

DMR11,
DMC11

DMR/C11 DCLT
CZCLKCO

AH-F593C-MC
FICHE 1 OF 1

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.TITLE CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST

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IDENTIFICATION

PRODUCT CODE: AC-F591C-MC
PRODUCT NAME: CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
PRODUCT DATE: MARCH 82
MAINTAINER: MERRIMACK DIAGNOSTIC ENGINEERING
AUTHOR: BRUCE LUHRS - BRUCE RIBOLINI

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REVISION HISTORY:

REV ---	DATE ----	AUTHOR -----	REASON -----
A	23-APR-80	BRUCE LUHRS BRUCE RIBOLINI	ORIGINAL ISSUE, DCLT FOR THE DMC OR DMR-11
B	15-JUL-81	ERNIE COOPER	ADD 'MODEM/NO MODEM' COMMAND ADD 'SET EXPECT=TRANSMIT' COMMAND ADD 'EXIT' COMMAND ADD 'RPT >' COMMAND ADD PASSWORD AND ID ON DOWNLINE LOAD ADD TX / EXPECT MESSAGE TOTAL CHECK UPDATE DOCUMENTATION
C	JUNE 82	ERNIE COOPER	ADD ^C ABORT FEATURE TO EVENT LOG ADD FIX FOR AID REPORT #DD 334 (DCLT HANGS WITHOUT CLOCK) ADD CODE TO CLEAR BITS 14 AND 15 IN SEL6 IF DMC.

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1.0 GENERAL INFORMATION

1.1 PROGRAM ABSTRACT

THIS DCLT (DATA COMMUNICATION LINK TEST) PROGRAM IS MEANT TO PROVIDE FIELD SERVICE WITH A TOOL TO MAINTAIN DMR/DMC-11 TO DMR/DMC-11 AND OTHER (POINT TO POINT) DDCMP SUPPORTED COMMUNICATION LINKS. THIS DCLT PROGRAM WILL PROVIDE THE COVERAGE NECESSARY TO DETECT FAILURES TO THE COMPUTER EQUIPMENT, THE COMMUNICATION LINK, OR THE MODEM.

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 (CHQUS?.SEQ WHERE ? IS REV. LEVEL OF THE MANUAL). THERE IS A BRIEF DESCRIPTION OF THE RUNTIME SERVICES IN SECTION 2 OF THIS DOCUMENT.

1.2 SYSTEM REQUIREMENTS

IN ORDER TO RUN THE DMR/DMC-11 DCLT PROGRAM, THE FOLLOWING MINIMUM HARDWARE IS REQUIRED:

- A PDP-11 CPU
- MINIMUM OF 24K WORDS OF MEMORY
- A WORKING, LINE OR REAL-TIME CLOCK
- A CONSOLE TERMINAL
- ANY XXDP+ SUPPORTED LOAD MEDIA
- ONE OF THESE DMR-11 OR DMC-11 CONFIGURATIONS:
 - DMC11-AL - LOCAL MICROPROCESSOR
 - DMC11-AR - REMOTE MICROPROCESSOR
 - DMC11-DA - E.I.A. LINE UNIT
 - DMC11-FA - CCITT V.35 LINE UNIT
 - DMC11-MA - 1M BPS LINE UNIT
 - DMC11-MD - 56K BPS LINE UNIT

 - DMR11-AA - E.I.A. (RS 232/423)
 - DMR11-AB - CCITT V.35
 - DMR11-AC - LOCAL
 - DMR11-AE - E.I.A. (RS 422)

IF DOWN-LINE-LOADING A DMC-11 SATELLITE, THE SATELLITE END REQUIRES:
M9301-YJ/M9312 - BOOTSTRAP MODULE

1.3 RELATED DOCUMENTS AND STANDARDS

- XXDP+ USER'S MANUAL (CHQUS?.SEQ WHERE ? IS THE REV. LEVEL OF

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THE MANUAL - 'C' IS THE CURRENT REV.).

1.4 DIAGNOSTIC HIERARCHY PREREQUISITES

THE GOAL OF THE DATA COMM. LINK TEST PROGRAM IS TO TEST THE COMMUNICATION LINK AND THEREFORE ASSUMES THAT THE CPU'S, CLOCKS, AND DMR OR DMC-11'S AT EACH END OF THE LINK HAVE ALREADY BEEN TESTED.

IF NO LINE OR REAL-TIME CLOCK IS FOUND, THE PROGRAM WILL CONTINUE BUT ANY OF THE PROGRAM THAT TIMES THE DEVICE WILL HANG IF THE DEVICE TIMES OUT. ALSO, THE EVENT LOG WILL CONTAIN A ZERO EVENT TIME FOR ALL EVENTS LOGGED.

IT IS NOT THE INTENTION OF A DATA COMM. LINK TEST PROGRAM TO TEST THE DMR OR DMC-11, BUT TO TEST THE COMMUNICATION LINK TO WHICH THEY ARE CONNECTED.

SOME OF THE DIAGNOSTICS THAT COULD BE RUN IF THE DMC-11 OR DMR-11 LOOKS BAD:

```
DMR:  CZDMIXX DMR-11 FCTNL DIAG
      CZDMPXX M8207 STATIC DIAG #1
      CZDMQXX M8207 STATIC DIAG #2
      CZDMRXX M8203 STATIC DIAG #1
      CZDMSXX M8203 STATIC DIAG #2

DMC:  CZDMCXX BSC W/R MICRO-PROC TST
      CZDMEXX DDCMP MDLN UNIT TST
      CZDMGXX DMC-11 CROM + JMUP TEST
      MD-11-DZDMHXX DMC-11 FREE RUNNING TEST
```

XX = LATEST REVISION

1.5 ASSUMPTIONS - RESTRICTIONS

IT IS ASSUMED THAT THE COMMUNICATIONS DEVICE (DMC OR DMR-11) HAS BEEN TESTED USING THE PREREQUISITE DIAGNOSTICS. THE OPERATOR SHOULD HAVE READ THE USER DOCUMENTATION PORTION OF THE LISTING TO FAMILIARIZE HIMSELF WITH THE COMMANDS AND CAPABILITIES AVAILABLE UNDER THE DIAGNOSTIC SUPERVISOR AND DCLT.

BECAUSE THE DMC-11 AND DMR-11 SUPPORT DDCMP OPERATION IN THE FIRMWARE, THE PDP-11 D.C.L.T. PROGRAM IS UNABLE TO CONTROL OR KNOW EXACTLY WHAT IS BEING TRANSMITTED AT ANY GIVEN TIME. ALL DATA MESSAGES ARE ENCLOSED IN A DDCMP ENVELOPE AND THERE MAY ALSO BE CONTROL MESSAGES (AKS, NAKS,....) BEING TRANSMITTED. BECAUSE OF THIS PLEASE BEWARE IF IF YOU ARE SCOPING DATA. -----

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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.

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 'DDDDD'.

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:DDDDD	EXECUTE DDDDD PASSES (DDDDD = 1 TO 64000)
/FLAGS:FLGS	SET SPECIFIED FLAGS. FLAGS ARE DESCRIBED IN SECTION 2.3.
/EOP:DDDDD	REPORT END OF PASS MESSAGE AFTER EVERY DDDDD PASSES ONLY. (DDDDD = 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)

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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
START	X	X	X	X	X
RESTART	X	X	X	X	X
CONTINUE		X	X	X	
PROCEED			X		
DROP					X
ADD					X
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)
PRI	DIRECT MESSAGES TO LINE PRINTER
PNT	PRINT TEST NUMBER AS 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

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IDR
ADR
LOT
EVL

STATISTICAL REPORTING)
INHIBIT PROGRAM DROPPING OF UNITS
EXECUTE AUTODROP CODE
LOOP ON TEST
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).

THE DMR/DMC-11 DATA COMM. LINK TEST PROGRAM WILL NOT USE MORE THAN ONE UNIT. FOR THE DMC/DMR-11, THE HARDWARE INFORMATION REQUESTED WILL BE:

UNITS (D) ? 1<CR>

UNIT 0

FULL DUPLEX OPERATION : (L) Y ?

DMR,DMC-11 CSR ADDRESS : (0) 160170 ?

INTERRUPT VECTOR ADDRESS: (0) 300 ?

INTERRUPT PRIORITY : (0) 5 ?

DEVICE OPTION TYPE : (0=DMC, 5=DMR-DMC MODE ,7=DMR) (0) 0 ?

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2.5 DATA COMM. LINK TEST COMMANDS

THE 'DCLT>' COMMAND LEVEL FOLLOWS THE ANSWERING OF THE HARDWARE P-TABLE QUESTIONS. THESE COMMANDS CAN BE TYPED WHEN THE 'DCLT> (A) ?' PROMPT IS PRINTED.

MESSAGE COMMANDS AVAILABLE:

YOU ONLY HAVE TO TYPE ENOUGH CHARACTERS TO UNIQUELY SPECIFY A COMMAND.

THE COMMAND LINE IS INTERPRETED FROM LEFT TO RIGHT. THEREFORE, IF A QUALIFIER ON THE COMMAND LINE IS RELATED OR EFFECTS A QUALIFIER TO THE LEFT ON THE COMMAND LINE, THE QUALIFIER FARTHEREST TO THE RIGHT TAKES PRECEDENCE SINCE IT IS INTERPRETED LAST. (I.E. IF /CHECK..... /NOCHECK APPEAR ON THE SAME LINE, NOCHECK WILL BE INDICATED IN THE PARAMETERS WORD.)

REFER TO SECTION 6.0 FOR A DESCRIPTION OF THE DIFFERENT MODES OF OPERATION AND THE TYPES OF MESSAGES AVAILABLE.

2.5.1 MESSAGE COMMANDS

COMMAND	DESCRIPTION
CLEAR EXPECTLIST	ZEROES THE EXPECTLIST (000'S) AND THEN PUTS DEFAULT ITEP MSG IN SO NOT REALLY EMPTY
CLEAR TRANSMITLIST	ZEROES TRANSMITLIST (000'S) AND THEN PUTS DEFAULT ITEP MSG IN SO NOT REALLY EMPTY
SET EXPECTMSG=TYPE/QUAL	DEFINE A MESSAGE TO BE PUT ON THE EXPECTED LIST
WHERE: 'TYPE' IS:	
=ONES	
=ZEROES	
=1ALT	
=0ALT	
=ITEP	
=CCITT	
=ALPHA	
= 'A-Z,0-9,SPACES OR TABS IN QUOTES'	

WHERE THE OPTIONAL 'QUAL' IS:

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/SIZE=NNN MAKE THE MESSAGE 'NNN' BYTES
LONG. (DEFAULT VALUE IS
SIZE OF MESSAGE SPEC'D BY
OPERATOR OR DEFAULTS.)
/COPY=NN COPY THIS MESSAGE INTO THE
BUFFER 'NN' TIMES (DEFAULT
IS 0 = PUT THE MESSAGE IN
ONLY ONCE)

NOTE: SET'S ADD MESSAGES TO THE LIST IN THE ORDER THEY'RE
DEFINED. 'NNN' IS A DECIMAL NUMBER. THE FIRST SET
OVERWRITES THE DEFAULT ITEP MESSAGE PLACED THERE BY
INITIALIZATION OR A 'CLEAR' COMMAND.

SEE SECTION 6.2 FOR A DESCRIPTION OF THE PRE-DEFINED
MESSAGES THAT ARE AVAILABLE. (ZEROS,ONES ...)

SET	EXPECTLIST=TRANSMITLIST	MAKES A COPY OF THE TRANSMIT LIST IN THE EXPECT LIST.
SET	TRANSMITMSG=TYPE/QUAL	DEFINE A MESSAGE TO BE PUT ON THE TRANSMIT LIST (SEE DESCRIPT FOR SET EXP)
SHOW	EXPECTLIST	LISTS THE MESSAGE SIZE AND TYPE FOR THE MESSAGES IN THE EXPECT LIST
SHOW	TRANSMITLIST	LISTS THE MESSAGE SIZE AND TYPE FOR THE MESSAGES IN THE TRANSMIT LIST

2.5.2 STATISTICAL COMMANDS

COMMAND

DESCRIPTION

PRINT		TAKES THE OPERATOR TO THE REPORT LEVEL. FROM HERE YOU CAN EXAMINE THE EVENT LOG OR BASE TABLE.
DUMP	SSSSSS-EEEEEE/B	PRINTS THE CONTENTS OF THE MEMORY LOCATIONS BETWEEN OCTAL ADDRESSES 'SSSSSS' AND 'EEEEEE' WHERE 'SSSSSS' IS THE START ADDRESS AND '-EEEEEE' IS THE END ADDRESS. IF '-EEEEEE' IS NOT SPECIFIED THEN THE CONTENTS OF 'SSSSSS' IS PRINTED IN WORD FORMAT.

WHERE '/B' IS OPTIONAL:
DEFAULT IS PRINT WORDS
'/B' CAUSES PRINT BYTES

NOTE: THE DUMP COMMAND IS USEFUL FOR EXAMINING
MESSAGE DATA. STARTING ADDRESSES CAN
BE FOUND BY LOOKING IN THE EVENT LOG.

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2.5.3 RUN COMMAND

COMMAND

DESCRIPTION

RUN MODE=MTYPE/QUAL

STARTS DCLT EXECUTING IN THE
MODE SPECIFIED

NOTE: MODE=ACTIVE IS NOT DEFAULT, A MODE=MTYPE MUST BE TYPED
----- EACH TIME A RUN IS TYPED

WHERE THE 'MTYPE' IS ANY ONE OF THE FOLLOWING:

=ACTIVE	(FORCES /NOECHO ,NO LOOPING)
=PASSIVE	(FORCES NO LOOPING)
=RECEIVE	(FORCES /NOECHO ,NO LOOPING)
=LISTEN	(FORCES /NOECHO ,NO LOOPING, /NOCHECK)
=TRANSMIT	(FORCES /NOECHO ,NO LOOPING, /NOCHECK)
=TALK	(FORCES /NOECHO ,NO LOOPING, /NOCHECK)
=DOWNLINELOAD	(FORCES /NOECHO ,NO LOOPING, /NOCHECK,

(FORCING NO LOOPING MEANS IT MUST BE
SPECIFIED AS A QUALIFIER ANY TIME ITS
DESIRED, THERE IS NO DEFAULT)

AND OPTIONAL 'QUAL' IS ANY COMBINATION OF THE FOLLOWING:

/CHECK/NOCHECK	ENABLES/DISABLES CHECKING OF RECEIVED DATA AGAINST THE EXPECTED DATA
----------------	---

NOTE: IF BOTH MODES IN ACTIVE AND '/NOCHECK' IS USED,
----- END-OF-PASS IS DEFINED AS RECEIVING 1 MESSAGE
AND COMPLETING THE TRANSMIT LIST. WITH NO DATA
CHECKING, THERE IS NO WAY FOR DCLT TO KNOW HOW
MANY MESSAGES IT SHOULD EXPECT TO RECEIVE.

/STATUS/NOSTATUS	ENABLES/DISABLES PRINTING OF PROGRAM STATUS MESSAGES TO THE OPERATOR
------------------	---

/ECHO/NOECHO	ENABLES/DISABLES THE RETRANSMISSION OF THE DATA RECEIVED IN PASSIVE MODE. (IGNORED IN MODES OTHER THAN PASSIVE)
--------------	---

/MODEM/NOMODEM	ENABLES/DISABLES THE REPORTING OF MODEM STATUS INTERRUPT CHANGES. NOTE: THIS SWITCH CAUSES NO ACTION IN THIS DCLT PROGRAM BUT IT IS INCLUDED BECAUSE IT IS USED IN OTHER DCLT PROGRAMS.
----------------	---

/LOOP=LTYPE	SPECIFIES WHICH, IF ANY, TYPE OF MAINTENANCE LOOPBACK IS BEING USED. (IGNORED IN MODES OTHER THAN ACTIVE) MUST BE SPECIFIED EACH TIME ELSE NO LOOP IS USED.
-------------	---

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'LTYPE' IS:
=INTERNALTTL
=CABLE
=LOCALMODEM (DMR IN DMR MODE AND RS449 MODEMS ONLY.
CAUSES A 'WRITE MODEM' TO BE DONE TO SET UP
LOCAL-LOOPBACK (MAINT1) . ALSO CALLED
ANALOG-LOOPBACK.

=REMOTEMODEM (DMR IN DMR MODE AND RS449 MODEMS ONLY.
CAUSES A 'WRITE MODEM' TO BE DONE TO SET UP
REMOTE-LOOPBACK (MAINT2) . ALSO CALLED
DIGITAL-LOOPBACK.

/PASS=NN SPECIFIES NUMBER OF ITERATIONS TO MAKE BEFORE
END-OF-PASS. DEFAULT VALUE OF 1
WILL BE USED ON ANY RUN THAT A /PASS=N
IS NOT ADDED TO THE 'RUN ...' COMMAND.
IF A '-1' IS TYPED, THEN THE PROGRAM
RUN UNTIL A ^C IS TYPED.

NOTE: SEE SECTION 6.1 FOR A DESCRIPTION
----- OF THE 'RUN MODES' AND 'LOOP MODES'

2.5.4 DEFAULTS -----

IF NO 'SET'S' THEN THE DEFAULT IS SAME AS IF TYPED:
SET TRANSMITMSG=ITEP/SIZE=58/COPY=0
SET EXPECTMSG=ITEP/SIZE=58/COPY=0

THE DEFAULT COPY AND SIZE FOR EACH OF THE MESSAGE TYPES:
ONES - /SIZE=64/COPY=0
ZEROES - /SIZE=64/COPY=0
OALT - /SIZE=64/COPY=0
1ALT - /SIZE=64/COPY=0
CCITT - /SIZE=64/COPY=0
ALPHA - /SIZE=65/COPY=0
ITEP - /SIZE=58/COPY=0
OPER. SPEC'D - /SIZE=LENGTH-OF-TEXT-TYPED-BETWEEN-QUOTES/COPY=0

FOR THE RUN COMMAND THE DEFAULTS ARE:

RUN MODE=ACTIVE/NOSTATUS/CHECK/NOECHO/PASS=1

NOTE: MODE=ACTIVE IS NOT DEFAULT, A MODE=MTYPE MUST BE TYPED
----- EACH TIME A RUN IS TYPED

IF THE DCLT PROGRAM IS RUN IN UNATTENDED MODE (UAM FLAG=1 OR CHAINED),
THE DEFAULTS ARE AS IF THESE SETUP AND RUN COMMANDS WERE TYPED:

SET TRANS=ITEP
SET EXPECT=ITEP
RUN MODE=ACTIVE/LOOP=INTERNAL/NOSTAT/CHECK/PASS=1

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OTHER NOTES:

----- ^C <CR> 'RUBOUT'	ALWAYS RETURNS YOU TO 'DR>' (THE SUPERVISOR) IS SEEN AS A COMMAND TERMINATOR DELETE LAST CHAR. TYPED IN COMMAND STRING
---	--

2.5.5 PRINT

THE PRINT COMMAND TAKES YOU A LEVEL BELOW DCLT> CALLED REPORT.
THE COMMANDS AVAILABLE IN RPT> ARE ...

COMMAND -----	DESCRIPTION -----
HELP OR ?	PRINT HELP INFORMATION FOR RPT>
LOG	PRINTS THE DCLT EVENT LOG.
BASE/FULL	PRINTS ENTIRE BASE TABLE.
BASE/ERROR	PRINTS ONLY ERROR COUNTERS IN BASE TABLE.
BASE/OFFSET=NNN	PRINTS SINGLE LOCATION IN BASE TABLE AS SPECIFIED BY OFFSET.
EXIT	RETURNS YOU TO THE LEVEL THAT YOU ENTERED FROM. (DCLT> OR DR>)

2.5.6 MISC COMMANDS

COMMAND -----	DESCRIPTION -----
EXIT	FROM THE DCLT> LEVEL RETURNS YOU TO DR>.
HELP OR ?	PRINTS HELP INFORMATION.

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2.6 QUICK START-UP PROCEDURE (XXDP+)

TO START-UP THIS PROGRAM:

1. BOOT XXDP+
2. GIVE THE DATE AND ANSWER THE LSI AND 50HZ (IF THERE IS A CLOCK) 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. THE NUMBER OF UNITS THAT CAN DCLT CAN USE IS ALWAYS '1'.

WHEN YOU FOLLOW THIS PROCEDURE YOU WILL BE USING ONLY THE DEFAULTS FOR FLAGS. THESE DEFAULTS ARE DESCRIBED IN SECTION 2.3.

7. AFTER THE 'DCLT> (A) ?' PROMPT, TYPE
'RUN MOD=ACTIVE<CR>'

WHEN YOU FOLLOW THIS PROCEDURE YOU WILL BE USING THE DEFAULT TRANSMIT AND EXPECTED MESSAGES. THE DEFAULT PASS COUNT AND 'RUN' QUALIFIERS ARE ALSO BEING USED. THESE DEFAULTS ARE DESCRIBED IN SECTION 2.5.3.

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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

3.2.1 COMMAND LINE INTERPRETER ERRORS:

ERROR MESSAGE:	MEANING
-----	-----
?ILL CMD-BAD SYNTAX?	A COMMAND WITH AN ILLEGAL CHAR WAS TYPED - RETYPE THE COMMAND. THE VALID COMMANDS AND THEIR SYNTAX ARE SHOWN IN SECTION 2.5.
?INCMPLTE CMD?	A REQUIRED PART OF A COMMAND WAS LEFT OUT.
?NUM TOO BIG?	THE VALUE OF A NUMERIC STRING IN THE COMMAND LINE WAS LARGER THAN 65535 OR 177777 OCTAL. (> 16 BITS).
?BAD RADIX?	A '8' OR '9' WAS TYPED WHEN AN OCTAL STRING WAS EXPECTED. PROBABLY OCCURRED WHEN TYPING A 'DUMP' COMMAND WHERE OCTAL ADDRESSES ARE EXPECTED.

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? 'LOOP' VALID ONLY IN ACTIVE? THE '/LOOP=..' SWITCH WAS TYPED IN A RUN COMMAND BUT THE MODE WAS NOT SET TO ACTIVE. MAINTENANCE LOOP IS ONLY POSSIBLE IF THE MODE OF OPERATION IS ACTIVE.

? 'ECHO' VALID ONLY IN PASSIVE? THE '/ECHO' SWITCH WAS TYPED IN A RUN COMMAND BUT THE MODE WAS NOT SET TO PASSIVE. ECHOING OF RECEIVED DATA IS ONLY POSSIBLE IF THE MODE OF OPERATION IS PASSIVE.

? ILL CHR- 'A-Z,0-9,SP,TAB' ONLY? A CHARACTER TYPED WITHIN QUOTES WHEN TRYING TO DEFINE THE CONTENTS OF A TRANSMIT OR EXPECT MESSAGE WAS NOT A 'A-Z,0-9,SPACE OR TAB'. RETYPE THE COMMAND WITH ONLY THESE CHARACTERS BETWEEN QUOTES.

