEST. RESTART THE PROGRAM FROM THE BEGINNING AFTER A POWER DOWN.

THE FOLLOWING FUNCTIONS ARE NOT TESTED BY

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112.2

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0015 .MAIN  
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THIS PROGRAM: PRIORITY LOGIC  
AND CTS OR DSR AND CD SIGNALS  
ON THE SYNC LINE MODEM.  
RUN TIME: (WITH SYNC LINE AT 9600 BAUD)  
75 SECONDS FOR THE FIRST PASS AND  
12.0 MINUTES/PASS FOR THE SUBSEQUENT PASSES.
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**00000 TOTAL ERRORS, 00000 PASS 1 ERRORS
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0210 00234 MC 15/11  
0210 00050 MC 15/01