? 'SIZE=0' NOT VALID? A MESSAGE ZERO BYTES LONG CAN NOT BE BUILT. RETYPE THE COMMAND WITH A '/SIZE=NNN'. IF NO '/SIZE=' IS TYPED A DEFAULT SIZE WILL BE USED.

? TRANSMIT AND EXPECT LIST MUST BE IDENTICAL FOR LOOP?

IF RUN COMMAND WITH '/LOOP/CH' IS TYPED TRANSMIT AND EXPECT LISTS MUST BE EQUAL. IF THEY ARE NOT THIS ERROR WILL BE DISPLAYED. USE 'SE E=T' COMMAND.

3.2.2 DCLT ERROR MESSAGES:

BAD CLOCK - PROGRAM WILL HANG ON 'TIMEOUT'!!

THIS MEANS THAT EITHER NO CLOCK WAS ON THE SYSTEM OR THE ONE THAT WAS FOUND DID NOT INTERRUPT WHEN ASKED TO DO A 'TICK'.
THE PROGRAM WILL STILL RUN, BUT ANY OF THE PROGRAM THAT TIMES THE DEVICE WILL HANG IF THE DEVICE TIMES OUT. ALSO, THE EVENT LOG WILL CONTAIN A ZERO EVENT TIME FOR ALL EVENTS LOGGED.

MAX. CHAR. MSG COUNT EXCEEDED - MSG. NOT BUILT !!

THIS MEANS THAT THE TRANSMIT OR EXPECT BUFFER IS FULL. NO MORE MESSAGES CAN BE ADDED TO THAT BUFFER.

BUFFER FULL - MSG. NOT BUILT !!

THIS MEANS THAT THE LAST MESSAGE YOU

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TRIED TO ADD TO EITHER THE TRANSMIT OR EXPECT BUFFER CAUSED THE TOTAL NUMBER OF MESSAGES TO BE EXCEEDED. NO MORE MESSAGES CAN BE ADDED TO THAT BUFFER. THE LIMIT IS DETERMINED BY THE SIZE OF THE MESSAGE POINTER TABLE.

CHAR. COUNT EXCEEDS BUFF LIMIT - MSG TRUNCATED

THIS MEANS THAT THE LAST MESSAGE YOU TRIED TO ADD TO THE TRANSMIT OR EXPECT BUFFER CAUSED THE TOTAL CHAR. COUNT FOR THAT BUFFER TO EXCEED THE LIMIT. THE MESSAGE WAS TRUNCATED TO COMPLETELY FILL THE BUFFER. NO MORE MESSAGES CAN BE ADDED TO THAT BUFFER.

3.2.3 DEVICE ERROR MESSAGES

DATA COMPARISON DATA ERROR
BYTE # IN MSG=XXX EXPTD=YYY

RECVG=ZZZ

XXX= OFFSET OF THAT BYTE FROM THE START OF THE COMPARE OR EXPECT MESSAGE.
YYY= THE CONTENTS OF THAT BYTE IN THE EXPECTED MESSAGE
ZZZ= THE CONTENTS OF THAT BYTE IN THE RECEIVED MESSAGE

UP TO FIVE OF THESE ERRORS WILL BE PRINTED PER MESSAGE COMPARED. ONLY THE FIRST FIVE MISMATCHES WILL BE INDIVIDUALLY REPORTED, BUT TOTAL NUMBER OF MISMATCHES IS REPORTED BY ANOTHER ERROR.

PRINTING THE EVENT LOG AND USING THE DCLT "DUMP" COMMAND WILL ALLOW YOU TO FIND THE ADDRESS OF THE MESSAGE AND EXAMINE IT.

DATA COMPARISON DATA ERROR
TOTAL MISMATCHES IN MSG = NNN

THIS MEANS THAT WHEN THE MESSAGE RECEIVED WAS COMPARED AGAINST THE MESSAGE THAT WAS EXPECTED, SOME OF THE CHARS. WERE NOT THE SAME.

DATA COMPARISON LENGTH ERROR
COMPARE COUNT= XXX RECEIVE COUNT= ZZZ

XXX= NUMBER OF BYTES IN THE COMPARE MESSAGE
ZZZ= NUMBER OF BYTES IN THE RECEIVED MESSAGE

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THIS MEANS THAT THE MESSAGE RECEIVED
WAS A DIFFENT LENGTH THEN THE MESSAGE
THAT WAS EXPECTED.

* NOTE * - IN THE FOLLOWING ERROR DESCRIPTIONS XXXXX
***** REFERS TO THE OCTAL CONTENTS OF THE DEVICE REGISTERS
SPECIFIED.

TIME OUT WAITING FOR RDI TO CLEAR

SEL0 SEL2
XXXXXX XXXXXX

THIS MEANS THAT A SOFTWARE TIMER EXPIRED BEFORE
THE DEVICE CLEARD RDI IN RESPONSE TO THE DROPPING
OF RQI.

NOTE: PROGRAM RESETS TIMER AND WAITS AGAIN
SO AN EFFECTIVE LOOP ON ERROR IS SETUP.

TIME OUT WAITING FOR RDI TO SET

SEL0 SEL2
XXXXXX XXXXXX

THIS MEANS THAT A SOFTWARE TIMER EXPIRED BEFORE
THE DEVICE CAUSED AN INTERRUPT IN RESPONSE TO THE
PROGRAM SETING RQI.

NOTE: PROGRAM RESETS TIMER AND WAITS AGAIN
SO AN EFFECTIVE LOOP ON ERROR IS SETUP.

TIME OUT WAITING FOR RUN TO SET

SEL0 SEL2
XXXXXX XXXXXX

THIS MEANS THAT A SOFTWARE TIMER EXPIRED BEFORE
THE DEVICE SET THE RUN BIT IN RESPONSE TO THE
PROGRAM SETING MASTER CLEAR.

NOTE: PROGRAM RESETS TIMER AND ISSUES ANOTHER
MASTER CLEAR AND WAITS AGAIN SO AN EFFECTIVE
LOOP ON ERROR IS SETUP.

THIS ERROR COULD INDICATE WRONG ADDRESS FOR
DMR/DMC-11 WAS GIVEN IN HARDWARE P TABLE.

TIME OUT WAITING FOR OUTPUT INTERRUPT

SEL0 SEL2
XXXXXX XXXXXX

THIS MEANS THAT A SOFTWARE TIMER EXPIRED BEFORE
THE DEVICE SET OUTPUT INTERRUPT IN RESPONSE TO
PROGRAM REQUESTING DEVICE TO TRANSMIT OR RECEIVE.

NOTE: PROGRAM RESETS TIMER AND WAITS AGAIN SO AN
EFFECTIVE LOOP ON ERROR IS SET UP.
THIS ERROR WILL OCCUR WHEN ONE NODE IS STARTED

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IN RX OR TX MODE AND THE OTHER IS STILL BEING
SET UP. IGNORE THIS ERROR IF PROGRAM CONTINUES
WITHOUT FURTHER ERRORS.

INPUT INTERRUPT WHEN EXPECTING OUTPUT

SEL0 SEL2
XXXXXX XXXXXX

THIS WILL HAPPEN IF THE DEVICE IS BAD. IT MEANS
THAT AFTER THE PROGRAM HAS ISSUED ALL INPUT REQUESTS
TO THE DEVICE, THE DEVICE ISSUES AN INPUT INTERRUPT

ILLEGAL OUTPUT INTERRUPT

SEL2 SEL6
XXXXXX XXXXXX

THIS HAPPENS WHEN THE DEVICE ISSUES AN OUTPUT INTERRUPT
WITHOUT SETTING 'RDO'. IF THIS HAPPENS THE DEVICE IS BAD.

CONTROL OUT INSTEAD OF BA-CC OUT

SEL2 SEL6
XXXXXX XXXXXX MMMMMM

WHERE 'MMMMM' IS ONE OF THE FOLLOWING MESSAGES
THAT RESULT FROM INTERPRETING THE REGISTER CONTENTS
FOR YOU:

PROCEDURE ERROR/HALT
NON EXIST MEM
DDCMP START REC
DISCONNECT
LOST DATA
DDCMP MAINT REC
OVERRUN
TIME OUT
DATA CHECK
RUN SET ILLEGALLY (DMR IN DMR-MODE ONLY)
CD GLITCHED (DMR IN DMR-MODE ONLY)
RX IDLE (DMR IN DMR-MODE ONLY)
CTS FAILED (DMR IN DMR-MODE ONLY)

THIS ERROR OCCURS WHEN THE DEVICE SETS CONTROL OUT
TO INDICATE ERROR CONDITION. THE PROGRAM EXPECTS A
BACC OUT.

TX BUFF COMPLETED AND SHOULD BE RX

SEL4 SEL6
XXXXXX XXXXXX

THIS ERROR OCCURS WHEN THE THE DEVICE HAS
A BACC OUT WITH TX COMPLETED AND THE PROGRAM
WAS EXPECTING A RX COMPLETED.

RX BUFF COMPLETED AND SHOULD BE TX

SEL4 SEL6
XXXXXX XXXXXX

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THIS ERROR OCCURS WHEN THE THE DEVICE HAS
A BACC OUT WITH RX COMPLETED AND THE PROGRAM
WAS EXPECTING A TX COMPLETED.

WHERE 'XXXXXX' IS THE OCTAL CONTENTS OF THAT
DEVICE REGISTER.

DOWN LINE LOAD ABORTED

THIS ERROR CAN ONLY OCCUR IN A NODE THAT
IS A DLL 'HOST' WHEN IT HAPPENS IT ALSO
PRINTS ONE OF THE FOLLWING QUALIFERS:

TX NOT COMPLETE

HOST DEVICE DID NOT GIVE BACC OUT TX
THIS SHOULD NOT HAPPEN BECAUSE DEVICE
DOES NOT NEED AN ACK FOR MAINT MESGS.

RX NOT COMPLETE

HOST DEVICE DID NOT GIVE BACC OUT RX
THIS CAN HAPPEN IF SATELLITE DOES NOT
SEND THE SEC BOOT REQUEST MESSAGE.

SEC REQ WORD1

HOST RECEIVED A MESSAGE FROM SATELLITE
BUT MESSAGE WAS NOT 1ST WORD OF SEC BOOT REQ.

SEC REQ WORD2

HOST RECEIVED A MESSAGE FROM SATELLITE
BUT MESSAGE WAS NOT 2ND WORD OF SEC BOOT REQ.

CALLED FROM PC. XXXXXX

THIS MESSAGE OCCURS WITH OTHER ERROR MESAGES
TO INDICATE PC OF CALLING ROUTINE.

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4.0 PERFORMANCE AND PROGRESS REPORTS

DCLT USES IT'S OWN METHOD FOR DETERMINING AN 'END OF PASS' WHICH IS CALLED A 'DCLT END OF PASS'. THE NUMBER OF 'DCLT PASSES' TO BE RUN IS SPECIFIED BY THE '/PASS=XXX' SWITCH ON THE DCLT RUN COMMAND. THE TOTAL NUMBER OF 'DCLT ERRORS' IS REPORTED WHEN 'X' NUMBER OF DCLT PASSES ARE COMPLETED.

4.1 PRINTING OF EVENT LOG

SIGNIFICANT EVENTS OR CHECK-POINTS WILL BE LOGGED IN A 'CIRCULAR QUEUE' STORAGE AREA CALLED THE EVENT LOG. THE LAST 'N' EVENTS ARE KEPT LOGGED AND CAN BE LISTED ON THE OPERATORS CONSOLE BY GIVING A 'PRINT' COMMAND AT THE 'DR>' (DIAGNOSTIC SUPERVISOR) OR 'DCLT>' (DCLT) LEVEL. THIS WILL TAKE YOU TO THE RPT> LEVEL. NOW GIVE THE 'LOG' COMMAND. THE EVENTS ARE PRINTED IN A 'LAST-IN FIRST-OUT' ORDER.

EVENT TIME IS TYPED OUT AS MMM:SS:TT (LIKE 254:36:07) WHERE MMM,SS,TT REPRESENT THE NUMBER OF MINUTES, SECONDS, CLOCK TICKS SINCE THE LAST START OR RESTART. IT SHOULD BE NOTED THAT THE TIMES ARE RELATIVE SINCE WHILE THE PROCESSOR IS RUNNING AT PRIORITY 7 THE CLOCK CAN'T INTERRUPT TO KEEP TIME. THIS IS THE CASE WHILE THE PROGRAM IS FETCHING DCLT COMMANDS FROM THE OPERATOR. IT SHOULD ALSO BE NOTED THAT THERE ARE ONLY 8 BITS AVAILABLE TO STORE RELATIVE MINUTES SO 'TIME' WILL WRAP TO 000:00:00 AFTER 256:59:59.

A START OR RESTART COMMAND AT THE 'DR>' LEVEL INITIALIZES THE EVENT LOG. THEREFORE IT IS WISE TO DO A 'PRINT' AT THE 'DR>' LEVEL BEFORE GIVING A 'START' OR 'RESTART'.

THE TYPES OF EVENTS KEPT IN THE EVENT LOG ARE:

TRANSMIT MESSAGE QUEUED:

EVENT TIME, ADDRESS OF 1ST BYTE OF MESSAGE,
TOTAL NO. OF BYTES, MODEM STATUS AT THAT TIME.

TRANSMIT MESSAGE COMPLETED:

EVENT TIME, ADDRESS OF 1ST BYTE OF MESSAGE,
TOTAL NO. OF BYTES, MODEM STATUS AT THAT TIME.

RECEIVE SPACE QUEUED:

EVENT TIME, ADDRESS OF 1ST BYTE OF MESSAGE,
TOTAL NO. OF BYTES, MODEM STATUS AT THAT TIME.

RECEIVE MESSAGE COMPLETED:

EVENT TIME, ADDRESS OF 1ST BYTE OF MESSAGE,
TOTAL NO. OF BYTES, MODEM STATUS AT THAT TIME.

DATA COMPARISON STARTED:

EVENT TIME, ADDRESS OF 1ST BYTE OF RECEIVED MSG.,
TOTAL NO. OF BYTES IN RCV. MSG., TOTAL NO. OF BYTES
IN EXPECT MSG.

DATA COMPARISON DATA ERROR:

EVENT TIME, ADDRESS OF 1ST BYTE OF RECEIVED MSG.,
TOTAL NO. OF BYTES IN RCV. MSG., TOTAL NO. OF

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COMPARISON FAILURES
DATA COMPARISON LENGTH ERROR:
EVENT TIME, ADDRESS OF 1ST BYTE OF RECEIVED MSG.,
TOTAL NO. OF BYTES IN RCV. MSG., TOTAL NO. OF BYTES
IN EXPECT MSG.
DEVICE INIT AND SETUP:
EVENT TIME, MODE OF OPERATION, TYPE OF MAINTENANCE
LOOP, 'DCLT' PASS COUNT, 'RUN' PARAMETERS
DEVICE ERROR:
EVENT TIME, DEVICE ERROR MESSAGE, CONTENTS OF TWO
REGISTERS RELATING TO THE ERROR.
END OF PASS:
^C ABORT:
EVENT TIME, 'DCLT' PASS COUNT, 'DCLT' ERROR COUNT,
NO. OF 'NOBUFF'S'(NO. OF CONTROL-OUTS WITH THE
NO-BUFFER SET SINCE THE LAST 'DCLT RUN' COMMAND.)

NOTE: IF THE NODES ON THE LINK ARE SIMILAR WITH
RESPECT TO CONSOLE SPEED AND SETUP, THE
NUMBER OF 'NOBUFFS' SHOULD BE NEAR ZERO.

4.2 OPERATOR STATUS MESSAGES

THE '/STATUS, /NOSTATUS' QUALIFIERS FOR THE DCLT 'RUN' COMMAND
ENABLES/DISABLES THE PRINTING OF PROGRAM STATUS MESSAGES TO THE
OPERATOR. THESE MESSAGES ARE INTENDED TO TELL THE OPERATOR WHAT
THE DCLT PROGRAM IS CURRENTLY DOING. BELOW ARE THE MESSAGES THAT
MIGHT BE PRINTED AND THEIR MEANING:

MESSAGE	MEANING
TXQ	DEVICE IS ABOUT START TRANSMITTING A MESSAGE
TXC	TRANSMISSION OF MESSAGE COMPLETED
RXQ	DEVICE HAS QUEUED SPACE TO RECEIVE/ COMPLETED RECEIVE
ERR	DEVICE ERROR HAS OCCURRED
INI	DEVICE ABOUT TO BE INITIALIZED
MSC	ABNORMAL MODEM STATUS CHANGE
CMP	ABOUT TO DO DATA CHECKING OF RECVD VS. EXPTD DATA
CML	LENGTH ERROR OCCURRED DURING DATA COMPARISON
CMD	DATA ERROR OCCURRED DURING DATA COMPARISON
EOP	END OF PASS

4.3 PRINTING OF DMR/DMC-11 BASE TABLE

AT THE 'DCLT>' OR 'DR>' LEVEL, GIVE THE PRINT COMMAND. THIS WILL
TAKE YOU TO THE 'RPT>' LEVEL. YOU NOW HAVE THE OPTION OF PRINTING
ONLY ERROR LOCATIONS, ENTIRE BASE TABLE OR A SINGLE LOCATION.
YOU ONLY HAVE TO INPUT ENOUGH OF THE COMMAND TO MAKE IT UNIQUE.
THE ENTIRE BASE TABLE IN LOCAL PDP11 MEMORY IS UPDATED BY THE DMC
OR DMR, WHENEVER A FATAL ERROR OCCURS. THE ERROR COUNTER LOCATIONS
OF THE BASE TABLE ARE UPDATED EVERY SECOND BY THE DMC OR DMR IN
DMC MODE. IF THE DMR IS IN DMR MODE, THE ENTIRE BASE TABLE WILL BE
UPDATED AT 'END OF DCLT PASS'.

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4.3.1 PRINTING ERROR LOCATIONS

TO PRINT ERROR COUNTER LOCATIONS, INPUT 'BASE/ERROR'. FOR A DMC LOCATIONS BASE+3..BASE+12 WILL BE DISPLAYED. IF A DMR, LOCATIONS BASE+3..BASE+41 WILL BE DISPLAYED. THE BASE ADDRESS IN THIS PROGRAM IS ALWAYS 17370.

EXAMPLE - DEVICE IS DMC

RPT> (A) ? B/E

LOCATION	CONTENTS	DESCRIPTION
17373	004	NAKS-MSG NO BUFFERS CUMUL
.	.	.
17402	007	REPS RECD CUMUL

4.3.2 PRINTING ENTIRE BASE TABLE

TO PRINT THE ENTIRE BASE TABLE, INPUT 'BASE/FULL'. IF A DMC 256 BYTES WILL BE DISPLAYED. IF A DMR, 128 BYTES WILL BE DISPLAYED. IN ORDER TO SAVE PROGRAM SPACE IN MEMORY, NOT ALL LOCATIONS WILL HAVE A DESCRIPTIVE MESSAGE. WHEN IN DOUBT SEE THE DMC OR DMR TECHNICAL MANUALS FOR A FULL DESCRIPTION.

EXAMPLE - DEVICE IS DMR IN DMC MODE;

RPT> (A) ? BASE/FULL

LOCATION	CONTENTS	DESCRIPTION
17370	000	BASE TABLE UPDATE INDEX POINTER
17371	000	BASE TABLE UPDATE LIMIT
17372	000	BEGINNING OF BASE TABLE DATA
17373	000	NAKS RCVD..BUFFER TEMP UNAVAILABLE
.	.	
17567	.	SEE DMR MANUAL FOR DESCRIPTION

4.3.3 PRINTING SINGLE LOCATION

TO EXAMINE A SINGLE LOCATION, INPUT 'BASE/OFFSET=NNN'. FOR A DMC NNN IS A OCTAL NUMBER BETWEEN 0-377. FOR A DMR, NNN IS A OCTAL NUMBER BETWEEN 0-177. IF THE OFFSET VALUE IS NOT WITHIN THIS RANGE AN ERROR MESSAGE WILL BE PRINTED.

EXAMPLE - DEVICE IS DMR

RPT> (A) ? B/O=27

LOCATION	CONTENTS	DESCRIPTION
17417	006	STREAMING TIME OUT COUNT

RPT> (A) ?

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5.0 DEVICE INFORMATION TABLES

THIS IS THE DEFAULT HARDWARE P-TABLE. THE VALUES AND SIZE ARE USED AS A 'TEMPLATE' FOR CREATING ACTUAL P-TABLE ENTRIES AND THE DEFAULT VALUES PROVIDED FOR THE OPERATOR. SEE SECTION 2.4 FOR AN EXAMPLE OF THE HARDWARE QUESTIONS.

THE NUMBERS IN BRACKETS (I.E. [10]) INDICATES THE OFFSET OF THE WORD INTO THE HARDWARE P-TABLE. THE OFFSETS MUST MATCH THE P-TABLE OFFSETS USED IN THE HARDWARE PARAMETER CODING SECTION WHERE THE 'GET PARAMETER' CALLS ARE USED TO FILL THE P-TABLE.

.WORD	1	:[0] FULL OR HALF DUPLEX FLAG (BIT0=1 IF FULL)
.WORD	160170	:[2] CSR ADDRESS
.WORD	300	:[4] INTERRUPT VECTOR
.WORD	240	:[6] INTERRUPT PRIORITY (5)
.WORD	0	:[10] SPARE
.WORD	0	:[12] OPTION TYPE(0=DMC,5=DMR-DMC MODE,7=DMR)

6.0 MODE AND MESSAGE DESCRIPTIONS

6.1 MODE DESCRIPTIONS

BECAUSE THE DMC-11 AND DMR-11 SUPPORT DDCMP OPERATION IN THE FIRMWARE, THE PDP11 DCLT PROGRAM IS UNABLE TO CONTROL OR KNOW EXACTLY WHAT IS BEING TRANSMITTED OR RECEIVED AT ANY GIVEN TIME. ALL DATA MESSAGES ARE ENCLOSED IN A DDCMP ENVELOPE AND THEREFORE CONTROL MESSAGES (ACKS,NAKS...) ARE ALSO BEING TRANSMITTED AND RECEIVED.

6.1.1 TRANSMIT MODE

A LIST OF MESSAGES IS TRANSMITTED WITHOUT EXPECTING ANY DATA TO BE RECEIVED.

6.1.2 RECEIVE MODE

SPACE IS QUEUED FOR THE DEVICE TO RECEIVE MESSAGES. AFTER RECEIVING AN 'EXPECTED' NUMBER OF MESSAGES, THE DATA RECEIVED CAN BE COMPARED AGAINST A LIST OF 'EXPECT TO RECEIVE' MESSAGES IF DATA-CHECKING IS ENABLED.

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6.1.3 PASSIVE MODE

EVERY TIME A MESSAGE IS RECEIVED, A MESSAGE IS TRANSMITTED.
DATA CHECKING CAN BE DONE ON THE RECEIVED DATA. THE '/ECHO, /NOECHO'
ENABLES/DISABLES THE RETRANSMISSION OF THE DATA RECEIVED.

6.1.4 ACTIVE MODE

A LIST OF MESSAGES IS TRANSMITTED AND MESSAGES ARE RECEIVED.
AFTER RECEIVING AN 'EXPECTED' NUMBER OF MESSAGES, THE DATA RECEIVED
CAN BE COMPARED AGAINST A LIST OF 'EXPECT TO RECEIVE' MESSAGES
IF DATA-CHECKING IS ENABLED.
NOTE: IF BOTH ENDS OF THE LINK ARE IN ACTIVE MODE, THEN THE
LINK MUST BE A FULL DUPLEX LINK!

6.1.5 DOWN-LINE-LOAD

THE 'HOST' OR ORIGINATING STATION REQUESTS THE 'SATELLITE' OR
BOOT STATION TO ENTER MOP MODE. THE SATELLITE THEN SENDS A
'SECONDARY BOOT REQUEST MESSAGE'. THE 'HOST' THEN CHECKS THE
RECEIVED MESSAGE TO SEE THAT IT IS A 'SECONDARY BOOT REQUEST'.
THEN THE HOST SENDS A 'MEMORY LOAD WITH TRANSFER ADDRESS'
THAT CONTAINS IMAGE DATA TO BE LOADED BY THE SATELLITE'S
M9301-YJ/M9312 STARTING AT LOC. 0. THIS IMAGE DATA WILL CONTAIN A
CODE THAT PRINTS A MESSAGE SAYING DOWN-LINE-LOAD WAS SUCCESSFUL.
THE BOOTING PROCESS OVERWRITES PART OF THE 'VECTOR' AREA SO THE DCLT
PROGRAM MUST BE RELOADED IN THE 'SATELLITE' SYSTEM.

THE SATELLITE WILL ENTER MOP MODE ONLY IF THE PASSWORD WORD
SUPPLIED BY THE USER MATCHES THAT SET IN ITS PASSWORD SWITCH PACK.
INCLUDED IN THE 'SECONDARY BOOT MESSAGE', IS THE DEVICE TYPE CODE
THAT IS DECIPHERED AND INCLUDED IN AN IDENTIFICATION MESSAGE.

EXAMPLE DOWNLINE LOAD:

DCLT>R M=D
SATELLITE PASSWORD = NNN ;NNN = OCTAL # BETWEEN 0-376
SECONDARY BOOT REQ FROM XXX DEVICE TYPE = YY

YY	XXX
--	---
0	DP
2	DU
4	DL
6	DQ
8	DA
10	DUP
12	DMC
14	DN
16	DLV
18	DMP
20	DTE

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22	DV
24	DZ
28	KDP
30	KDZ
32	KL
34	DMV

6.1.6 TALK MODE

THE 'TALK' END OF THE LINK TRANSMITS OPERATOR-TYPED MESSAGES UNTIL A 'EXIT' MESSAGE IS TYPED. AT THAT POINT, THE NODE GOES INTO 'LISTEN' MODE. AN 'EXIT MESSAGE' IS A MESSAGE WHOSE FIRST FOUR CHARACTERS ARE 'EXIT'. SINCE ONLY THE FIRST FOUR CHARACTERS NEED TO BE 'EXIT', MORE CHARACTERS CAN BE ADDED SO THAT A MESSAGE MAY BE SENT AND THE MODE SWITCHED ALL AT ONCE. FOR EXAMPLE:

TLK> EXIT ALL OF THIS LINE IS SENT THEN MODE SWITCHED

6.1.7 LISTEN MODE

THE 'LISTEN' END OF THE LINK PRINTS ALL OF THE MESSAGES RECEIVED BY THE DEVICE ON THE OPERATOR'S CONSOLE. IF THE MESSAGE RECEIVED IS AN 'EXIT' MESSAGE, THEN THE NODE ENTERS 'TALK' MODE. AN 'EXIT MESSAGE' IS A MESSAGE WHOSE FIRST FOUR CHARACTERS ARE 'EXIT'.

6.1.8 MAINTENANCE 'LOOP' MODES

REMEMBER THAT THE WHENEVER A 'RUN' COMMAND IS TYPED, THE DEFAULT IS NO LOOPBACK AND THAT A LOOP MODE MUST BE SPECIFIED BY A '/LOOP=..' IF A LOOP MODE IS DESIRED. LOOP MODES ARE ONLY VALID IF THE MODE TO RUN IS ACTIVE !

INTERNALTTL THE 'LU LOOP' BIT IS SET SO THAT THE UNIT'S SERIAL LINE OUT IS LOOPED BACK TO THE SERIAL LINE IN AT THE TTL LEVEL BEFORE LEVEL CONVERSION.

CABLE NOT USED BY DMR OR DMC-11 CODE.

LOCALMODEM FOR DMR-11 IN DMR MODE AND RS449 MODEMS ONLY. CAUSES A 'WRITE MODEM' TO BE DONE TO SET UP LOCAL-LOOPBACK (MAINT1) . ALSO CALLED ANALOG-LOOPBACK.

REMOTEMODEM FOR DMR-11 IN DMR MODE AND RS449 MODEMS ONLY. CAUSES A 'WRITE MODEM' TO BE DONE TO SET UP REMOTE-LOOPBACK (MAINT2) . ALSO CALLED

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DIGITAL-LOOPBACK.

THE FOLLOWING TABLE SUMMARIZES THE MODES THAT CAN BE RUN TOGETHER WHEN THE DCLT PROGRAM IS RUNNING ON TWO PROCESSORS (ONE AT EACH END OF THE LINK):

STATION A 'HOST' NODE	'/LOOP' ALLOWED?	STATION B 'REMOTE' NODE	DUPLEX
TALK	NO	LISTEN*, RECEIVE	HALF OR FULL
LISTEN	NO	TALK*, TRANSMIT	HALF OR FULL
TRANSMIT	NO	RECEIVE*, LISTEN	HALF OR FULL
RECEIVE	NO	TRANSMIT*, TALK	HALF OR FULL
PASSIVE	NO	ACTIVE*	HALF OR FULL
ACTIVE	YES	ACTIVE*	FULL
		PASSIVE*	HALF OR FULL
DOWNLINELOAD	NO	PASSIVE	HALF FORCED

*= MOST LIKELY TO BE IN THAT MODE

6.2 MESSAGE DESCRIPTIONS

NAME	DESCRIPTION
ZEROES	MESSAGE OF ALL 0'S (00000000,00000000,00000000,...)
ONES	MESSAGE OF ALL 1'S (11111111,11111111,11111111,...)
1ALT	MESSAGE OF ALTERNATING 1'S (10101010,10101010,...)
0ALT	MESSAGE OF ALTERNATING 0'S (01010101,01010101,...)
CCITT	'CCITT' 512-BIT (VS. 511 BITS) TEST PATTERN
ITEP	'INTERPROCESSOR TEST PROGRAM'S (ITEP)' MESSAGE 1(DP1:) (<177><177>/SA THE QUICK BROWN FOX JUMPED OVER THE LAZY DOG.<15><12><001><177><177><177><177>)
ALPHA	ALPHA-NUMERICS (OR FUTURE COMM TURNAROUND MSG) (# \$! ' ' () * + , - . 0 1 2 3 4 5 6 7 8 9 : ; < = > ? @ A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [\] ^ _ `)
'A-Z,0-9,SPACES,TABS'	THESE ARE THAT THE CHARACTERS THAT CAN BE TYPED BETWEEN QUOTATION MARKS ('..') TO SPECIFY A UNIQUE MESSAGE. (CALLED AN OPERATOR SPECIFIED MESSAGE.)

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7.0 OTHER INFORMATION

7.1 INTERFACING TO AN "ITEP" NODE

WHEN DCLT IS USED TO INTERFACE TO AN ITEP NODE.
THE TABLE BELOW APPLIES:

ITEP NODE	DCLT NODE
ONE-WAY-OUT	RECEIVE OR LISTEN
ONE-WAY-IN	TRANSMIT OR TALK
INTERNAL LOOP	ACTIVE
EXTERNAL LOOP	ACTIVE OR PASSIVE

NOTE: WHEN INTERFACING TO ITEP IF THE RX BUFFER ON THE
ITEP SIDE IS ONLY 10 BYTES LARGER THAN THE TX BUFFER YOU
HAVE SELECIED, SO BE SURE TO SET THE TX BUFFER ON THE DCLT
NODE ACCORDINGLY.

WHEN ITEP IS IN A MODE THAT IT IS EXPECTING TO BE TRANSMITTED
TO, A SOFT ERROR "BASE TABLE ERR COUNTS NON-ZERO" WILL OCCUR.
THIS IS DUE TO THE SPEED DIFFERENCES IN THE SOFTWARE.

WHEN DCLT IS IN LISTEN MODE THE RX BUFFER IS ONLY
82 BYTES LONG THEREFORE DO NOT SEND THE DCLT NODE
ITEP MSG. 3 FROM THE ITEP NODE OR A "LOST DATA" ERROR WILL
OCCUR

BE SURE ITEP NODE HAS INCORPERATED PATCH FROM DEPO# MD-11-DZDMO-A1

ITEP NODE SHOULD ALWAYS BE RUN WITH SW 4 = TO 0

7.2 TROUBLESHOOTING HINTS

LISTED BELOW ARE SOME SETUPS THAT COULD BE USED FOR ISOLATING FAULTS.
THESE ARE BY NO MEANS THE ONLY WAYS DCLT CAN BE USED !!!!!!!
DCLT IS MEANT TO BE A VERY FLEXIBLE TOOL! THIS SECTION IS MEANT TO
GIVE SOMEONE NOT TOO FAMILIAR WITH DCLT A PLACE TO START.

REMEMBER THAT THE PRINTING OF STATUS MESSAGES AND PRINTING OF THE
EVENT LOG CAN PROVIDE A LOT OF INFORMATION ABOUT THE SEQUENCE OF
EVENTS AND HOW THE DEVICE AND LINK ARE BEHAVING.

NOTE: IF BOTH NODES IN ACTIVE AND "/NOCHECK" IS USED,
----- END-OF-PASS IS DEFINED AS RECEIVING 1 MESSAGE
AND COMPLETING THE TRANSMIT LIST. WITH NO DATA
CHECKING, THERE IS NO WAY FOR DCLT TO KNOW HOW
MANY MESSAGES IT SHOULD EXPECT TO RECEIVE.

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7.2.1 INTERNAL LOOP AT EACH NODE

RUN EACH END OF THE LINK IN ACTIVE MODE WITH LOOP=INTERNAL.
TRANSMIT TWO OR THREE MESSAGES WITH NO DATA CHECKING.
STATUS PRINTING COULD BE TURNED OFF IF ON, BUT SEEING THE SEQUENCE
OF EVENTS MIGHT BE INFORMATIVE.

A POSSIBLE COMMAND SEQUENCE IS:

```
C E
C T
SE T=ONES/S=20/C=2
R M=A/LO=I/NOCH/STAT
```

WHAT THE ABOVE COMMAND SEQUENCE MEANS:

THE 'C E' AND THE 'C T' INITIALIZES THE 'EXPECT'
LIST AND THE 'TRANSMIT LIST'. THE 'SE T=ONES/S=20/C=2'
SETS THE TRANSMIT LIST TO CONTAIN 3 MESSAGES. THE MESSAGES
CONTAIN DATA OF ALL ONES AND EACH ONE IS 20 BYTES IN LENGTH.
THE 'R M=A/LO=I/NOCH/STAT' SETS THE MODE TO RUN IN TO BE
ACTIVE AND LOOP TYPE TO BE INTERNAL TTL. THE PROGRAM WILL
NOT BE CHECKING DATA SO THERE WAS NO NEED TO SET UP AN
EXPECT LIST. THE PROGRAM WILL BE PRINTING STATUS MESSAGES.

WHAT YOU SHOULD SEE AFTER ENTERING THE RUN COMMAND
IF THINGS ARE RUNNING CORRECTLY :

```
INI RXQ TXQ RXQ TXC TXQ RXQ TXC
TXQ RXQ TXC EOP
MODE=ACTIVE/LOOP=INTERNAL/PASS=00000
/STATUS/NOCHECK/NOECHO/NOMODEM
DCLT> (A) ?
```

THIS GIVES YOU A IDEA IF THE COMM. DEVICE CAN EVEN TRANSMIT AND
RECEIVE. ANY ERRORS REPORTED WILL PROBABLY BE DUE TO INCORRECT
DEVICE ADDRESSES BEING USED OR A FAULTY DEVICE. CHECK ADDRESSES
WITH 'DISPLAY' AND RUN THE PREREQUISITE DIAGNOSTICS FOR THE COMM.
DEVICE.

NOW TRY RUNNING EACH NODE THE SAME WAY WITH DATA CHECKING ENABLED.
A POSSIBLE COMMAND SEQUENCE IS:

```
SE E=T
R M=A/LO=I/CH/PAS=3
```

WHAT THIS SEQUENCE MEANS:

THIS SEQUENCE IS SIMILAR TO THE ONE ABOVE . THE 'SE E=T'
MAKES A COPY OF THE TRANSMIT LIST IN THE EXPECT LIST.
THE EXPECT LIST NOW CONTAINS 3 MESSAGES. THE MESSAGES WILL
HAVE ALL ONES FOR DATA AND BE 20 BYTES EACH IN LENGTH.

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THE RUN COMMAND IS THE SAME WITH THE ADDITION OF TWO SWITCHES '/CH/PAS=3'. THE 'CH' SWITCH TELLS THE PROGRAM TO CHECK THE RECEIVED DATA AGAINST THE 'EXPECTED LIST'. THE 'PAS=3' SWITCH TELLS THE PROGRAM TO RUN 3 PASSES BEFORE RETURNING TO THE DCLT> PROMPT.

WHAT YOU SHOULD SEE AFTER ENTERING THE RUN COMMAND
IF THINGS ARE RUNNING CORRECTLY :

```
INI RXQ TXQ RXQ TXC TXQ RXQ TXC
TXQ TXC CMP CMP CMP EOP RXQ TXQ
RXQ TXC TXQ RXQ TXC TXQ TXC CMP
CMP CMP EOP RXQ TXQ RXQ TXC TXQ
RXQ TXC TXQ TXC CMP CMP CMP EOP
MODE=ACTIVE/LOOP=INTERNAL/PASS=00000
/STATUS/CHECK/NOECHO/NOMODEM
```

IF A CABLE TURNAROUND CONNECTOR IS AVAILABLE, PUT IT ON THE END OF THE CABLE JUST BEFORE THE MODEM AND RUN IN ACTIVE MODE WITH NO LOOP. POSSIBLE COMMAND SEQUENCE IS:

R M=A/CH/PAS=3

WHAT THIS SEQUENCE MEANS:

THIS SEQUENCE HAS THE '/LO=1' REMOVED. THIS INFORMS THE DEVICE TO ACT AS IF IT WAS RECEIVING FROM ANOTHER NODE.

WHAT YOU SHOULD SEE AFTER ENTERING THE RUN COMMAND
IF THINGS ARE RUNNING CORRECTLY :

```
INI RXQ TXQ TXC RXQ TXQ TXC RXQ
TXQ TXC CMP CMP CMP EOP RXQ TXQ
TXC RXQ TXQ TXC RXQ TXQ TXC CMP
CMP CMP EOP RXQ TXQ TXC RXQ TXQ
TXC RXQ TXQ TXC CMP CMP CMP EOP
MODE=ACTIVE/PASS=00000
/STATUS/CHECK/NOECHO/NOMODEM
DCLT> (A) ?
```

7.2.2 TRANSMIT ON ONE NODE RECEIVE ON THE OTHER

NOW TRY TRANSMITTING FROM ONE END AND RECEIVING ON THE OTHER. MAYBE WITH NO DATA CHECKING AT FIRST TO ESTABLISH IF THE LINK IS WORKING. POSSIBLE COMMAND SEQUENCES ARE:

NODE A

C E
C T
SE T=1ALT/S=250

NODE B

C E
C T
R M=R/NOCH/PAS=3

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R M=TR/PAS=3

WHAT THIS SEQUENCE MEANS:

THE 'C E ' AND 'C T' INITIALIZE BOTH THE TRANSMIT AND EXPECT LISTS. THE 'SE T=1ALT/S=250' SETS THE TRANSMIT LIST ON NODE A TO BE 1 MESSAGE WITH A LENGTH OF 250 BYTES AND DATA OF ALTERNATING ONES AND ZEROS. THE 'R M=TR/PAS=3' SETS THE RUN MODE OF NODE A TO BE TRANSMIT AND THE PASS COUNT IS SET TO 3. THE 'R M=R/NOCH/PAS=3' SETS THE RUN MODE OF NODE B TO BE RECEIVE, NO DATA CHECKING IS TO BE DONE, AND THE PASS COUNT IS SET TO THREE.

WHAT YOU SHOULD SEE AFTER ENTERING THE RUN COMMAND IF THINGS ARE RUNNING CORRECTLY :

FOR NODE A:

```
INI TXQ TXC EOP TXQ TXC EOP TXQ
TXC EOP
MODE=TRANSMIT/PASS=00000
/STATUS/NOCHECK/NOECHO/NOMODEM
DCLT> (A) ?
```

FOR NODE B:

```
INI RXQ EOP RXQ EOP RXQ EOP
MODE=RECEIVE/PASS=00000
/STATUS/NOCHECK/NOECHO/NOMODEM
DCLT> (A) ?
```

NOW TRY DOING DATA CHECKING ON THE MESSAGE(S) BEING TRANSMITTED. POSSIBLE COMMAND SEQUENCES ARE:

```
R M=TR/PAS=3
SE E=1ALT/S=250
R M=R/CH/PAS=3
```

WHAT THIS SEQUENCE MEANS:

THE 'SE E=1ALT/S=250' LINE MUST BE ADDED HERE TO SET UP THE 'EXPECT LIST' ON THE RECEIVE NODE SO IT WILL KNOW WHAT TO COMPARE AGAINST. THE CHANGE IN THE RUN COMMAND IS FROM 'NOCH' TO 'CH'. THE 'CH' ENABLES DATA CHECKING.

WHAT YOU SHOULD SEE AFTER ENTERING THE RUN COMMAND IF THINGS ARE RUNNING CORRECTLY:

NODE A: IS THE SAME AS ABOVE.

NODE B:

```
INI RXQ CMP EOP RXQ CMP EOP RXQ CMP EOP
MODE=RECEIVE/PASS=00000
/STATUS/CHECK/NOECHO/NOMODEM
DCLT> (A)?
```

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NOW RUN THRU THE SEQUENCE AGAIN WITH NODE A RECEIVING
AND NODE B TRANSMITTING TO CHECK OUT THE OPPOSITE
DIRECTION OF DATA FLOW.

7.2.3 ON. NODE ACTIVE THE OTHER NODE PASSIVE

NOW TRY RUNNING ONE NODE IN ACTIVE MODE WHILE THE OTHER
END RUNS IN PASSIVE. DATA CHECKING SHOULD BE TURNED OFF
IF THE MESSAGE LISTS ARE NOT THE SAME.
POSSIBLE COMMAND SEQUENCES ARE:

NODE A	NODE B
-----	-----
C E	C E
C T	C T
SE T=CCITT/S=10/C=2	SE T=1ALT/S=20/C=2
R M=ACT/NOCH/PAS=3	R M=P/NOCH/PAS=3

WHAT THIS SEQUENCE MEANS:

THE EXECUTION OF THIS SEQUENCE CAUSES THE FOLLOWING
THINGS TO HAPPEN ON NODE A. THE TRANSMIT AND EXPECT
LISTS ARE INITIALIZED THEN THE TRANSMIT LIST IS SET
TO 3 MESSAGES OF 10 BYTES EACH. THE DATA USED IN THE
TRANSMIT MESSAGES IS THE CCITT PATTERN. THEN NODE A
IS RUN IN ACTIVE MODE WITH DATA CHECKING DISABLED AND
THE PASS COUNT SET TO THREE. NOTE STATUS WOULD STILL BE
PRINTED IF THE PREVIOUS SEQUENCES HAD BEEN RUN.
IF YOU ARE RUNNING FROM LOAD TIME YOU WOULD HAVE
TO ADD A '/STA TO THE RUN COMMAND LINE.

NODE B: THE TRANSMIT AND EXPECT LISTS ARE INTIALIZED
THEN THE TRANSMIT LIST IS SET TO 3 MESSAGES OF
20 BYTES EACH. THE DATA FOR EACH MESSAGE IS ALTERNATING
1'S AND 0'S. THE NODE IS THEN RUN IN PASSIVE MODE WITH
DATA CHECKING DISABLED AND THE PASS COUNT SET TO 3.

WHAT YOU SHOULD SEE AFTER ENTERING THE RUN COMMAND
IF THINGS ARE RUNNING CORRECTLY :

FOR NODE A:

```
INI RXQ TXQ TXC TXQ RXQ TXC TXQ
RXQ TXC EOP RXQ TXQ RXC TXC TXQ
RXQ TXC TXQ RXQ TXC EOP RXQ TXQ
RXQ TXC TXQ RXQ TXC TXQ RXQ TXC
EOP
MODE=ACTIVE/PASS=00000
/STATUS/NOCHECK/NOECHO/NODEM
DCLT> (A) ?
```

FOR NODE B:

```
INI RXQ TXQ TXC RXQ TXQ TXC RXQ
TXQ TXC EOP RXQ TXQ TXC RXQ TXQ
TXC EOP RXQ TXQ TXC RXQ TXQ TXC
```

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RXQ TXQ TXC EOP
MODE=PASSIVE/PASS=00000
/STATUS/NOCHECK/NOECHO/NOMODEM
DCLT> (A) ?

NOW USE DATA CHECKING WITH THE 'EXPECT MESSAGE LISTS' SET UP APPROPRIATELY. ANOTHER VARIATION IS TO HAVE LARGE SIZE MESSAGES ON ONE SIDE WITH SMALL MESSAGES ON THE OTHER.

THEN REVERSE THE SETUP SO THAT THE NODE RUNNING IN ACTIVE IS RUNNING IN PASSIVE AND VICE VERSA.

7.2.4 BOTH NODES ACTIVE

NOW BOTH NODES CAN BE RUN IN ACTIVE WITH DATA CHECKING ON. STATUS PRINTING COULD BE TURNED OFF IF YOU'RE NOT INTERESTED IN THEM.

NODE A	NODE B
-----	-----
C E	C E
C T	C T
SE T=0ALT/S=10	SE E=0ALT/S=10
SE T=CCITT/S=20	SE E=CCITT/S=20
SE T=ALPHA/S=30	SE E=ALPHA/S=30
SE E=ZERO/S=11	SE T=ZERO/S=11
SE E=ONES/S=21	SE T=ONES/S=21
SE E=ITEP/S=31	SE T=ITEP/S=31
R M=A/CH/NOST/PAS=3	R M=A/CH/NOST/PAS=3

WHAT THIS SEQUENCE MEANS:

NODE A SETS UP ITS TRANSMIT LIST TO BE 3 MESSAGES. MESSAGE 1 IS 10 BYTES LONG AND CONTAINS DATA OF ALTERNATING 0'S AND 1'S. MESSAGE 2 IS 20 BYTES LONG AND CONTAINS DATA OF THE CCITT PATTERN. MESSAGE THREE IS 30 BYTES LONG AND CONTAINS ALPHANUMERICS FOR DATA. THE EXPECT LIST ALSO CONTAINS 3 MESSAGES. MESSAGE 1 IS 11 BYTES LONG AND CONTAINS 0'S FOR DATA. MESSAGE TWO IS 21 BYTES LONG AND CONTAINS 1'S FOR DATA. MESSAGE 3 IS 31 BYTES LONG AND CONTAINS THE ITEP DATA. NODE B HAS THE SAME MESSAGES EXCEPT THAT THE TRANSMIT MESSAGE LIST IS THE EXPECT MESSAGE LIST AND VICE VERSA. BOTH NODES ARE RUN IN THE ACTIVE MODE WITH DATA CHECKING AND PASS COUNT EQUAL TO THREE.

WHAT YOU SHOULD SEE AFTER ENTERING THE RUN COMMAND IF THINGS ARE RUNNING CORRECTLY :
ON BOTH NODES A AND B:

MODE=ACTIVE/PASS=00000
/NOSTATUS/CHECK/NOECHO/NOMODEM

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DCLT> (A) ?

A VARIATION THAT CAN BE USED IS FOR ONE END TO SEND A LOT OF SMALL MESSAGES AND THE OTHER TO SEND A FEW LARGE MESSAGES. THE 'END-OF-PASS' POINT WILL BE OUT OF SYNC BUT THIS IS NOT A PROBLEM.

7.2.5 TALK AND LISTEN MODES FOR COMMUNICATING

TALK AND LISTEN MODES ARE USEFUL IF THE OPERATORS WISH TO COMMUNICATE WITH EACH OTHER. JUST SETUP A TIME THAT EACH WILL GO TO THEIR MODE, TALK OR LISTEN, AND SEND MESSAGES OVER THE LINK. POSSIBLE COMMAND SEQUENCES ARE.

R M=LIS/NOST
LIS>

R M=TA/NOST
TLK>

7.3 EXAMPLES OF COMMANDS

THIS SECTION WILL SHOW A SAMPLING OF COMMANDS AND EXACTLY WHAT TO EXPECT FROM THEM.

7.3.1 EXAMPLES OF MESSAGES COMMANDS

THE CLEAR COMMANDS .

C E
C T

THIS WILL INITIALIZE THE TRANSMIT AND EXPECT LIST TO 1 MESSAGE OF 58 BYTES. THE DATA OF THE MESSAGE WILL BE THE ITEP MESSAGE.

IF THESE COMMANDS ARE FOLLOWED BY A SHOW COMMAND

SH E
SUCH AS THE SHOW EXPECT LIST. WHAT YOU WOULD SEE IS
MSG: TYPE=ITEP/SIZE=58
MODE=ACTIVE/PASS=00001
/NOSTATUS/CHECK/NOECHO/NOMODEM

DCLT> (A) ?

NOW IF YOU DID A SET EXPECT LIST COMMAND SUCH AS:

SE E=A/S=35/C=3

AND FOLLOWED IT WITH A SHOW EXPECT LIST COMMAND

SH E

WHAT YOU WOULD SEE IS

MSG: TYPE=ALPHA/SIZE=35
MSG: TYPE=ALPHA/SIZE=35
MSG: TYPE=ALPHA/SIZE=35
MSG: TYPE=ALPHA/SIZE=35
MODE=ACTIVE/PASS=00001
/NOSTATUS/CHECK/NOECHO/NOMODEM

DCLT> (A) ?

CZCLKCO DMR,DMC-1 DATA COMM. LINK TEST
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7.3.2 EXAMPLES STATISTICAL COMMANDS

IF YOU TYPE A HELP COMMAND

HELP

WHAT YOU WILL SEE IS

DCLT CMDS:

CLEAR OR SHOW EXPECTLIST OR TRANSMITLIST

PRINT

EXIT

DUMP START-END/B

SET EXPECTMSG OR TRANSMITMSG=TYPE/SIZE=N OR /COPY=N

SET EXPECT=TRANSMIT

TYPE=ONES,ZEROES,ALT,OALT,ITEP,CCITT,ALPHA

OR 'OPR SPCD=A-Z,SP,TAB,0-9' IN QUOTES''

RUN MODE=MTYP/LOOP=LTP/CHECK,STATUS,ECHO,MODEM,PASS=N

MTYP=TRAN,REC,ACT,PAS,TAL,LIS,DOWN

LTP=INT,CAB,LOC,REM/

DCLT> (A) ?

THE SAME WILL HAPPEN IF YOU USE THE ?

THE DUMP COMMAND WORKS LIKE THIS

DUM 41260-41300

THIS WILL DUMP THE DATA FROM ADDRESSES 41260 TO
41300 IN THE FOLLOWING MANNER

41260 104423 000167 177772 021122 012112 006312 006312 006312

41300 006312

IF YOU HAD USED THE /B SWITCH

DUM 41260-41300/B

WHAT YOU WOULD SEE IS

41260 023 211 167 000 372 377 122 024

41270 112 024 312 014 312 014 312 014

41300 312

7.3.3 EXAMPLES RUN COMMANDS

YOU CAN FIND SEVERAL EXAMPLES OF THE RUN COMMAND IN THE
TROUBLE SHOOTING HINTS SECTION BUT HERE ARE SOME OTHERS.

IF YOU WERE TO EXECUTE THE RUN COMMAND

R M=TR/NOST/CH/PAS=4

WHAT WOULD HAPPEN IS AFTER 4 PASSES THE PROGRAM WOULD RETURN
TO THE DCLT PROMPT AND PRINT

MODE=TRANSMIT/PASS=00000

/NOSTATUS/CHECK/NOECHO/NOMODEM

DCLT> (A) ?

IF YOU WERE TO EXECUTE THE RUN COMMAND

C E

C T

R M=A/LO=1/ST/CH/PAS=3

WHAT YOU WOULD SEE (IF USING DEFAULT TRANSMIT AND EXPECT

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MODEM STATUS: CTS DSR DCD RTS RI SQD TM
0 1 0 0 1 1 1
.....
.....
.....

THIS GOES ON FOR 45 EVENTS IF THE MODE
PREVIOUSLY EXECUTED HAD THAT MANY
YOU EXIT FROM EVENT LOG PRINTING BY
TYPING A CONTROL C.

7.3.5 EXAMPLE EXIT COMMAND

THE EXIT COMMAND WORKS LIKE THIS. IF YOU
ENTERED THE REPORT LEVEL FROM THE SUPERVISOR
(DR>) THEN TYPING

EXIT

WILL RETURN YOU TO THE SUPERVISOR.

DR>

IF YOU ENTERED REPORT FROM THE DCLT LEVEL
THEN TYPING

EXIT

WILL RETURN YOU TO THE DCLT LEVEL.

DCLT>

7.4 THINGS TO WATCH OUT FOR

IF YOU ARE RUNNING DCLT ON SYSTEMS THAT HAVE CONSOLES
WITH DIFFERENT SPEEDS YOU WILL BE UNABLE TO USE THE
PRINT STATUS FEATURE IN CERTAIN MODES. THE RULE IS
IF IT DOESNT WORK WITH STATUS PRINTING RUN THE MODE
WITH NOSTATUS.

IF YOU ARE USING PASSIVE MODE WITH THE ECHO SWITCH
THEN YOU WILL PROBABLY HAVE TO RE-ENTER THE TRANSMIT
LIST ON THE SIDE WITH THE ECHO SWITCH. THE REASON IS
THAT THE TRANSMIT LIST GETS OVER WRITTEN WITH THE
RECEIVE LIST WHEN USING THE ECHO SWITCH.

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1994
1995
1996
1997 002000
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008 002000
2009
2010
2011
2012 002000
2013 002000
2014 002000 103
2015 002001 132
2016 002002 103
2017 002003 114
2018 002004 113
2019 002005 000
2020 002006 000
2021 002007 000
2022 002010
2023 002010 103
2024 002011
2025 002011 060
2026 002012
2027 002012 000000
2028 002014
2029 002014 003410
2030 002016
2031 002016 046140
2032 002020
2033 002020 000000
2034 002022
2035 002022 002130
2036 002024
2037 002024 000000
2038 002026
2039 002026 046522
2040 002030
2041 002030 000000
2042 002032
2043 002032 000000
2044 002034
2045 002034 000000
2046 002036
2047 002036 000000
2048 002040
2049 002040 002124

.SBTTL PROGRAM HEADER

BGNMOD

;++
: THE PROGRAM HEADER IS THE INTERFACE BETWEEN
: THE DIAGNOSTIC PROGRAM AND THE SUPERVISOR.
:--

POINTER BGNRPT,BGNAU,BGNDU

HEADER CZCLK,C,0,1800.,0,#PRI07

LSNAME::
 .ASCII /C/
 .ASCII /Z/
 .ASCII /C/
 .ASCII /L/
 .ASCII /K/
 .BYTE 0
 .BYTE 0
 .BYTE 0
LSREV::
 .ASCII /C/
LSDEPO::
 .ASCII /O/
LSUNIT::
 .WORD 0
LSTIML::
 .WORD 1800.
LSHPCP::
 .WORD LSHARD
LSSPCP::
 .WORD 0
LSHPTP::
 .WORD LSHW
LSSPTP::
 .WORD 0
LSLADP::
 .WORD LSLAST
LSSIA::
 .WORD 0
LSCO::
 .WORD 0
LSDTYP::
 .WORD 0
LSAPT::
 .WORD 0
LSDTP::
 .WORD LSDISPATCH

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PROGRAM HEADER

2050	002042	
2051	002042	000340
2052	002044	
2053	002044	000000
2054	002046	
2055	002046	000000
2056	002050	
2057	002050	003
2058	002051	003
2059	002052	
2060	002052	000000
2061	002054	000000
2062	002056	
2063	002056	000000
2064	002060	
2065	002060	012414
2066	002062	
2067	002062	033732
2068	002064	
2069	002064	000000
2070	002066	
2071	002066	000000
2072	002070	
2073	002070	034746
2074	002072	
2075	002072	034740
2076	002074	
2077	002074	000000
2078	002076	
2079	002076	012430
2080	002100	
2081	002100	104035
2082	002102	
2083	002102	000000
2084	002104	
2085	002104	033746
2086	002106	
2087	002106	034650
2088	002110	
2089	002110	034646
2090	002112	
2091	002112	033740
2092	002114	
2093	002114	000000
2094	002116	
2095	002116	000000
2096	002120	
2097	002120	000000
2098		
2099		

L\$PRIO::	.WORD	#PRI07
L\$ENVI::	.WORD	0
L\$EXP1::	.WORD	0
L\$MREV::	.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	0
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\$HME::	.WORD	0

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DISPATCH TABLE

.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 1

2100
2101
2102
2103
2104
2105
2106
2107 002122
2108 002122 000001
2109 002124
2110 002124 034754
2111

.WORD 1
LSDISPATCH::
.WORD T1

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DEFAULT HARDWARE P-TABLE

.SBTTL DEFAULT HARDWARE P-TABLE

;;
; THE DEFAULT HARDWARE P-TABLE CONTAINS DEFAULT VALUES OF
; THE TEST-DEVICE PARAMETERS. THE STRUCTURE OF THIS TABLE
; IS IDENTICAL TO THE STRUCTURE OF THE HARDWARE P-TABLES.
; AND IS USED AS A "TEMPLATE" FOR BUILDING THE P-TABLES.
;--

BGNHW DFPTBL

.WORD L10000-LSHW/2

LSHW::
DFPTBL::

;INDEPENDENT SECTION

; THE NUMBERS IN BRACKETS ARE THE OFFSET VALUES USED IN THE PARAMETER
; CODING SECTION.

.WORD 1

;[0] FULL OR HALF DUPLEX FLAG (BIT0=1 IF FULL)

;DEVICE DEPENDENT SECTION

; ADDING OR REMOVING WORDS FROM THIS TABLE EFFECTS THE "GET" CALLS IN
; THE HARDWARE PARAMETER CODING SECTION BY CHANGING "OFFSETS"

.WORD 160170

;[2] CSR ADDRESS

.WORD 300

;[4] INTERRUPT VECTOR

.WORD 240

;[6] INTERRUPT PRIORITY (5)

.WORD 0

;[10] DEVICE PARAMETERS WORD

; (ENABLE CRC, STRIP SYNC, COMPATIBLE MODE...)

.WORD 0

;[12] DEVICE OPTION TYPE(0=DMC,5=DMR-DMC MODE,

; 7=DMR.

.WORD 4

;[14] BAUD RATE (0=2.4K, 1=4.8K, 2=9.6K, 3= 19.2K,

; 4=56K, 5=250K, 6=500K, 7=1 MEGA-BAUD)

.WORD 0

;[16] LINE INTERFACE (422, V.35, INT, EIA...)

ENDHW

L10000:

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DEFAULT HARDWARE P-TABLE

2154
2155
2156
2157
2158
2159
2160
2161
2162
2163
2164
2165
2166
2167
2168
2169
2170
2171
2172
2173
2174
2175
2176
2177
2178
2179
2180
2181
2182
2183
2184
2185
2186
2187
2188
2189
2190
2191
2192
2193
2194
2195
2196
2197
2198
2199
2200
2201
2202
2203
2204
2205
2206
2207
2208
2209

002150

.SBTTL GLOBAL EQUATES SECTION

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

EQUALS

; BIT DEFINITIONS

BIT15== 100000
BIT14== 40000
BIT13== 20000
BIT12== 10000
BIT11== 4000
BIT10== 2000
BIT09== 1000
BIT08== 400
BIT07== 200
BIT06== 100
BIT05== 40
BIT04== 20
BIT03== 10
BIT02== 4
BIT01== 2
BIT00== 1

BIT9== BIT09
BIT8== BIT08
BIT7== BIT07
BIT6== BIT06
BIT5== BIT05
BIT4== BIT04
BIT3== BIT03
BIT2== BIT02
BIT1== BIT01
BIT0== BIT00

; EVENT FLAG DEFINITIONS ; EF32:EF17 RESERVED FOR SUPERVISOR TO PROGRAM COMMUNICATION

EF.START==	32.	; START COMMAND WAS ISSUED
EF.RESTART==	31.	; RESTART COMMAND WAS ISSUED
EF.CONTINUE==	30.	; CONTINUE COMMAND WAS ISSUED
EF.NEW==	29.	; A NEW PASS HAS BEEN STARTED
EF.PWR==	28.	; A POWER-FAIL/POWER-UP OCCURRED

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GLOBAL EQUATES SECTION

```
2210      ;
2211      ; PRIORITY LEVEL DEFINITIONS
2212      ;
2213      000340      PRI07== 340
2214      000300      PRI06== 300
2215      000240      PRI05== 240
2216      000200      PRI04== 200
2217      000140      PRI03== 140
2218      000100      PRI02== 100
2219      000040      PRI01== 40
2220      000000      PRI00== 0
2221      ;
2222      ; OPERATOR FLAG BITS
2223      ;
2224      000004      EVL==      4
2225      000010      LOT==      10
2226      000020      ADR==      20
2227      000040      IDU==      40
2228      000100      ISR==     100
2229      000200      UAM==     200
2230      000400      BOE==     400
2231      001000      PNT==    1000
2232      002000      PRI==    2000
2233      004000      IXE==    4000
2234      010000      IBE==   10000
2235      020000      IER==   20000
2236      040000      LOE==   40000
2237      100000      HOE==  100000
2238
```

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GLOBAL EQUATES SECTION

```

2239      ;***** INDEPENDENT EQUATES
2240
2241      001000      BUFLIM=512.      ;MAX BUFFER SIZE IN BYTES
2242      ;
2243      000017      MSG LIM=15.      ;APPLIES TO TX,RX AND CMP BUFFS
2244      ;
2245      ;
2246      ;
2247      ;
2248      ;
2249      ;
2250      000000      ;MODE OF OPERATION EQUATES      ;RECEIVE MODE
2251      000001      REC=0      ;TRANSMIT MODE
2252      000002      TRA=1      ;PASSIVE MODE
2253      000003      PAS=2      ;ACTIVE MODE
2254      000004      ACT=3      ;DOWN-LINE-LOAD MODE
2255      000005      DOW=4      ;TALK MODE
2256      000006      TAL=5      ;LISTEN MODE
2257      ;
2258      000000      ;MAINT LOOP TYPE EQUATES      ;NO LOOP
2259      000001      NONE= 0      ;INTERNAL TTL
2260      000002      TTL= 1      ;CABLE LOOP
2261      000003      CABLE= 2      ;MODMEM LOCAL
2262      000004      MODLOC= 3      ;MODEM REMOTE
2263      000005      MODREM= 4      ;MOP
2264      000006      MOP= 5
2265
2266      ;CLOCK ENABLE VALUES TO BE LOADED IN CLK'S CSR
2267      000100      LCLKEN= 100      ;L-CLOCK CSR VALUE TO ENABLE THE CLOCK
2268      000111      PCLKEN= 111      ;P-CLOCK CSR VALUE TO ENABLE THE CLOCK
2269      001600      PCLKCT= 1600      ;P-CLOCK COUNT SET REGISTER FOR COUNTER
2270
2271      ;PARAM WORD EQUATES
2272
2273      000001      STATB= BIT0      ;OPERATOR AWAKE ASKED FOR
2274      000002      DATCKB= BIT1      ;DATA CHECK BIT
2275      000004      ECHOB= BIT2      ;ECHO BIT
2276      000010      MOCHK= BIT3      ;MODEM CHECK/NO CHECK ADDED BY EC
2277      000020      CRCB= BIT4      ;CRC CALCUALTE ASKED FOR
2278      000040      PROTOB= BIT5      ;PROTOCOL PROCESSING ASKED FOR
2279
2280      ;OPTION TYPE EQUATES
2281
2282      000000      DMC= 0      ;DMC
2283      000004      DMRC6= 4      ;8206 DMR IN DMC MODE
2284      000005      DMRC7= 5      ;8207 DMR IN DMC MODE
2285      000006      DMR6= 6      ;8206 DMR IN DMR MODE
2286      000007      DMR7= 7      ;8207 DMR IN DMR MODE
2287
2288      ;EVENT LOG MESSAGE TYPES (USED TO LOCATE EVENT DESCRIPTION IN EVENT TABLE
2289      ; AND DISPATCHING TO SEPERATE SECTIONS OF THE EVENT REPORTING SECTION)
2290      000000      TXQ= 0      ;TRANSMIT MESSAGE QUEUED
2291      000002      TXC= 2      ;TRANSMIT COMPLETE
2292      000004      RXQ= 4      ;RECEIVE BUFFER QUEUED
2293      000006      RXC= 6      ;RECEIVE COMPLETE
2294      000010      DER= 10      ;DEVICE INFORMATION

```

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GLOBAL EQUATES SECTION

```

2295      000012      DVI= 12      ;DEVICE ABOUT TO INIT
2296      000014      DCK= 14      ;DATA COMPARISON RESULTS
2297
2298      000020      DLE= 20      ;DATA COMPARISON LENGH ERROR
2299      000022      DDE= 22      ;DATA COMPARISON DATA ERROR
2300      000024      EOP= 24      ;END OF PASS
2301      000026      ABO= 26      ;^C ABORT
2302
2303      ;;;;EQUATES FOR FLAG WORD;;;;;
2304
2305      000001      ININT= 1      ;INPUT INT. REC.
2306      000002      OTINT= 2     ;OUTPUT INT REC
2307      000004      QRX= 4       ;RX QUED /COMPL
2308      000010      QTX= 10      ;TX QUED/COMPL
2309      000020      CTX= 20      ;TX COMPL AND IN TXSEL4 AND TSEL6
2310      000040      CRX= 40      ;RX COMPL AND IN TSEL4 AND TSEL6
2311      000100      ERX= 100     ;EXPECT TO GET A RX COMPLETED
2312      000200      ETX= 200     ;EXPECT TO GET A TX COMPLETE )
2313      000400      DLLGA= 400   ;DOWN LINE LOAD GO AHEAD BIT
2314      001000      DMRRUN= 1000 ;DMR RUN MODE EXPECTED
2315      002000      BTUP= 2000   ;BASE TABLE UPDATE REQUESTED
2316
2317      ; SPECIAL CLI CODES FOR "CHAR" ARGUMENT IN CLI CALLS
2318      ; (COMMAND LINE INTERPRETER DEFINITIONS)
2319      000000      CLIERR= 0
2320      000001      CLIEXI= 1
2321      000002      CLIBR= 2
2322      000003      CLIBIF= 3
2323      000004      CLISPA= 4
2324      000005      CLINUM= 5
2325      000006      CLIALP= 6
2326      000007      CLIALN= 7
2327      000010      CLIOCT= 8.
2328      000011      CLIDEC= 9.
2329      000012      CLISTR= 10.
2330
2331      ; DEFS FOR COMMAND LINE INTERPRETATION ACTION VALUES
2332      000000      NULL=0
2333      000001      CLEAR=1
2334      000002      SHOW=2
2335      000003      CHECK=3
2336      000004      RUN=4
2337      000005      HLP=5
2338      000006      CSHEXP=6
2339      000007      CSHTRN=7
2340      000010      SETEXP=10
2341      000011      SETTRN=11
2342      000012      SIZE=12
2343      000013      QCOPY=13
2344      000014      NUM=14
2345      000015      OPRMSG=15
2346      000016      STATUS=16
2347      000017      FNDQO=17
2348      000020      CMSG0=20
2349      000021      CMSG1=21
2350      000022      CMSG2=22

```

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
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GLOBAL EQUATES SECTION

2351 000023
2352 000024
2353 000025
2354 000026
2355 000027
2356 000030
2357 000031
2358 000032
2359 000033
2360 000034
2361 000035
2362 000036
2363 000037
2364 000040
2365 000041
2366 000042
2367 000043
2368 000044
2369 000045
2370 000046
2371 000047
2372 000050
2373 000051
2374 000052
2375 000053
2376 000054
2377 000055
2378 000056
2379 000057
2380 000060
2381
2382 000001
2383 000002
2384 000003
2385 000004
2386 000005
2387 000006
2388 000007
2389
2390
2391
2392
2393
2394
2395 000004
2396 000010
2397 000001
2398 000040
2399 000200
2400 040000
2401 001000
2402
2403
2404
2405
2406 000040

CMSG3=23
CMSG4=24
CMSG5=25
CMSG6=26
ATVMOD=27
PASM0D=30
RECM0D=31
LISM0D=32
DLLMOD=33
TRAM0D=34
TALMOD=35
NO=36
ECHO=37
CR=40
PROTO=41
PASC=42
MOP=43
TTLLOP=44
CBLLOP=45
LMDLOP=46
RMDLOP=47
NOTNUF=50
BADCHR=51
DMPS=52
DMPE=53
DMPQ=54
PRNT=55
MOSC=56
EXIT=57
SETET=60
RPHLP=1
RPEXT=2
RPLOG=3
RPSWE=4
RPSWF=5
RPSWO=6
RNOTNF=7

;MODEM/NOMODEM REV B BY EC
;EXIT COMMAND REV B BY EC
;S E=T COMMAND REV B BY EC
;FOLLOWING EQUATES USED IN REPORT CLI REV B BY EC
;HELP COMMAND
;EXIT COMMAND
;PRINT EVENT LOG COMMAND
;BASE/ERROR COMMAND
;BASE/FULL COMMAND
;BASE/OFFSET
;MORE COMMAND NEEDED

***** DEVICE DEPENDENT EQUATES
; MODEM SIGNAL BIT DEFINITIONS
; IF SIGNAL AVAILABLE IN DEVICE, EQUATE NAME TO BIT POSITION,
; ELSE EQUATE IT TO = 0

CTS= BIT2
DSR= BIT3
DCD= BIT0
RTS= BIT5
RI= BIT7
SQD= BIT14
TM= BIT9

;CLEAR TO SEND (CIRCUIT CB)
;DATA SET READY (CIRCUIT CC)
;DATA CARRIER DETECT (CIRCUIT CF)
;REQUEST TO SEND (CIRCUIT CA)
;RING INDICATOR (CIRCUIT CE)
;SIGNAL QUALITY DETECT (CIRCUIT CG)
;MODEM IN TEST MODE (RS 449 ONLY CIRCUIT TM)

; DEVICE SIGNALS
RQI= BIT5

;REQUEST IN

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GLOBAL EQUATES SECTION

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2407	000200	RDI=	BIT7	;READY IN
2408	000200	RDO=	BIT7	
2409	000001	BACC=	BIT0	;BUFFER ADDR. CHAR COUNT
2410	040000	MCLR=	BIT14	;MASTER CLEAR
2411	004000	LULOP=	BIT11	;LINE UNIT LOOP(TTL)
2412	000400	MAINTB=	BIT8	;MAINT MODE BIT
2413	002000	HALFDB=	BIT10	;HALF DUPLEX BIT
2414	000004	RXBIT=	BIT2	;RX BIT
2415	000100	IEO=	BIT6	;ENABLE OUTPUT INTERRUPT BIT
2416				

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GLOBAL DATA SECTION

```

2417 .SBTTL GLOBAL DATA SECTION
2418 .SBTTL DEFAULT MESSAGE DEFINITIONS AND TABLES
2419
2420 :++
2421 : THE GLOBAL DATA SECTION CONTAINS DATA THAT ARE USED
2422 : IN MORE THAN ONE TEST.
2423 :--
2424
2425 ;MESSAGE BYTE COUNT TABLE
2426
2427 DMSGCT:
2428 MSG0C: .WORD EMSG0-MSG0 ;BYTE COUNT OF MESSAGE #0
2429 MSG1C: .WORD EMSG1-MSG1 ;BYTE COUNT OF MESSAGE #1
2430 MSG2C: .WORD EMSG2-MSG2 ;BYTE COUNT OF MESSAGE #2
2431 MSG3C: .WORD EMSG3-MSG3 ;BYTE COUNT OF MESSAGE #3
2432 MSG4C: .WORD EMSG4-MSG4 ;BYTE COUNT OF MESSAGE #4
2433 MSG5C: .WORD EMSG5-MSG5 ;BYTE COUNT OF MESSAGE #5
2434 MSG6C: .WORD EMSG6-MSG6 ;BYTE COUNT OF MESSAGE #6
2435 OPCNT: .WORD 0 ;BYTE COUNT FOR OPERATOR SPEC'D MSG.
2436 MSG8C: .WORD EMSG8-MSG8 ;BYTE COUNT OF RECEIVE BUFFER FILL PATTERN
2437 DLLM1C: .WORD DLLM1E-DLLM1 ;DLL MSG 1 COUNT
2438 DLLM2C: .WORD DLLM2E-DLLM2 ;DLL MSG 2 COUNT
2439
2440 ;MESSAGE ADDRESS TABLE
2441
2442 DMSGAD:
2443 MSG0 ;ADDRESS OF MESSAGE #0
2444 MSG1 ;ADDRESS OF MESSAGE #1
2445 MSG2 ;ADDRESS OF MESSAGE #2
2446 MSG3 ;ADDRESS OF MESSAGE #3
2447 MSG4 ;ADDRESS OF MESSAGE #4
2448 MSG5 ;ADDRESS OF MESSAGE #5
2449 MSG6 ;ADDRESS OF MESSAGE #6
2450 OPBUF ;ADDRESS OF OPERATOR SPEC'D MSG.
2451 MSG8 ;ADDRESS OF RECEIVE BUFFER FILL PATTERN
2452
2453 MSG0: .BYTE 000 ;MESSAGE OF ALL 0'S
2454 EMSG0:
2455 MSG1: .BYTE 377 ;MESSAGE OF ALL 1'S
2456 EMSG1:
2457 MSG2: .BYTE 252 ;MESSAGE OF ALTERNATING 1'S
2458 EMSG2:
2459 MSG3: .BYTE 125 ;MESSAGE OF ALTERNATING 0'S
2460 EMSG3:
2461 MSG4:
2462 .WORD 177603,157427,031011,047321,163715,105221,143325,142304
2463 .WORD 040041,014116,052606,172334,105025,123754,111337,111523
2464 .WORD 030030,145064,137642,143531,063617,135075,066730,026575
2465 .WORD 052012,053627,070071,151172,165044,031605,166632,016741
2466
2467
2468
2469
2470
2471
2472

```

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
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DEFAULT MESSAGE DEFINITIONS AND TABLES

2473	002320	166632	016741		
2474	002324			MSG4:	
2475	002324			MSG5:	;'INTERPROCESSOR TEST PROGRAM'S (ITEP)'' MESSAGE
2476					: #1 (DP1:)
2477	002324	077577	040444	052040	.ASCII <177><177>/SA THE QUICK BROWN FOX JUMPED OVER THE LAZY DOG./
2478	002332	042510	050440	044525	
2479	002340	045503	041040	047522	
2480	002346	047127	043040	054117	
2481	002354	045040	046525	042520	
2482	002362	020104	053117	051105	
2483	002370	052040	042510	046040	
2484	002376	055101	020131	047504	
2485	002404	027107			
2486	002406	005015	077401	077577	.ASCIIZ <15><12><001><177><177><177><177>
2487	002414	000177			
2488	002416			MSG5:	
2489	002416			MSG6:	:ALPHA-NUMERICS (OR FUTURE COMM TURNAROUND MSG)
2490	002416	022043	021041	023040	.ASCII /#S!'' &'()*+,-.0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ/
2491	002424	024047	025051	026053	
2492	002432	027055	030460	031462	
2493	002440	032464	033466	034470	
2494	002446	035472	036474	037476	
2495	002454	040500	041502	042504	
2496	002462	043506	044510	045512	
2497	002470	046514	047516	050520	
2498	002476	051522	052524	053526	
2499	002504	054530	132		
2500	002507	057	056133	057135	.ASCIIZ ?/[\\]^_`?
2501	002514	022537	000		
2502	002517			MSG6:	
2503		002520			.EVEN
2504					
2505					: *****
2506					:THESE THREE STORAGE AREAS MUST NOT BE SEPERATED !!!!
2507					
2508	002520	047045	040445		OPBFPT: .ASCII /%N%A/
2509	002524	000122			OPBIJF: .BLKB 82. ;BUFFER FOR OPERATOR SPEC'D MESSAGES
2510	002646				OPEND:
2511					: THE ABOVE THREE LINES MUST BE KEPT TOGETHER
2512					: *****
2513					
2514					
2515	002646	033			MSG8: .BYTE 33 ;RECEIVE BUFFER FILL PATTERN
2516	002647				MSG8:
2517					
2518					: DOWN-LINE-LOAD MESSAGE DEFINITIONS
2519					;;;ENTER MOP MODE MESSAGE FORMAT
2520					;;;THE NODE WILL ENTER MAINTENANCE MODE ONLY IF THE PASSWORD MATCHES.
2521	002647	006			DLLM1: .BYTE 6 ;BINARY CODE FOR MAINTENANCE MODE
2522	002650	000			PASS1: .BYTE 0 ;PASSWORD BYTE #1 LEGAL VALUE 0 - 255
2523	002651	000			PASS2: .BYTE 0 ;VALUE IN BYTE 1 IS DUPLICATED HERE
2524	002652	000			PASS3: .BYTE 0 ;AND HERE
2525	002653	000			PASS4: .BYTE 0 ;AND HERE.
2526	002654				DLLM1E: ;END ENTER MOP MODE MESSAGE FORMAT
2527					;;;MEMORY LOAD WITH TRANSFER ADDRESS MESSAGE FORMAT
2528	002654	000			DLLM2: .BYTE 0 ;CODE

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DEFAULT MESSAGE DEFINITIONS AND TABLES

2529	002655	000		.BYTE	0	;LOAD NUMBER
2530	002656	006		.BYTE	6	;LOAD ADDRESS LSB
2531	002657	000		.BYTE	0	
2532	002660	000		.BYTE	0	
2533	002661	000		.BYTE	0	;LOAD ADDRESS
2534						
2535						
2536						
2537	002662	005037	000006	CLR	@#6	
2538	002666	012706	001000	MOV	#1000,SP	
2539	002672	012701	177560	MOV	#177560,R1	;SET UP TTY
2540	002676	010700		MOV	PC,R0	;MAKE ADDR.PIC
2541	002700	062700	000034	ADD	#<MSG-.>,R0	;ADDRESS MSG.
2542	002704	105761	000004	1\$: TSTB	4(R1)	;TTY READY?
2543	002710	100375		BPL	1\$	;WAIT TIL YES
2544	002712	112061	000006	MOVB	(R0)+,6(R1)	;TYPE A CHAR
2545	002716	001372		BNE	1\$	;KEEP GOING
2546	002720	012737	000026 000024	MOV	#26,@#24	;SET UP POWER FAIL
2547	002726	005037	000026	CLR	@#26	;MAKE SURE T BIT CLAER
2548	002732	000777		BR		;JUMP ON YOURSELF
2549	002734	006412	047502 052117	MSG: .ASCII	<12><15>/BOOT MESSAGE WAS RECEIVED SUCCESSFULLY -END OF TEST!!!/	
2550	002742	046440	051505 040523			
2551	002750	042507	053440 051501			
2552	002756	051040	041505 044505			
2553	002764	042526	020104 052523			
2554	002772	041503	051505 043123			
2555	003000	046125	054514 026440			
2556	003006	047105	020104 043117			
2557	003014	052040	051505 020524			
2558	003022	041				
2559	003023	012	027015 027056	.ASCII	<12><15>/....RELOAD PROGRAM..../	
2560	003030	051056	046105 040517			
2561	003036	020104	051120 043517			
2562	003044	040522	027115 027056			
2563	003052	000056				
2564	003054	006		.BYTE	6	;NEXT FOUR BYTES CONTAINS TRANSFER ADDRESS
2565	003055	000		.BYTE	0	;OF PROGRAM JUST DOWNLINE LOADED.
2566	003056	000		.BYTE	0	;THIS PROGRAM STARTS AT ADDRESS 6.
2567	003057	000		.BYTE	0	
2568	003060			DLLM2E:		;END MEMORY LOAD MESSAGE FORMAT
2569						
2570				.EVEN		
2571						

Z LKCO DMR,DMC-11 DATA COMM. LINK TEST
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DEFAULT MESSAGE DEFINITIONS AND TABLES

:COMMAND LINE BUFFER, DATA LOCATIONS AND MESSAGES FOR ACTION ROUTINES

2572					
2573					
2574	003060	000122	CMDBUF: .BLKB	82.	:BUFFER FOR OPERATOR COMMANDS
2575	003202	000000	KEYWD1: .WORD	0	:THIS LOC WILL =1 IF CLEAR TYPED, 2 FOR SHOW,
2576					: A 4 IF RUN WAS TYPED, 5 IF HELP WAS TYPED
2577	003204	000000	QUALFG: .WORD	0	:THIS LOC HOLDS QUALIFIER VALUE (SIZE OR COPY)
2578	003206	000000	QUALVL: .WORD	0	
2579	003210	013236	HLPTAB: .WORD	HLP1	
2580	003212	013251		HLP2	
2581	003214	013366		HLP3	
2582	003216	013453		HLP3A	
2583	003220	013500		HLP4	
2584	003222	013557		HLP4A	
2585	003224	013635		HLP5	
2586	003226	013725		HLP6	
2587	003230		HLPEND:		
2588			:INDEX TABLE FOR REPORT 'RPT>' HELP MESSAGES	REV B BY EC	
2589	003230	014063	RHLPTB: .WORD	RHLP1	
2590	003232	014106		RHLP2	
2591	003234	014141		RHLP3	
2592	003236	014172		RHLP4	
2593	003240	014224		RHLP5	
2594	003242	014263		RHLP6	
2595	003244	014322		RHLP7	
2596	003246	000000	RHLPEN: .WORD	0	:END OF REPORT HELP TABLE
2597			:INDEX TABLE FOR DMR BASE TABLE DATA DESCRIPTION MESSAGES	REV B BY EC	
2598	003250	020342	DMRIND: .WORD	DMR000	
2599	003252	020402		DMR001	
2600	003254	020432		DMR002	
2601	003256	020467		DMR003	
2602	003260	020532		DMR004	
2603	003262	020566		DMR005	
2604	003264	020620		DMR006	
2605	003266	020663		DMR007	
2606	003270	020717		DMR010	
2607	003272	020751		DMR011	
2608	003274	021003		DMR012	
2609	003276	021035		DMR013	
2610	003300	021065		DMR014	
2611	003302	021114		DMR015	
2612	003304	021146		DMR016	
2613	003306	021176		DMR017	
2614	003310	021226		DMR020	
2615	003312	021255		DMR021	
2616	003314	021307		DMR022	
2617	003316	021333		DMR023	
2618	003320	021365		DMR024	
2619	003322	021410		DMR025	
2620	003324	021463		DMR026	
2621	003326	021513		DMR027	
2622	003330	021544		DMR030	
2623	003332	021627		DMR031	
2624	003334	021664		DMR032	
2625	003336	021721		DMR033	
2626	003340	021756		DMR034	
2627	003342	022042		DMR035	

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DEFAULT MESSAGE DEFINITIONS AND TABLES

2628	003344	022107				.WORD	DMR036	
2629	003346	022154				.WORD	DMR037	
2630	003350	022212				.WORD	DMR040	
2631	003352	022245				.WORD	DMR041	
2632	003354	022303				.WORD	DMR042	
2633	003356	022351				.WORD	DMR043	
2634	003360	022405				.WORD	DMR044	
2635	003362	022441				.WORD	DMR045	
2636	003364	022472				.WORD	DMR046	
2637	003366	022540				.WORD	DMR047	
2638	003370	022602				.WORD	DMR050	
2639	003372	022630				.WORD	DMR051	
2640	003374	022664				.WORD	DMR052	
2641	003376	022711				.WORD	DMR053	
2642	003400	022744				.WORD	DMR054	
2643	003402	022766				.WORD	DMR055	
2644	003404	023041				.WORD	DMR056	
2645	003406	023114				.WORD	DMR057	
2646	003410	023136				.WORD	DMR060	
2647	003412	023170				.WORD	DMR061	
2648	003414	023222				.WORD	DMR062	
2649	003416	023272				.WORD	DMR063	
2650	003420	023342				.WORD	DMR064	
2651	003422	023376				.WORD	DMR065	
2652	003424	023432				.WORD	DMR066	
2653	003426	023475				.WORD	DMR067	
2654	003430	023540				.WORD	DMR177	
2655								
2656								
2657	003432	020322						
2658	003434	020322						
2659	003436	023604						
2660	003440	023625						
2661	003442	023662						
2662	003444	023723						
2663	003446	023756						
2664	003450	024013						
2665	003452	024050						
2666	003454	024103						
2667	003456	024125						
2668	003460	024147						
2669	003462	024206						
2670								
2671	003464	014470	014477	014504		SHTYTB: .WORD	SHTYP0,SHTYP1,SHTYP2,SHTYP3,SHTYP4,SHTYP5,SHTYP6,SHTYP7	
2672	003472	014511	014516	014524				
2673	003500	014531	014537					
2674								
2675								
2676								
2677								
2678	003504	000	377	252		SHTAB: .BYTE	0,377,252,125,203,177,043	
2679	003507	125	203	177				
2680	003512	043						
2681	003513							
2682		003514				SHTEND:		
2683						.EVEN		

DMREND: ;NO DMR MESSAGES MUST FOLLOW DMREND

;INDEX TABLE FOR DMC BASE TABLE DATA DESCRIPTION MESSAGES REV B BY EC

DMCIND: .WORD DMUNKN

.WORD DMUNKN

.WORD DMC002

.WORD DMC003

.WORD DMC004

.WORD DMC005

.WORD DMC006

.WORD DMC007

.WORD DMC010

.WORD DMC011

.WORD DMC012

.WORD DMC013

DMCEND: .WORD DMC377 ;NO DMC MESSAGES MUST FOLLOW DMCEND

; THE LIST OF BYTES BELOW ARE THE FIRST BYTES OF THE PREDEFINED MESSAGES

; USED TO "SHOW" THE TRANSMIT AND COMPARE BUFFER CONTENTS.

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DEFAULT MESSAGE DEFINITIONS AND TABLES

2684	003514	014550	MODES:	.WORD	M00	:ADDRESSES OF MODE TYPES IN ASCII
2685	003516	014560		.WORD	M01	
2686	003520	014571		.WORD	M02	
2687	003522	014601		.WORD	M03	
2688	003524	014610		.WORD	M04	
2689	003526	014625		.WORD	M05	
2690	003530	014632		.WORD	M06	
2691						
2692	003532	014641	LOOPS:	.WORD	LP0	:ADDRESSES OF LOOP TYPES IN ASCII
2693	003534	014651		.WORD	LP1	
2694	003536	014662		.WORD	LP2	
2695	003540	014670		.WORD	LP3	
2696	003542	014703		.WORD	LP4	
2697						
2698			:COMMAND LINE TRAVERSE LOCATIONS (USED BY 'P\$TRV')			
2699						
2700	003544	000000	P\$BUFA:	.WORD	0	.LOC. TO HOLD ADDR. OF CMD LINE BUFFER
2701	003546	000000	P\$TREE:	.WORD	0	.LOC. TO HOLD ADDR. OF PARSING TREE
2702	003550	000000	P\$ACT:	.WORD	0	.LOC. TO HOLD ADDR. OF ACTION ROUTINE
2703	003552	000000	P\$CNT:	.WORD	0	.LOC. TO BE A COUNTER LOCATION
2704	003554	000000	P\$NUM:	.WORD	0	.LOC. TO HOLD NUMERIC VALUE FROM PARSE
2705	003556	000000	P\$RADX:	.WORD	0	.LOC. TO HOLD RADIX USED(LO) AND +/- (HI BYTE)
2706	003560	000	P\$NNUF:	.BYTE	0	.RETURN =0 IF ENOUGH OF COMMAND FOUND
2707	003561	000	P\$GDBD:	.BYTE	0	.RETURN CODE 0 IF NO ERROR FOUND
2708						

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MESSAGE BUFFERS AND POINTER TABLES

			.SBTTL	MESSAGE BUFFERS AND POINTER TABLES	
2709					
2710					
2711	003562	001000	TXBUF: .BLKB	BUFLIM	:TRANSMITTER BUFFERS
2712	004562	001000	RXBUF: .BLKB	BUFLIM	:RECEIVER BUFFERS
2713	005562	001000	CMPBUF: .BLKB	BUFLIM	:COMPARISON BUFFERS
2714	006562	000264	PTRTAB: .BLKW	180.	:TABLE FOR MESSAGE ADDRS. & BYTE COUNTS
2715	007332		PTREND:		:END OF MSG. PTR. TABLE
2716					
2717	007332	000000	RXPTR: .WORD	0	:RECEIVER MESSAGE POINTER
2718	007334	000000	TXPTR: .WORD	0	:TRANSMITTER BUFFER POINTER
2719	007336	000000	CMPPTR: .WORD	0	:COMPARISON BUFFER POINTER
2720	007340	000000	CMPTOT: .WORD	0	:CMP MSG TOTAL
2721	007342	000000	CTOTCC: .WORD	0	:COMPARE BUFFER CHAR. COUNT
2722	007344	000000	CCURAD: .WORD	0	:CURRENT ADDR OF CMP BUFF TO ADD AT
2723					
2724	007346	000000	DVTXA: .WORD	0	:DEVICE TX ADDR
2725	007350	000000	DVTCC: .WORD	0	:DEVICE TX CHAR COUNT
2726	007352	000000	DVTCT: .WORD	0	:DEVICE TX MESSAGE COUNT
2727	007354	000000	TXMTOT: .WORD	0	:TX MSG TOTAL
2728	007356	000000	TTOTCC: .WORD	0	:TX BUFFER CHAR. COUNT
2729	007360	000000	TCURAD: .WORD	0	:CURRENT ADDR. OF TX BUFF TO ADD AT
2730					
2731	007362	000000	DVRXA: .WORD	0	:DEVICE RX ADDR
2732	007364	000000	DVRCC: .WORD	0	:DEVICE RX CHAR COUNT
2733	007366	000000	DVRCT: .WORD	0	:DEVICE RX MESSAGE COUNT
2734	007370	000000	RXMTOT: .WORD	0	:RX MSG TOTAL
2735					
2736	007372	000000	LNCNT: .WORD	0	:NUMBER OF OPERATOR AWAKE MSGS
2737	007374	000000	NOBUF: .WORD	0	:NUMBER OF NO BUFFS
2738	007376	000000	PSCNT: .WORD	0	:PASS COUNTER
2739	007400	000000	ERRCNT: .WORD	0	:ERROR COUNTER
2740	007402	000000	STADD: .WORD	0	:START ADDR.
2741	007404	000000	ENADD: .WORD	0	:END ADDR. FOR DUMP
2742	007406	000000	BYTBIT: .WORD	0	:BYTE BIT FOR DUMP ROUTINE
2743					
2744			:OTHER MESSAGE RELATED	STORAGE LOCATIONS	
2745	007410	000000	MSGTYP: .WORD	0	:TYPE OF DATA 0=0'S,1=1'S,2=10'S,3=01'S :4=CCITT,5=QUICK FOX,6=ALPHA/NUM,7=OPER
2746					
2747	007412	000000	CURCC: .WORD	0	:TX/RX/CMP CHAR COUNT
2748	007414	000000	CPTRR: .WORD	0	:CURRENT RX POINTER
2749	007416	000000	CPTR: .WORD	0	:CURRENT POINTER
2750	007420	000000	CURADD: .WORD	0	:CURRENT TX/RX/CMP START ADDD
2751	007422	000000	TOTCC: .WORD	0	:TOTAL CHAR COUNT NOT MORE THEN 'BUFLIM'
2752	007424	000000	OFFSET: .WORD	0	:OFFSET COUNT
2753	007426	000000	TEMP: .WORD	0	:TEMPORARY LOCATIONS (USED A LOT)
2754	007430	000000	TEMP1: .WORD	0	
2755	007432	000000	TEMP2: .WORD	0	
2756	007434	000000	TEMP3: .WORD	0	
2757	007436	000000	TEMP4: .WORD	0	
2758	007440	000000	TEMP5: .WORD	0	
2759	007442	000000	CONOTM: .WORD	0	:CONTROL OUT ERROR MSG. ADDRESS
2760	007444	000000	CONTIN: .WORD	0	:WORD FOR CONTORL IN
2761	007446	000	GOOD: .BYTE	0	:BYTE TO HOLD EXPECTED MESSAGE DATA BYTE FOR ERR REPORT
2762	007447	000	BAD: .BYTE	0	:BYTE TO HOLD RECEIVED MESSAGE DATA BYTE FOR ERR REPORT
2763	007450	000000	INDEX: .WORD	0	:WILL CONTAIN POINTER TO DMC OR DMR MESSAGES
2764	007452	000000	INDEXE: .WORD	0	:WILL CONTAIN POINTER TO LAST OF DMC OR DMR MESSAGES

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MESSAGE BUFFERS AND POINTER TABLES

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2765 007454 000000      SEND:  .WORD  0      ;LAST LOCATION IN BASE TABLE TO BE PRINTED
2766
2767
2768
2769      ;MORE INDEPENDENT CODE STORAGE LOCATIONS
2770 007455 000000      BDATA:  .WORD  0      ;POINTER TO BASE TABLE
2771 007460 000000      LOGUNT: .WORD  0      ;LOC. TO HOLD LOGICAL UNIT NUMBER
2772 007462 000000      PCADD:  .WORD  0      ;LOC. HOLD PC OF CALLIN ROUTINE
2773 007464 000000      DCLFLG: .WORD  0      ;CLEANUP AND EXIT FLAG. 1=DO CLEANUP ROUTINE&EXIT
2774 007466 000000      RESFLG: .WORD  0      ;LOC TO HOLD FLAG (-1) THAT A RESTART WAS GIVEN
2775 007470 000000      MCDTYP: .WORD  0      ;DCLT MODE OF OPERATION TYPE
2776                                     (0=REC-ONLY, 1=TX-ONLY, 2=PASSIVE-LOOPBK,
2777                                     3=ACTIVE-LOOPBK, 4=DOWN L.L., 5=TALK, 6=LISTEN)
2778 007472 000000      MLTYP:  .WORD  0      ;MAINTENANCE LOOP TYPE (0=NONE, 1=INTERNAL TTL,
2779                                     2=CABLE, 3=MODEM-ANALOG LOOPBK (LOCAL),
2780                                     4=MODEM-DIGITAL LOOPBK (REMOTE), 5=MOP)
2781 007474 000000      FHDPLX: .WORD  0      ;FULL OR HALF DUPLEX FLAG (1=FULL FROM P-TABLE)
2782 007476 000002      PARAM:  .WORD  2      ;PROGRAM PARAMETERS
2783                                     BIT0= STATUS MSGS TO OPR PRINTED (1=YES)
2784                                     BIT1= DATA CHECKING DONE ON RCVD MSGS (1=YES)
2785                                     BIT2= ECHO (TRANSMIT) RCV'D MSG.(PASSIVE)(1=YES)
2786                                     BIT3= SPARE
2787                                     BIT4= CRC CALC./CHECK DONE (1=YES)
2788                                     BIT5= PROTOCCL EMULATION (1=YES)
2789                                     BIT6= SPARE
2790 007500 000000      RPASS:  .WORD  0      ;PASS NUMBER FROM RUN COMMAND
2791 007502 000000      FLAG:   .WORD  0      ;DEVICE FLAG WORD
2792
2793      ;MODE DISPATCH TABLE
2794 007504 040636      MODE:   .WORD  RXONLY ;RX ONLY DISPATCH
2795 007506 040670      .WORD  TXONLY  ;TX ONLY DISPATCH
2796 007510 040730      .WORD  PLCK   ;PASSIVE LOOP BACK DISP
2797 007512 040764      .WORD  ALCK   ;ACTIVE LOOP BACK DISP
2798 007514 042114      .WORD  DLL    ;DOWN LINE LOAD DISP
2799 007516 042734      .WORD  TALCK  ;TALK MODE DISPATCH
2800 007520 043154      .WORD  LISCK  ;LISTEN MODE DISPATCH
2801
2802
2803      ;SBTTL      CLOCK TABLES, EVENT LOG AND POINTERS
2804 007522 000000      CLKCSR: .WORD  0      ;CLOCK CSR ADDRESS
2805 007524 000000      CLKBR:  .WORD  0      ;CLOCK INTERRUPT LEVEL
2806 007526 000000      CLKVEC: .WORD  0      ;CLOCK INTERRUPT VECTOR
2807 007530 000074      CLKHZ:  .WORD  60.    ;CLOCK'S HERTZ RATE
2808 007532 000000      CLKEN:  .WORD  0      ;CLOCK'S CSR VALUE TO INTRPT. ENABLE IT
2809
2810 007534 000000      TIMMIN: .WORD  0      ;PLACE TO KEEP TIME-SINCE-START
2811 007536 000000      TIMSEC: .WORD  0
2812 007540 000000      TIMTCK: .WORD  0      ;PLACE TO KEEP # OF TICKS/SEC
2813
2814 007542 000000      TIMER1: .WORD  0      ;EVENT TIMER #1 (TICKS)
2815 007544 000000      TIMER2: .WORD  0      ;EVENT TIMER #2 (TICKS)
2816 007546 000000      TIMERS: .WORD  0      ;EVENT TIMER #3 (SECONDS)
2817

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CLOCK TABLES, EVENT LOG AND POINTERS

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2818 ;EVENT LOG TABLE AND ITS NEXT ENTRY POINTER
2819 007550 007552 EVTPTR: .WORD EVTLOG ;POINTER TO NEXT FREE SPACE IN EVENT LOG
2820 007552 000341 EVTLOG: .BLKW 225. ;EVENT LOG BUFFER
2821 010454 000001 EVTEND: .BLKW 1. ;APPROXIMATE END OF EVENT TABLE (ALLOWS CIRCULAR QUE)
2822
2823 .SBTTL MODEM DATA SECTION
2824
2825 010456 000000 MODS: .WORD 0 ;MODEM STATUS
2826
2827 ;TABLE OF MODEM SIGNAL BIT DEFINITIONS
2828
2829 010460 000004 MOBITS: .WORD CTS ;CLEAR TO SEND (CIRCUIT CB)
2830 010462 000010 .WORD DSR ;DATA SET READY (CIRCUIT CC)
2831 010464 000001 .WORD DCD ;DATA CARRIER DETECT (CIRCUIT CF)
2832 010466 000040 .WORD RTS ;REQUEST TO SEND (CIRCUIT CA)
2833 010470 000200 .WORD RI ;RING INDICATOR (CIRCUIT CE)
2834 010472 040000 .WORD SQD ;SIGNAL QUALITY DETECT (CIRCUIT CG)
2835 010474 001000 .WORD TM ;MODEM IN TEST MODE (RS 449 ONLY CIRCUIT TM)
2836 010476
2837
2838 ;TABLE OF ADDRESSES OF MODEM SIGNAL MESSAGE POSITIONS
2839
2840 010476 017255 MOMSGS: .WORD EVMCTS ;CLEAR TO SEND (CIRCUIT CB)
2841 010500 017261 .WORD EVMSDR ;DATA SET READY (CIRCUIT CC)
2842 010502 017265 .WORD EVMDCD ;DATA CARRIER DETECT (CIRCUIT CF)
2843 010504 017271 .WORD EVMRTS ;REQUEST TO SEND (CIRCUIT CA)
2844 010506 017275 .WORD EVMRI ;RING INDICATOR (CIRCUIT CE)
2845 010510 017301 .WORD EVMSQD ;SIGNAL QUALITY DETECT (CIRCUIT CG)
2846 010512 017305 .WORD EVMTM ;MODEM IN TEST MODE (RS 449 ONLY CIRCUIT TM)
2847
2848 ;TABLE OF ADDRESSES OF EVENT DESCRIPTION MESSAGES
2849 ; ORDER CORRESPONDS TO MESSAGE TYPE VALUES
2850
2851 010514 015631 EVTLST. .WORD EDTXQ ;TRANSMIT MESSAGE QUEUED
2852 010516 015655 .WORD EDTXC ;TRANSMIT OF MESSAGE COMPLETE
2853 010520 015704 .WORD EDRXQ ;RECEIVE MESSAGE SPACE QUEUED
2854 010522 015731 .WORD EDRXC ;MESSAGE RECEIVED - RECEIVE COMPLETE
2855 010524 015757 .WORD EDDER ;DEVICE INFORMATION
2856 010526 016024 .WORD EDDVI ;DEVICE INITIALIZE STARTED
2857 010530 015774 .WORD EDDCK ;DATA COMPARISON DONE
2858 010532 014641 .WORD LPO ;NULL STRING
2859 010534 016052 .WORD EDDLE ;DATA COMPARE LENGTH ERROR
2860 010536 016107 .WORD EDDDE ;DATA COMPARE DATA ERROR
2861 010540 016142 .WORD EDEOP ;END OF PASS
2862 010542 016213 .WORD EDABO ;^ C ABORT
2863
2864 ;:::FOLLOWING TABLE USED IN DOWNLINE LOAD ROUTINE.
2865 ;:::CONTAINS POINTERS TO ASCII DEVICE DESCRIPTIONS
2866 010544 020217 DLLIND: .WORD DPM
2867 010546 020222 .WORD DUM
2868 010550 020225 .WORD DLM
2869 010552 020230 .WORD DQM
2870 010554 020233 .WORD DAM
2871 010556 020236 .WORD DUPM
2872 010560 020242 .WORD DMCM
2873 010562 020246 .WORD DNM

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MODEM DATA SECTION

.WORD	DLVM
.WORD	DMPM
.WORD	DTM
.WORD	DVM
.WORD	DZM
.WORD	UNKM
.WORD	KDPM
.WORD	KDZM
.WORD	KLM
.WORD	DMVM

```

EVTSEC: .WORD    0      ;TEMPORARY LOCS TO KEEP EVENT TIME WHILE REPORTING
EVTMIN: .WORD    0
EVTTC:  .WORD    0
EVTADD: .WORD    0      ;TEMP. LOC. TO HOLD ADDRESS DURING EVENT REPORTING
EVTBCT: .WORD    0      ;      "      "      BYTE COUNT      "      "      "
EVTTMP: .WORD    0      ;      "      "      OTHER DATA      "      "      "

```

```
RPTDSP: .WORD RPTTXQ ;TRANSMIT QUEUED ENTRY DECODING
        .WORD RPTTXQ ;TRANSMIT COMPLETE ENTRY DECODING
        .WORD RPTTXQ ;RECEIVER QUEUED ENTRY DECODING
        .WORD RPTTXQ ;RECEIVER COMPLETE ENTRY DECODING
        .WORD RPTDER ;DEVICE ERROR ENTRY DECODING
        .WORD RPTDVI ;DEVICE INIT ENTRY DECODING
        .WORD RPTDCK ;DATA COMPARISON ENTRY DECODING
        .WORD RPT     ;PLACE HOLDER
        .WORD RPTDLE ;DATA COMPARISON LENGH ERROR
        .WORD RPTDDE ;DATA COMPARISON DATA ERROR
        .WORD RPTEOP  ;END OF PASS
        .WORD RPTABO  ;^C ABORT!
```

```

DEV1:      .WORD      0           ;TEMP LOCS TO HOLD DATA FOR EVENT REPORTING
DEV2:      .WORD      0           ;  AND SHOW MODE,... SUBROUTINE
DEV3:      .WORD      0
DEV4:      .WORD      0

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COMMAND LINE ACTION TREE

.SBTTL COMMAND LINE ACTION TREE
;SAMPLE CLI TREE NODE (ALWAYS AT LEAST 1 WORD)

ACTION	CHAR CODE	
MISS DISPLACEMENT		ONLY IF 'MISS' ARGUMENT DEFINED
NEXT NODE DISPLMNT		ONLY IF 'ASCII' ARGUMENT DEFINED
ASCIZ MATCH STRING (.EVEN)		ONLY IF 'ASCII' ARGUMENT DEFINED

CLITRE:

;FIRST KEYWORD

N10\$:	CLI	CLISPA,0,N10\$	;SKIP ANY LEADIN SPACES
	CLI	<'?'>,HLP,N42\$	;IS THE FIRST NON-SP CHAR A '?'
	CLI	CLIEXI,0	; IF YES DO 'HLP' AND EXIT
N42\$:	CLI	CLISTR,HLP,N43\$,<'HELP'>	;ELSE, IS FIRST WORD A 'HELP'
	CLI	CLIEXI,0	; IF YES DO 'HLP' AND EXIT
N43\$:	CLI	CLISTR,PRNT,N44\$,<'PRINT'>	;ELSE, IS FIRST WORD A 'PRINT'
	CLI	CLIEXI,0	; IF YES DO 'PRINT' AND EXIT
N44\$:	CLI	CLISTR,EXIT,N45\$,<'EXIT'>	;ELSE, IS FIRST WORD AN 'EXIT';REV B BY E
	CLI	CLIEXI,0	; IF YES DO 'EXIT' AND EXIT
N45\$:	CLI	CLISTR,RUN,N46\$,<'RUN'>	;ELSE, IS FIRST WORD A 'RUN'
	CLI	CLIBR,0,N80\$	; IF YES DO 'RUN' & GOTO N80\$
N46\$:	CLI	CLISTR,NOTNUF,N40\$,<'DUMP'>	;ELSE, IS FIRST WORD A 'DUMP'
	CLI	CLIBR,0,N50\$	; IF YES GOTO N80\$
N40\$:	CLI	CLISTR,CLEAR,N20\$,<'CLEAR'>	;ELSE, IS FIRST WORD A 'CLEAR'
	CLI	CLIBR,NOTNUF,N100\$	; IF YES DO 'CLR' & GOTO N100\$
N20\$:	CLI	<'S'>,NOTNUF,N30\$	;ELSE, IS FIRST CHAR. A 'S'
	CLI	CLISTR,SHOW,N25\$,<'HOW'>	; IF YES IS REST OF WORD 'HOW'
	CLI	CLIBR,0,N100\$	; IF YES, DO 'SHOW',BR N100\$
N25\$:	CLI	CLISTR,0,N30\$,<'ET'>	; ELSE, IS REST OF WORD 'ET'
	CLI	CLIBR,0,N110\$	; IF YES, DO 'SET', BR N110\$
N30\$:	CLI	CLIERR,0	;OTHERWISE 'ILL CMD' - EXIT

;SECOND KEYWORD (MODE=) FOR RUN COMMAND

N80\$:	CLI	CLISPA,0,N30\$	;SKIP LEADING SPS, IF NONE-ERR
N81\$:	CLI	CLISTR,NOTNUF,N30\$,<'MODE'>	;IS NEXT WORD 'MODE='
	CLI	<'='>,0,N30\$	; IF NO, IT'S WRONG -ERR -EXIT
	CLI	CLISTR,ATVMOD,N82\$,<'ACTIVE'>	;IS NEXT WORD 'ACTIVE'
	CLI	CLIBR,0,N115\$	; IF YES, DO 'ACTIVE',BR N115\$
N82\$:	CLI	CLISTR,PASMOD,N83\$,<'PASSIVE'>	;IS NEXT WORD 'PASSIVE'
	CLI	CLIBR,0,N115\$	; IF YES, DO 'PASSVE',BR N115\$
N83\$:	CLI	CLISTR,RECMOD,N84\$,<'RECEIVE'>	;IS NEXT WORD 'RECEIVE'
	CLI	CLIBR,0,N115\$	; IF YES, DO 'RECVE',BR N115\$
N84\$:	CLI	CLISTR,LISMOD,N85\$,<'LISTEN'>	;IS NEXT WORD 'LISTEN'
	CLI	CLIBR,0,N115\$	; IF YES, DO 'LISTEN',BR N115\$
N85\$:	CLI	CLISTR,DLLMOD,N86\$,<'DOWNLINELOAD'>	;IS NEXT WORD 'DOW..'
	CLI	CLIBR,0,N115\$	; IF YES, DO 'DWNLL',BR N115\$
N86\$:	CLI	<'T'>,0,N30\$	;IS NEXT CHAR A 'T'

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
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COMMAND LINE ACTION TREE

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2971 011260      CLI      CLISTR,TRAMOD,N87$,<'RANSMIT'>  ; IS REST OF WORD 'RANSMIT'
2972 011276      CLI      CLIBR,0,N115$                ; IF YES, DO 'TRANSM',BR N115$
2973 011302      N87$:  CLI      CLISTR,TALMOD,N30$,<'ALK'>  ; IS REST OF WORD 'ALK'
2974 011314      CLI      CLIBR,0,N115$                ; IF YES, DO 'TALK',BR N115$
2975                                     ; IF NO, ERROR - EXIT
2976
2977      ;SECOND KEYWORD (FOR CLEAR OR SHOW)
2978 011320      N100$:  CLI      CLISPA,0,N30$                ;SKIP LEADING SPACES, NONE-ERR
2979 011324      N102$:  CLI      CLISTR,CSHEXP,N104$,<'EXPECT'> ;IS NEXT WORD 'EXPE...'
2980 011342      CLI      CLIEXI,0                        ; IF YES, DO CLR-EXP,EXIT
2981 011344      N104$:  CLI      CLISTR,CSHTRN,N30$,<'TRANSMIT'> ;IS NEXT WORD 'TRANS...'
2982 011364      CLI      CLIEXI,0                        ; IF YES, DO CLR-TRN,EXIT
2983                                     ;IF NO - ERROR - EXIT
2984
2985
2986      ;SECOND KEYWORD (FOR SET)
2987 011366      N110$:  CLI      CLISPA,0,N30$
2988 011372      N111$:  CLI      CLISTR,SETEXP,N112$,<'EXPECT'>
2989 011410      CLI      CLIBR,0,N120$
2990 011414      N112$:  CLI      CLISTR,SETTRN,N30$,<'TRANSMIT'>
2991 011434      CLI      CLIBR,0,N120$
2992
2993      ;GET ADDRESSES FOR DUMP COMMAND
2994 011440      N50$:  CLI      CLIALP,0,N51$
2995 011444      N51$:  CLI      CLISPA,0,N52$
2996 011450      N52$:  CLI      CLIOCT,DMPS,N30$
2997 011454      CLI      <'>,NOTNUF,N125$
2998 011460      CLI      CLIOCT,DMPE,N30$
2999 011464      CLI      <'>,NOTNUF,N125$
3000 011470      CLI      <'B>,DMPQ,N30$
3001 011474      CLI      CLIBR,0,N125$
3002
3003      ;QUALIFIERS FOR THE RUN COMMAND
3004 011500      N115$:  CLI      CLIALP,0,N114$
3005 011504      N114$:  CLI      <'>,NOTNUF,N125$
3006 011510      CLI      CLISTR,NO,N116$,<'NO'>
3007 011522      N116$:  CLI      <'C>,0,N117$
3008 011526      CLI      CLISTR,CHECK,N117$,<'HECK'>
3009 011542      CLI      CLIBR,0,N115$
3010
3011
3012      ;N113$:  CLI      CLISTR,CRC,N30$,<'RC16'>
3013      ;      CLI      CLIBR,0,N115$
3014
3015 011546      N117$:  CLI      CLISTR,STATUS,N118$,<'STATUS'>
3016 011554      CLI      CLIBR,0,N115$
3017 011570      N118$:  CLI      CLISTR,ECHO,N130$,<'ECHO'>
3018 011604      CLI      CLIBR,0,N115$
3019
3020
3021 011610      N130$:  CLI      CLISTR,0,N131$,<'PASS'>
3022 011624      CLI      CLIBR,0,N150$
3023 011630      N131$:  CLI      CLISTR,0,N132$,<'LOOP'>
3024 011644      CLI      CLIBR,0,N140$
3025
3026 011650      N132$:  CLI      CLISTR,MOSC,N30$,<'MODEM'>      ;MODEM ACTION

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COMMAND LINE ACTION TREE

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3027 011664          CLI      CLIBR,0,N115$          ;;ADDED BY EC
3028
3029          ;GET MESSAGE TYPE FOR SET MESSAGE COMMANDS
3030 011670 N120$: CLI      <'=>,0,N30$
3031
3032          ; LOOK FOR DEFAULT MESSAGE NAME
3033 011674 N60$:  CLI      CLISTR,MSG1,N61$,<'ONES'>
3034 011710          CLI      CLIBR,0,N121$
3035 011714 N61$:  CLI      CLISTR,MSG0,N62$,<'ZEROES'>
3036 011732          CLI      CLIBR,0,N121$
3037 011736 N62$:  CLI      CLISTR,MSG2,N63$,<'1ALT'>
3038 011752          CLI      CLIBR,0,N121$
3039 011756 N63$:  CLI      CLISTR,MSG3,N64$,<'0ALT'>
3040 011772          CLI      CLIBR,0,N121$
3041 011776 N64$:  CLI      CLISTR,MSG5,N65$,<'ITEP'>
3042 012012          CLI      CLIBR,0,N121$
3043 012016 N65$:  CLI      CLISTR,MSG4,N66$,<'CCITT'>
3044 012032          CLI      CLIBR,0,N121$
3045 012036 N66$:  CLI      CLISTR,MSG6,N67$,<'ALPHA'>
3046 012052          CLI      CLIBR,0,N121$
3047 012056 N67$:  CLI      CLISTR,SETET,N68$,<'TRANSMIT'> ;REV B BY EC
3048 012076          CLI      CLIBR,0,N125$          ;REV B BY EC
3049
3050          ; LOOK FOR QUOTED MESSAGE
3051 012102 N68$:  CLI      <'>,OPRMSG,N30$
3052 012106 N70$:  CLI      <'>,ENDQ0,N71$
3053 012112          CLI      CLIBR,0,N121$
3054 012116 N71$:  CLI      CLISPA,0,N72$
3055 012122 N72$:  CLI      CLIALN,0,N73$          ;ONLY A-Z,SP,TAB, OR 0-9 BETWEEN ''S
3056 012126          CLI      CLIBR,0,N70$
3057 012132 N73$:  CLI      CLIERR,BADCHR          ;PRINT ERROR IF NONE LEGAL CHAR FOR ''S
3058
3059          ;GET QUALIFIERS (SIZE OR COPY) FOR SET MESSAGE COMMANDS
3060 012134 N121$: CLI      CLIALP,0,N123$
3061 012140 N123$: CLI      <'>,NOTNUF,N125$
3062 012144          CLI      CLISTR,SIZE,N122$,<'SIZE'>
3063 012160          CLI      CLIBR,0,N126$
3064 012164 N122$: CLI      CLISTR,QCOPY,N30$,<'COPY'>
3065 012200          CLI      CLIBR,0,N126$
3066
3067          ;NUMBER FOR SIZE OR COPY
3068 012204 N126$: CLI      <'=>,0,N30$
3069 012210          CLI      CLIDEC,NUM,N30$
3070 012214          CLI      CLIBR,0,N121$
3071
3072          ;GET MAINTENANCE LOOP TYPE FOR RUN 'LOOP' QUALIFIER
3073 012220 N140$: CLI      <'=>,0,N30$
3074
3075
3076 012224 N141$: CLI      CLISTR,TTLLOP,N142$,<'INTERNAL TTL >
3077 012246          CLI      CLIBR,0,N115$
3078 012252 N142$: CLI      CLISTR,CBLLUP,N143$,<'CABLE'>
3079 012266          CLI      CLIBR,0,N115$
3080 012272 N143$: CLI      CLISTR,LMDLOP,N144$,<'LOCALMODEM'>
3081 012314          CLI      CLIBR,0,N115$
3082 012320 N144$: CLI      CLISTR,RMDLOP,N30$,<'REMOTEMODEM'>

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COMMAND LINE ACTION TREE

3083 012342

CLI CLIBR,0,N115\$

3084

3085

;GET LINE NUMBER FOR 'PASS' RUN QUALIFIER

3086 012346

N150\$: CLI <'=>,0,N30\$

3087 012352

CLI CLIDEC,PASC,N30\$

3088 012356

CLI CLIBP,0,N115\$

3089

3090

3091

;END-OF-LINE

3092

3093 012362

N125\$: CLI CLIEXI,0

3094

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COMMAND LINE ACTION TREE

3095
3096
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3112
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3119
3120
3121
3122
3123

;DEVICE DEPENDENT STORAGE LOCATIONS FOR
; CURRENT DEVICE PARAMETERS

SEL0:				
BSEL0:	.WORD	0		;ADDRESSES OF REGISTERS SEL0 THRU BSEL7
BSEL1:	.WORD	0		
SEL2:				
BSEL2:	.WORD	0		
BSEL3:	.WORD	0		
SEL4:				
BSEL4:	.WORD	0		
BSEL5:	.WORD	0		
SEL6:				
BSEL6:	.WORD	0		
BSEL7:	.WORD	0		

INVEC:	.WORD	0		;INPUT INTERRUPT VECTOR ADDRESS
OUTVEC:	.WORD	0		;OUTPUT INTERRUPT VECTOR ADDRESS
INTPRI:	.WORD	0		;INTERRUPT PRICRITY
OPTYP:	.WORD	0		;DEVICE OPTION TYPE(0=DMC,5=DMR-DMC MODE
				;7=DMR).

; ERRIBL

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GLOBAL TEXT SECTION

.SBTTL GLOBAL TEXT SECTION

;++
; THE GLOBAL TEXT SECTION CONTAINS FORMAT STATEMENTS,
; MESSAGES, AND ASCII INFORMATION THAT ARE USED IN
; MORE THAN ONE TEST.
;--

.SBTTL DEVICE SUPPORTED

; NAMES OF DEVICES SUPPORTED BY PROGRAM

; DEVTYP <DMR,DMC-11>

LSDVTYP::

.ASCIIZ /DMR,DMC-11/

.EVEN

.SBTTL PROGRAM IDENTIFICATION

; TEST DESCRIPTION

; DESCRIPT <CZCLKCO DMR, DMC-11 DATA COMM. LINK TEST>

L\$DESC::

.ASCIIZ /CZCLKCO DMR, DM

.EVEN

.EVEN

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
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GLOBAL FORMAT STATEMENTS, MESSAGES, AND ASCII INFO

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3162
3163
012502 041504 052114 000076 CLISPM: .ASCIIZ /DCLT>/
012510 050122 037124 000040 CLISRP: .ASCIIZ /RPT> / ;REV B BY EC
012516 047045 040445 044477 CLIERM: .ASCIIZ /%NZA?ILL CMD-BAD SYNTAX?/
012546 047045 040445 044477 CLINUF: .ASCIIZ /%NZA?INCMPLTE CMD?/
012571 045 022516 037501 CLINBG: .ASCIIZ /%NZA?NUM TOO BIG?/
012613 045 022516 037501 CLIBRX: .ASCIIZ /%NZA?BAD RADIX?/
012633 045 022516 037501 CLIBDL: .ASCIIZ /%NZA?'LOOP' VALID ONLY IN ACTIVE?/
012675 045 022516 037501 CLINPS: .ASCIIZ /%NZA?'ECHO' VALID ONLY IN PASSIVE?/
012740 047045 040445 044477 CLIBCR: .ASCIIZ /%NZA?ILL CHR- 'A-Z,0-9,SP,TAB' ONLY?/
013005 045 022516 037501 CLISE0: .ASCIIZ /%NZA?'SIZE=0' NOT VALID?/
013036 047045 040445 052077 CLIPW: .ASCIIZ /%NZA?TRANSMIT & EXPECT LIST MUST BE IDENTICAL FOR LOOP?/ ;REV B BY EC
013126 040523 052124 046105 DLLQ1: .ASCIIZ /SATELLITE PASSWORD= / ;REV B BY EC
013153 045 022516 052101 HLP0: .ASCIIZ /%NZA?THIS IS DCLT. TYPE 'H' OR '?' FOR DETAILS/
013231 045 022516 000124 HLPF: .ASCIIZ /%NXT/
013236 041504 052114 041440 HLP1: .ASCIIZ /DCLT CMDS:/
013251 040 046103 040505 HLP2: .ASCIIZ / CLEAR OR SHOW EXPECTLIST OR TRANSMITLIST/<15><12>
013325 040 051120 047111 .ASCIIZ / PRINT/<15><12>
013335 040 054105 052111 .ASCIIZ / EXIT/<15><12> ;REV B BY EC
013344 042040 046525 020120 .ASCIIZ ? DUMP START-END/B?
013366 051440 052105 042440 HLP3: .ASCIIZ ? SET EXPECTMSG OR TRANSMITMSG=TYPE/SIZE=N OR /COPY=N?
013453 040 042523 020124 HLP3A: .ASCIIZ / SET EXPECT=TRANSMIT/ ;REV B BY EC
013500 020040 052040 050131 HLP4: .ASCIIZ ? TYPE=ONES,ZEROES,1ALT,0ALT,ITEP,CCITT,ALPHA?
013557 040 020040 020040 HLP4A: .ASCIIZ / OR 'OPR SPCD=A-Z,SP,TAB,0-9 IN QUOTES'/
013635 040 052522 020116 HLP5: .ASCIIZ ? RUN MODE=MTYP/LOOP=LTYP/CHECK,STATUS,ECHO,MODEM,PASS=N?
013725 040 020040 052115 HLP6: .ASCIIZ / MTYP=TRAN,REC,ACT,PAS,TAL,LIS,DOWN/<15><12>
013774 020040 046040 054524 .ASCIIZ / LTYP=INT,CAB,LOC,REM/
014024 047045 040445 054524 RHLP0: .ASCIIZ /%NZA?TYPE 'H' OR '?' FOR HELP !/ ;REV B BY EC
014063 104 046103 020124 RHLP1: .ASCIIZ /DCLT REPORT CMDS :/ ;REV B BY EC
014106 047514 020107 020055 RHLP2: .ASCIIZ /LOG - PRINT DCLT EVENT LOG/ ;REV B BY EC
014141 105 044530 020124 RHLP3: .ASCIIZ /EXIT - EXIT REPORT LEVEL/ ;REV B BY EC
014172 042510 050114 026440 RHLP4: .ASCIIZ /HELP - PRINT THIS MESSAGE/ ;REV B BY EC
014224 040502 042523 042457 RHLP5: .ASCIIZ !BASE/ERROR - PRINT ONLY ERRORS! ;REV B BY EC
014263 102 051501 027505 RHLP6: .ASCIIZ !BASE/FULL - PRINT ENTIRE TABLE! ;REV B BY EC
014322 040502 042523 047457 RHLP7: .ASCIIZ !BASE/OFFSET=NNN - PRINT SINGLE LOCATION!<15><12> ;REV B BY EC
014374 047045 040445 040502 RPTIV: .ASCIIZ /%NZA?BASE OFFSET=%03XA TOO BIG ./ ;REV B BY EC
014434 047045 040445 051515 SHMSG: .ASCIIZ ?%NZA?MSG: TYPE=%TXA/SIZE=%D3?
014470 042532 047522 051505 SHTYP0: .ASCIIZ /ZEROES/
014477 117 042516 000123 SHTYP1: .ASCIIZ /ONES/
014504 040461 052114 000 SHTYP2: .ASCIIZ /1ALT/
014511 060 046101 000124 SHTYP3: .ASCIIZ /0ALT/
014516 041503 052111 000124 SHTYP4: .ASCIIZ /CCITT/
014524 052111 050105 000 SHTYP5: .ASCIIZ /ITEP/
014531 101 050114 040510 SHTYP6: .ASCIIZ /ALPHA/
014537 117 051120 051440 SHTYP7: .ASCIIZ /OPR SPEC/
014550 042522 042503 053111 M00: .ASCIIZ /RECEIVE/
014560 051124 047101 046523 M01: .ASCIIZ /TRANSMIT/
014571 120 051501 044523 M02: .ASCIIZ /PASSIVE/
014601 101 052103 053111 M03: .ASCIIZ /ACTIVE/
014610 047504 047127 044514 M04: .ASCIIZ /DOWNLINELOAD/
014625 124 046101 000113 M05: .ASCIIZ /TALK/
014632 044514 052123 047105 M06: .ASCIIZ /LISTEN/
014641 000 LP0: .ASCIIZ //
014642 046057 047517 036520 LP00: .ASCIIZ ?/LOOP=?
014651 111 052116 051105 LP1: .ASCIIZ ?INTERNAL?

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GLOBAL FORMAT STATEMENTS, MESSAGES, AND ASCII INFO

014662	040503	046102	000105	LP2:	.ASCIIZ	?CABLE?	
014670	047514	040503	046514	LP3:	.ASCIIZ	?LOCALMODEM?	
014703	122	046505	052117	LP4:	.ASCIIZ	?REMODEM?	
014717	116	117		PNST:	.ASCII	/NO/	
014721	123	040524	052524	PST:	.ASCIIZ	/STATUS/	
014730	047516			PNCK:	.ASCII	/NO/	
014732	044103	041505	000113	PCK:	.ASCIIZ	/CHECK/	
014740	047516			PNEC:	.ASCII	/NO/	
014742	041505	047510	000	PEC:	.ASCIIZ	/ECHO/	
014747	116	117		PNMS:	.ASCII	/NO/	:ADDED BY EC
014751	115	042117	046505	PMS:	.ASCIIZ	/MODEM/	:ADDED BY EC
014757	045	022516	046101	LISP:	.ASCIIZ	/XN%ALIS>/	
014770	046124	037113	000	OPRMM:	.ASCIIZ	/TLK>/	
014775	124	044510	020123	L5060:	.ASCIIZ	/THIS A 50. OR 50. HZ. LSI-11:/	
	015034				.EVEN		

:
: FORMAT STATEMENTS USED IN PRINT CALLS
:

015034	047045	040445	047504	DLLCM:	.ASCIIZ	/XN%ADOWN LINE LOAD COMPLETED SUCCESSFULLY/
015106	047045	040445	040502	NOCLK:	.ASCIIZ	/XN%ABAD CLOCK - PROGRAM WILL HANG ON 'TIMEOUT'!./
015167	115	054101	020056	TABEX:	.ASCIIZ	/MAX. CHAR. MSG COUNT EXCEEDED -/
015227	102	043125	042506	BUFEX:	.ASCIIZ	/BUFFER FULL -/
015245	045	022516	022524	MSGTRN:	.ASCIIZ	/XN%TXA MSG. NOT BUILT !./
015276	047045	040445	044103	MSGTRU:	.ASCIIZ	/XN%ACHAR. COUNT EXCEEDS BUFF LIMIT - MSG TRUNCATED/
015361	045	022516	032523	SHF0:	.ASCIIZ	?XN%S5%AMODE=XTXTXA/PASS=XZ5?
015417	045	022516	032523	SHF1:	.ASCIIZ	?XN%S5%S5%S5XA/XTXA/XTXA/XTXA/XT?
015457	045	032523	040445	EFM2:	.ASCIIZ	/XS5%ATOTAL MISMATCHES IN MSG = %D5/
015522	047045	051445	022463	PCPM:	.ASCIIZ	/XN%S3%ACALLED FROM PC=X06/
015554	051445	022465	041501	EFM11:	.ASCIIZ	/XS5%ACOMPARE COUNT=%D5%S3%ARECEIVE COUNT=%D5/

:EVENT DESCRIPTION MESSAGES

015631	124	040522	051516	EDTXQ:	.ASCIIZ	/TRANSMIT MSG QUEUED/	
015655	124	040522	051516	EDTXC:	.ASCIIZ	/TRANSMIT MSG COMPLETED/	
015704	042522	042503	053111	EDRXQ:	.ASCIIZ	/RECEIVE SPACE QUEUED/	
015731	122	041505	044505	EDRXC:	.ASCIIZ	/RECEIVE MSG COMPLETED/	
015757	104	053105	041511	EDDER:	.ASCIIZ	/DEVICE ERROR/	
015774	040504	040524	041440	EDDCK:	.ASCIIZ	/DATA COMPARISON STARTED/	
016024	042504	044526	042503	EDDVI:	.ASCIIZ	/DEVICE INIT AND SETUP/	
016052	040504	040524	041440	EDDLE:	.ASCIIZ	/DATA COMPARISON LENGTH ERROR/	
016107	104	052101	020101	EDDDE:	.ASCIIZ	/DATA COMPARISON DATA ERROR/	
016142	047105	020104	043117	EDEOP:	.ASCIIZ	/END OF PASS/	
016156	041101	047516	046522	EDMOS:	.ASCIIZ	/ABNORMAL MODEM STATUS CHANGE/	:ADDED BY EC
016213	136	020103	041101	EDABO:	.ASCIIZ	/^C ABORT/	

:*****
:THESE TWO STORAGE AREAS MUST NOT BE SEPERATED !!!!

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BASE TABLE ADDRESS

.SBTTL BASE TABLE ADDRESS
;THIS SECTION IS USED BY A M9301-YJ BOOT ROM FOR DOING DOWN-LINE-LOAD.
;MUST BE IN THE AREA OF '017370 + 256. BYTES' + A FEW

..... BEWARE !!!! DO NOT ALLOW THE ABOVE ASCII MESSAGES TO EXPAND INTO
..... THIS REGION.
.EVEN

017370 017370
000400
020000

BASE: .=17370
.BLKB 256. ;BASE TABLE ADDRESS
.=20000

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
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ASCIZ MESSAGES CONTINUED AFTER BASE TABLE REGION

.SBTTL ASCIZ MESSAGES CONTINUED AFTER BASE TABLE REGION

```

020000 047045 000          ;EXECUTION STATUS MESSAGES TO BE PRINTED TO KEEP OPERATOR AWAKE
020003 045 031523 040445 CR: .ASCIZ /%N/ ;CR FOR LINES IN A ROW
020014 051445 022463 052101 STXQ: .ASCIZ /%S3%ATXQ/ ;ABOUT TO TRANSMIT
020025 045 031523 040445 STXC: .ASCIZ /%S3%ATXC/ ;TX COMPLETED
020036 051445 022463 042501 SRXQ: .ASCIZ /%S3%ARXQ/ ;ABOUT TO RECEIVE
020047 045 031523 040445 SDVE: .ASCIZ /%S3%AERR/ ;DEVICE ERROR
020060 051445 022463 044501 SCM: .ASCIZ /%S3%ACMP/ ;ABOUT TO DO DATA CHECKING OF RECVD VS. EXPTD
020071 045 031523 040445 SDVI: .ASCIZ /%S3%AINI/ ;DEVICE ABOUT TO BE INITIALIZED
020102 051445 022463 041501 S'ML: .ASCIZ /%S3%ACML/ ;COMPARE LENGTH ERROR
020113 045 031523 040445 SCMD: .ASCIZ /%S3%ACMD/ ;COMPARE DATA ERROR
020124 051445 022463 046501 SEOP: .ASCIZ /%S3%AEO/ ;END OF PASS
SMSC: .ASCIZ /%S3%AMSC/ ;MODEM STATUS CHANGE ADDED BY EC

```

```

020135 045 022516 051501 ;REV B BY EC
020217 104 000120 ;NEXT ASCIZ LINES ARE USED IN SATELLITE ID MESSAGES
020222 052504 000 SECRM: .ASCIZ /%N%ASECONDARY BOOT REQ FROM %T%A DEVICE-TYPE= %D3/
020225 104 000114 DPM: .ASCIZ /DP/
020230 050504 000 DUM: .ASCIZ /DU/
020233 104 000101 DLM: .ASCIZ /DL/
020236 052504 000120 DQM: .ASCIZ /DQ/
020242 046504 000103 DAM: .ASCIZ /DA/
020246 047104 000 DUPM: .ASCIZ /DUP/
020251 104 053114 000 DMCM: .ASCIZ /DMC/
020255 104 050115 000 DNM: .ASCIZ /DN/
020261 104 042524 000 DLVM: .ASCIZ /DLV/
020265 104 000126 000 DMPM: .ASCIZ /DMP/
020270 055104 000 DTEM: .ASCIZ /DTE/
020273 125 045516 047516 DVM: .ASCIZ /DV/
020303 113 050104 000 DZM: .ASCIZ /DZ/
020307 113 055104 000 UNKM: .ASCIZ /UNKNOWN/
020313 113 000114 000 KDPM: .ASCIZ /KDP/
020316 046504 000126 000 KDZM: .ASCIZ /KDZ/
KLM: .ASCIZ /KL/
DMVM: .ASCIZ /DMV/
.EVEN

```

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ASCIZ MESSAGES CONTINUED AFTER BASE TABLE REGION

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:REV 8 BY EC
.SBTTL DMR BASE TABLE DESCRIPTION MESSAGES
020322 047125 042504 044506 DMUNKN: .ASCIZ /UNDEFINED DATA / ;LOCATION UNDEFINED BY SPEC
020342 040502 042523 052040 DMR000: .ASCIZ /BASE TABLE UPDATE INDEX POINTER/
020402 040502 042523 052040 DMR001: .ASCIZ /BASE TABLE UPDATE LIMIT/
020432 042502 044507 047116 DMR002: .ASCIZ /BEGINNING OF BASE TABLE DATA/
020467 116 045501 020123 DMR003: .ASCIZ /NAKS RCVD..BUFFER TEMP UNAVAILABLE/
020532 040516 051513 051040 DMR004: .ASCIZ /NAKS RCVD..HEADER BCC ERROR/
020566 040516 051513 051040 DMR005: .ASCIZ /NAKS RCVD..DATA BCC ERROR/
020620 040516 051513 051440 DMR006: .ASCIZ /NAKS SENT..BUFFER TEMP UNAVAILABLE/
020663 116 045501 020123 DMR007: .ASCIZ /NAKS SENT..HEADER BCC ERROR/
020717 116 045501 020123 DMR010: .ASCIZ /NAKS SENT..DATA BCC ERROR/
020751 122 050105 020123 DMR011: .ASCIZ /REPS SENT..CUMUL REP SENT/
021003 122 050105 020123 DMR012: .ASCIZ /REPS RCVD..CUMUL REP RCVD/
021035 116 045501 020123 DMR013: .ASCIZ /NAKS RCVD..REP RESPONSE/
021065 116 045501 020123 DMR014: .ASCIZ /NAKS RCVD..RCV OVERRUN/
021114 040516 051513 051040 DMR015: .ASCIZ /NAKS RCVD..MSG HDR FORMAT/
021146 040516 051513 051040 DMR016: .ASCIZ /NAKS RCVD..MSG TOO LONG/
021176 040516 051513 051440 DMR017: .ASCIZ /NAKS SENT..REP RESPONSE/
021226 040516 051513 051440 DMR020: .ASCIZ /NAKS SENT..RCV OVERRUN/
021255 116 045501 020123 DMR021: .ASCIZ /NAKS SENT..MSG HDR FORMAT/
021307 130 044515 020124 DMR022: .ASCIZ /XMIT UNDERRUN COUNT/
021333 103 046101 020114 DMR023: .ASCIZ /CALL SET UP FAILURE COUNT/
021365 101 052103 020123 DMR024: .ASCIZ /ACTS FAILURE COUNT/
021410 040503 051122 042511 DMR025: .ASCIZ /CARRIER DETECT LOST COUNT(WHILE RECEIVING)/
021463 122 041505 044505 DMR026: .ASCIZ /RECEIVER INACTIVE COUNT/
021513 123 051124 040505 DMR027: .ASCIZ /STREAMING TIME-OUT COUNT/
021544 046530 054502 024124 DMR030: .ASCIZ /XMBYT(LSB) - TOTAL # BYTES XMITTED, 32 BIT COUNTER/
021627 130 041115 052131 DMR031: .ASCIZ ?XMBYT(2/4) - # BYTES XMITTED?
021664 046530 054502 024124 DMR032: .ASCIZ ?XMBYT(3/4) - # BYTES XMITTED?
021721 130 041115 052131 DMR033: .ASCIZ ?XMBYT(MSB) - # BYTES XMITTED?
021756 041522 054502 024124 DMR034: .ASCIZ /RCBYT(LSB) - TOTAL # BYTES RECEIVED, 32 BIT COUNTER/
022042 041522 054502 024124 DMR035: .ASCIZ ?RCBYT(2/4) - # BYTES RECEIVED (CONT)?
022107 122 041103 052131 DMR036: .ASCIZ ?RCBYT(3/4) - # BYTES RECEIVED (CONT)?
022154 041522 054502 024124 DMR037: .ASCIZ /RCBYT(MSB) - # BYTES RECEIVED/
022212 047111 047503 050115 DMR040: .ASCIZ /INCOMPLETE SELECTION COUNT/
022245 116 020117 042522 DMR041: .ASCIZ /NO REPLY TO SELECTION COUNTER/
022303 110 043511 042510 DMR042: .ASCIZ /HIGHEST MESSAGE SUCCESSFULLY RECEIVED/
022351 110 043511 042510 DMR043: .ASCIZ /HIGHEST MESSAGE TRANSMITTED/
022405 110 043511 042510 DMR044: .ASCIZ /HIGHEST MESSAGE ACKNOWLEDGED/
022441 116 054105 020124 DMR045: .ASCIZ /NEXT MESSAGE TO TRANSMIT/
022472 040514 052123 046440 DMR046: .ASCIZ /LAST MESSAGE TO COMPLETE TRANSMISSION/
022540 052503 051122 047105 DMR047: .ASCIZ /CURRENT MESSAGE BEING TRANSMITTED/
022602 051124 047101 046523 DMR050: .ASCIZ /TRANSMIT END OF QUEUE/
022630 051124 047101 046523 DMR051: .ASCIZ /TRANSMIT BEGINNING OF QUEUE/
022664 042522 042503 053111 DMR052: .ASCIZ /RECEIVE END OF QUEUE/
022711 122 041505 044505 DMR053: .ASCIZ /RECEIVE BEGINNING OF QUEUE/
022744 040514 042524 052123 DMR054: .ASCIZ /LATEST NAK REASON/
022766 051120 043517 040522 DMR055: .ASCIZ ?PROGRAMMABLE REP/SELECT-TIMER PRESET VALUE?
023041 111 052123 052122 DMR056: .ASCIZ ?ISTR/ASTR/REP/SELECT-TIMER COMPARE LEVEL?
023114 041501 044524 042526 DMR057: .ASCIZ /ACTIVE TIME COUNT/
023136 044124 042522 044123 DMR060: .ASCIZ /THRESHOLD LEVEL NAKS RCVD/
023170 044124 042522 044123 DMR061: .ASCIZ /THRESHOLD COUNT NAKS RCVD/
023222 044124 042522 044123 DMR062: .ASCIZ /THRESHOLD LEVEL NAKS SEND EXCEPT NO BUF/
023272 044124 042522 044123 DMR063: .ASCIZ /THRESHOLD COUNT NAKS SEND EXCEPT NO BUF/
023342 044124 042522 044123 DMR064: .ASCIZ /THRESHOLD LEVEL - REPS SENT/

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DMR BASE TABLE DESCRIPTION MESSAGES

023376	044124	042522	044123	DMR065:	.ASCIZ	/THRESHOLD COUNT - REPS SENT/
023432	044124	042522	044127	DMR066:	.ASCIZ	/THRESHOLD LEVEL - NO BUF AVAILABLE/
023475	124	051110	051505	DMR067:	.ASCIZ	/THRESHOLD COUNT - NO BUF AVAILABLE/
023540	042523	020105	046504	DMR177:	.ASCIZ	/SEE DMR TECH MANUAL FOR DESCRIPTION/

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DMR BASE TABLE DESCRIPTION MESSAGES

				;RE/ B BY EC	
				.SBTTL DMC BASE TABLE DATA DESCRIPTION MESSAGES	
023604	047101	020120	020055	DMC002:	.ASCIZ /ANP - CONSTANT 0/
023625	116	046124	020122	DMC003:	.ASCIZ /NTR - NAKS RCVD..NO BUFFERS/
023662	044116	051104	026440	DMC004:	.ASCIZ /NHDR - NAKS RCVD..MSG HEADER BAD/
023723	104	052101	020122	DMC005:	.ASCIZ /DATA - NAKS RCVD..DATA BAD/
023756	052116	051514	026440	DMC006:	.ASCIZ /NTLS - NAKS SENT..NO BUFFERS/
024013	116	042110	020123	DMC007:	.ASCIZ /NHDS - NAKS SENT..BAD HEADER/
024050	040504	051524	026440	DMC010:	.ASCIZ /DATS - NAKS SENT..BAD DATA/
024103	122	050105	051503	DMC011:	.ASCIZ /REPCS - REPS SENT/
024125	122	050105	051103	DMC012:	.ASCIZ /REPCR - REPS RECD/
024147	102	051501	020105	DMC013:	.ASCIZ /BASE - CORE TABLE BASE ADDRESS/
024206	042523	020105	046504	DMC377:	.ASCIZ /SEE DMC TECH MANUAL FOR DESCRIPTION/

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DMC BASE TABLE DATA DESCRIPTION MESSAGES

;DEVICE ERROR MESSAGES

024252	044524	042515	047440	DVEM0:	.ASCII	/TIME OUT WAITING FOR RDI TO CLEAR/
024313	015	020012	020040		.ASCII2	<15><12>/ SEL0 SEL2 /
024340	044524	042515	047440	DVEM1:	.ASCII	/TIME OUT WAITING FOR RDI TO SET/
024377	015	020012	020040		.ASCII2	<15><12>/ SEL0 SEL2 /
024424	044524	042515	047440	DVEM3:	.ASCII	/TIME OUT WAITING FOR RUN TO SET/
024463	015	020012	020040		.ASCII2	<15><12>/ SEL0 SEL2 /
024510	044524	042515	047440	DVEM4:	.ASCII	/TIME OUT WAITING FOR OUTPUT INTERRUPT/
024555	015	020012	020040		.ASCII2	<15><12>/ SEL0 SEL2 /
024602	047111	052520	020124	DVEM5:	.ASCII	/INPUT INTERRUPT WHEN EXPECTING OUTPUT/
024647	015	020012	020040		.ASCII2	<15><12>/ SEL0 SEL2 /
024674	046111	042514	040507	DVEM6:	.ASCII	/ILLEGAL OUTPUT INTERRUPT/
024724	005015	020040	051440		.ASCII2	<15><12>/ SEL2 SEL6 /
024751	103	047117	051124	DVEM7:	.ASCII	/CONTROL OUT INSTEAD OF BA-CC OUT/
025011	015	020012	020040		.ASCII2	<15><12>/ SEL2 SEL6 /
025036	054124	041040	043125	DVEM8:	.ASCII	/TX BUFF COMPLETED AND SHOULD BE RX/
025100	005015	020040	051440		.ASCII2	<15><12>/ SEL4 SEL6 /
025125	122	020130	052502	DVEM9:	.ASCII	/RX BUFF COMPLETED AND SHOULD BE TX/
025167	015	020012	020040		.ASCII2	<15><12>/ SEL4 SEL6 /
025214	042040	053517	020116	DLLAB:	.ASCII	/DOWN LINE LOAD ABORTED/
025243	015	020012	020040		.ASCII2	<15><12>/ RXBUF TXBUF /
025270	051120	041517	042105	PROEM:	.ASCII2	/PROCEDURE ERROR/
025310	047516	020116	054105	NXMM:	.ASCII2	/NON EXIST MEM/
025326	042104	046503	020120	DDCSRM:	.ASCII2	/DDCMP START REC/
025346	044504	041523	047117	DISCOM:	.ASCII2	/DISCONNECT/
025361	114	051517	020124	LOSDAM:	.ASCII2	/LOST DATA/
025373	104	041504	050115	DDCMRM:	.ASCII2	/DDCMP MAINT REC/
025413	124	046511	020105	TIMOM:	.ASCII2	/TIME OUT/
025424	040504	040524	041440	DATCKM:	.ASCII2	/DATA CHECK/
025437	122	047125	051440	RUNSBM:	.ASCII2	/RUN SET ILLEGALLY/
025461	122	020130	042111	RXIDM:	.ASCII2	/RX IDLE/
025471	103	020104	046107	CDGLM:	.ASCII2	/CD GLITCHED/
025505	103	051524	043040	CTSFM:	.ASCII2	/CTS FAILED/
025521	124	020130	047516	TXNC:	.ASCII2	/TX NOT COMPLETE/
025541	122	020130	047516	RXNC:	.ASCII2	/RX NOT COMPLETE/
025561	123	041505	051040	RXM1:	.ASCII2	/SEC REQ ERR WORD 1/
025604	042523	020103	042522	RXM2:	.ASCII2	/SEC REQ ERR WORD 2/
025630					.EVEN	

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GLOBAL ERROR REPORT SECTION

.SBTTL GLOBAL ERROR REPORT SECTION

;++
: THE GLOBAL ERROR REPORT SECTION CONTAINS MESSAGE PRINTING AREAS
: USED BY MORE THAN TEST TO OUTPUT ADDITIONAL ERROR INFORMATION. PRINTB
: (BASIS AND PRINTX (EXTENDED) CALLS ARE USED TO CALL PRINT SERVICES.
:--

.LIST BEX

3164						
3165	025630			BGNMSG	ERR1	
3166	025630					ERR1::
3167	025630			PRINTB	#EVTF5A,OFFSET,<B,GOOD>,<B,BAD>	;INDIVIDUAL DATA COMPARE ERROR
3168	025630	005046				CLR -(SP)
3169	025632	153716	007447			BISB BAD,(SP)
3170	025636	005046				CLR -(SP)
3171	025640	153716	007446			BISB GOOD,(SP)
3172	025644	013746	007424			MOV OFFSET, -(SP)
3173	025650	012746	017051			MOV #EVTF5A, -(SP)
3174	025654	012746	00C004			MOV #4, -(SP)
3175	025660	010600				MOV SP,R0
3176	025662	104414				TRAP C\$PNTB
3177	025664	062706	000012			ADD #12,SP
3178	025670			ENDMSG		
3179	025670					L10001:
3180	025670	104423				TRAP C\$MSG
3181						
3182	025672			BGNMSG	ERR2	
3183	025672					ERR2::
3184	025672			PRINTB	#EFM2,TEMP4	:TOTAL DATA COMPARE FAILS ERROR
3185	025672	013746	007436			MOV TEMP4, -(SP)
3186	025676	012746	015457			MOV #EFM2, -(SP)
3187	025702	012746	000002			MOV #2, -(SP)
3188	025706	010600				MOV SP,R0
3189	025710	104414				TRAP C\$PNTB
3190	025712	062706	000006			ADD #6,SP
3191	025716			ENDMSG		
3192	025716					L10002:
3193	025716	104423				TRAP C\$MSG
3194						
3195	025720			BGNMSG	ERR10	
3196	025720					ERR10::
3197	025720			PRINTB	#EFM11,R4,TEMP3	
3198	025720	013746	007434			MOV TEMP3, -(SP)
3199	025724	010446				MOV R4, -(SP)
3200	025726	012746	015554			MOV #EFM11, -(SP)
3201	025732	012746	000003			MOV #3, -(SP)
3202	025736	010600				MOV SP,R0
3203	025740	104414				TRAP C\$PNTB
3204	025742	062706	000010			ADD #10,SP
3205	025746			ENDMSG		
3206	025746					L10003:

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GLOBAL ERROR REPORT SECTION

3207	025746	104423			TRAP	C\$MSG
3208						
3209	025750			BGNMSG	ERR8	
3210	025750					ERR8::
3211	025750			PRINTB	#EVTF3D,TEMP3,TEMP4,CONOTM	
3212	025750	013746	007442			MOV
3213	025754	013746	007436			MOV
3214	025760	013746	007434			MOV
3215	025764	012746	016550			MOV
3216	025770	012746	000004			MOV
3217	025774	010600				MOV
3218	025776	104414				TRAP
3219	026000	062706	000012			ADD
3220	026004			PRINTB	#PCPM,PCADD	
3221	026004	013746	007462			MOV
3222	026010	012746	015522			MOV
3223	026014	012746	000002			MOV
3224	026020	010600				MOV
3225	026022	104414				TRAP
3226	026024	062706	000006			ADD
3227	026030			ENDMSG		
3228	026030					I 10004:
3229	026030	104423				TRAP
3230						C\$MSG
3231	026032			BGNMSG	ERR9	
3232	026032					ERR9::
3233	026032			PRINTB	#EVTF3C,TEMP3,TEMP4	
3234	026032	013746	007436			MOV
3235	026036	013746	007434			MOV
3236	026042	012746	016533			MOV
3237	026046	012746	000003			MOV
3238	026052	010600				MOV
3239	026054	104414				TRAP
3240	026056	062706	000010			ADD
3241	026062			PRINTB	#PCPM,PCADD	
3242	026062	013746	007462			MOV
3243	026066	012746	015522			MOV
3244	026072	012746	000002			MOV
3245	026076	010600				MOV
3246	026100	104414				TRAP
3247	026102	062706	000006			ADD
3248	026106			ENDMSG		
3249	026106					L10005:
3250	026106	104423				TRAP
3251						C\$MSG
3252	026110			BGNMSG	ERR13	
3253	026110					ERR13::
3254	026110			PRINTB	#EVTF3C,TEMP3,TEMP4	
3255	026110	013746	007436			MOV
3256	026114	013746	007434			MOV
3257	026120	012746	016533			MOV
3258	026124	012746	000003			MOV
3259	026130	010600				MOV
3260	026132	104414				TRAP
3261	026134	062706	000010			ADD
3262	026140			ENDMSG		

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GLOBAL ERROR REPORT SECTION

3263 026140
3264 026140 104423
3265
3266 026142
3267 026142
3268 026142
3269 026142 013746 007442
3270 026146 013746 007436
3271 026152 013746 007434
3272 026156 012746 015550
3273 026162 012746 000004
3274 026166 010600
3275 026170 104414
3276 026172 062706 000012
3277 026176
3278 026176
3279 026176 104423
3280
3281 026200
3282 026200 000167
3283 026202 177772
3284
3285

BGNMSG ERR14

PRINTB #EVT3D,TEMP3,TEMP4,CONOTM

ENDMSG

EXIT MSG

L10006: TRAP C\$MSG

ERR14::

MOV CONOTM,-(SP)
MOV TEMP4,-(SP)
MOV TEMP3,-(SP)
MOV #EVT3D,-(SP)
MOV #4,-(SP)
MOV SP,R0
TRAP C\$PNTB
ADD #12,SP

L10007: TRAP C\$MSG

.WORD JSJMP
.WORD L10007-2-

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GLOBAL SUBROUTINES SECTION

.SBTTL GLOBAL SUBROUTINES SECTION

++
THE GLOBAL SUBROUTINES SECTION CONTAINS THE SUBROUTINES
THAT ARE USED IN MORE THAN ONE TEST.
--

.SBTTL CLOCK SETUP SUBROUTINE

++
FUNCTIONAL DESCRIPTION:
THIS SUBROUTINE SETS UP THE CLOCK INFORMATION TABLE FOLLOWING A "CLOCK"
CALL EXECUTED IN THE INITIALIZATION CODE. BUT SINCE THE "CLOCK" CALL
SAYS NOTHING ABOUT AN LSI-11'S CLOCK, THIS ROUTINE IS ONLY USED IF A
LINE OR P-CLOCK IS FOUND.

INPUTS:
R1= POINTS TO SUPERVISOR SPACE WHERE CLOCK INFO WAS RETURNED
R2= POINTS TO "CLK" TABLE WHERE CLOCK INFO WILL BE KEPT

IMPLICIT INPUTS:
THE SUPERVISOR SPACE WHERE CLOCK INFO WAS RETURNED BY THE "CLOCK" CALL

OUTPUTS:
"CLKCSR" GETS LOADED WITH THE CLOCK'S CSR ADDRESS
"CLKBR" GETS LOADED WITH THE CLOCK'S INTERRUPT LEVEL
"CLKVEC" GETS LOADED WITH THE CLOCK'S INTERRUPT VECTOR
"CLKHZ" GETS LOADED WITH THE LINE FREQ. (HERTZ RATE) WHICH DETERMINES
THE NUMBER OF TICKS IN A SECOND

CALLING SEQUENCE:
JSR PC,CLKSET ;CALL CLOCK SETUP WITH R1 & R2 SETUP

--
CLKSET: MOV (R1)+,(R2)+ ;LOAD CLOCK'S CSR ADDR. INTO "CLKCSR"
MOV (R1)+,(R2) ;LOAD CLOCK'S INT. LEVEL INTO "CLKBR"
ASL (R2) ;ADJUST THE INT. LEVEL FOR LOADING INTO
ASL (R2) ; THE PSW WITH A "SETVEC" CALL
ASL (R2)
ASL (R2)
ASL (R2)+
MOV (R1)+,(R2)+ ;LOAD CLOCK'S INT. VECTOR INTO "CLKVEC"
MOV (R1)+,(R2)+ ;LOAD CLOCK'S HERTZ RATE INTO "CLKHZ"
RTS PC

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3321 026204
3322 026204 012122
3323 026206 012112
3324 026210 006312
3325 026212 006312
3326 026214 006312
3327 026216 006312
3328 026220 006322
3329 026222 012122
3330 026224 012122
3331 026226 000207
3332

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CLOCK SETUP SUBROUTINE

SBTTL CLOCK INTERRUPT SERVICE ROUTINE

++
FUNCTIONAL DESCRIPTION:
THIS IS THE CLOCK INTERRUPT SERVICE ROUTINE WHICH TAKES CARE OF
KEEPING THE "TIME-SINCE-START" AND COUNTING DOWN ANY OF THE
"EVENT" TIMERS. THE TIMERS ARE USED TO TIME COMPLETION OF DEVICE
REQUESTS. THE "TIME-SINCE-START" IS USED TO BE LOGGED WITH EACH ENTRY
INTO THE EVENT LOG.
IMPLICIT INPUTS:
TIMTCK: THE CURRENT NO. OF TICKS LEFT TO BE COUNTED UNTIL A SECOND
HAS BEEN COUNTED OFF
CLKHZ: THE NO. OF TICKS IN A SECOND, DETERMINED BY THE SYS. LINE FREQ.
TIMMIN & TIMSEC: CURRENT VALUE OF "TIME-SINCE-START"
IN MINUTES & SECONDS
TIMER 1,2, & S: CURRENT VALUES OF THE "EVENT TIMERS"
IMPLICIT OUTPUTS:
NEW VALUE OF EVENT TIMER "1" DECREMENTED BY 1 TICK IF IT WAS NON-ZERO
NEW VALUE OF EVENT TIMER "2" DECREMENTED BY 1 TICK IF IT WAS NON-ZERO
NEW VALUE OF EVENT TIMER "S" DECREMENTED BY 1 SECOND IF IT WAS NON-ZERO
FUNCTIONAL SIDE EFFECTS:
THE CLOCK IS DISABLED UPON ENTRY AND REENABLED WHEN LEAVING
CALLING SEQUENCE:
THIS ROUTINE IS CALLED WHEN THE CLOCK INTERRUPTS THRU "CLKVEC".
THE ADDRESS OF THIS ROUTINE WAS LOADED INTO THE CLOCK'S INTERRUPT
VECTOR WITH A SUPERVISOR "SETVEC" CALL.

--

BGNSRV CLKINT

CLKINT::

3365	026230				CLR	@CLKCSR	;DISABLE THE CLOCK FORM INTERRUPTING
3366	026230				DEC	TIMTCK	;DECREMENT THE # OF TICKS/SEC.
3367					BNE	1\$	;GO CHECK TIMERS (1&2-TICKS, 3-SECONDS)
3368	026230	005077	161266		MOV	CLKHZ,TIMTCK	;RESET THE # OF TICKS/SEC.
3369	026234	005337	007540		INC	TIMSEC	;INC # OF SECS-SINCE-START
3370	026240	001015			CMP	#60.,TIMSEC	;SEE IF WE'VE COUNTED 60 SECS. YET
3371	026242	013737	007530	007540	BNE	1\$	;IF NOT, GO CHECK TIMERS
3372	026250	005237	007536		INC	TIMMIN	; ELSE INC MINUTES-SINCE-START
3373	026254	022737	000074	007536	CLR	TIMSEC	; AND RESTART SECOND COUNTER
3374	026262	001004					
3375	026264	005237	007534				
3376	026270	005037	007536				
3377							
3378	026274	005737	007542	1\$:	TST	TIMER1	;SEE IF TIMER #1, TIMING ANYTHING
3379	026300	001402			BEQ	2\$	; IF=0, NOTHING BEING TIMED CHECK NEXT TIMER
3380	026302	005337	007542		DEC	TIMER1	; ELSE DECREMENT THE TIMER VALUE (BY 1 TICK)
3381	026306	005737	007544	2\$:	TST	TIMER2	;SEE IF TIMER #2, TIMING ANYTHING
3382	026312	001402			BEQ	3\$	; IF=0, NOTHING BEING TIMED CHECK NEXT TIMER
3383	026314	005337	007544		DEC	TIMER2	; ELSE DECREMENT THE TIMER VALUE (BY 1 TICK)
3384	026320	005737	007546	3\$:	TST	TIMERS	;SEE IF TIMER #3, TIMING ANYTHING
3385	026324	001406			BEQ	4\$	; IF=0, NOTHING BEING TIMED, LEAVE
3386	026326	023737	007530	007540	CMP	CLKHZ,TIMTCK	;SEE IF A SECOND HAS BEEN COUNTED OFF
3387	026334	001002			BNE	4\$	; BR IF NO
3388	026336	005337	007546		DEC	TIMERS	; ELSE DECREMENT THE TIMER VALUE (BY 1 SEC.)

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CLOCK INTERRUPT SERVICE ROUTINE

3389 026342 013777 007532 161152 4S:
3390 026350
3391 026350
3392 026350 000002

MOV CLKEN,@CLKCSR ;REENABLE THE CLOCK TO INTERRUPT
ENDSRV

L10010:
RTI

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EVENT LOG SUBROUTINES

```
.SBTTL          EVENT LOG SUBROUTINES

:++
: FUNCTIONAL DESCRIPTION:
: THIS SUBROUTINE HAS A DIFFERENT ENTRY POINT
: FOR EACH EVENT TO BE LOGGED AND ALWAYS PRINTS
: THE SHORT 'OPERATOR AWAKE' MESSAGE TO CONSOLE THEN LOGS THE
: EVENT TYPE, TIME, AND THE OTHER 3 WORDS OF INFO PASSED TO THE
: SUBROUTINE AT CALLING TIME
:
: INPUTS:
:   TIMMIN & TIMSEC:      CURRENT VALUE OF 'TIME-SINCE-START'
:   TEMP2:  WORD #1 OF EVENT LOG INFORMATION (FOR MOST EVENT TYPES)
:   TEMP3:  WORD #2 OF EVENT LOG INFORMATION
:   TEMP4:  WORD #3 OF EVENT LOG INFORMATION
:   MODS:   CURRENT VALUE OF THE MODEM SIGNALS AVAILABLE FROM THE DEVICE
:
: OUTPUTS:
:   'OPERATOR AWAKE' MESSAGE SENT TO THE CONSOLE
:   NEW EVENT LOGGED IN 'EVTLOG' (EVENT LOG)
:   UPDATED 'EVTPTN' (EVENT LOG ENTRY POINTER)
:
: SUBORDINATE ROUTINES USED:
:   'DVMODS' THE DEVICE SUBROUTINE THAT RETURNS MODEM STATUS IN 'MODS'
:   (FOR SOME EVENT TYPES)
:
: FUNCTIONAL SIDE EFFECTS:
:   TEMP:  USED TO STORE ADDRESS OF 'OPERATOR AWAKE' MESSAGE
:   TEMP1: USED TO SETUP THE VALUE OF THE 'EVENT TYPE' BYTE FOR LOGGING
:
: CALLING SEQUENCE:
:   JSR    PC,LOGTXQ      ;CALL THE LOG EVENT SUBROUTINE WITH TEMP,TEMP1,
:   ..     .. ..         ; TEMP2, TEMP3, AND TEMP4 SETUP
:   JSR    PC,LOGCMP
:
: LOGTXQ:
:   MOV    #STXQ,TEMP1    ;SET UP MSG. TO PRINT
:   MOV    #TXQ,TEMP      ;SET UP EVENT TYPE
:   BR     LOGS1          ;GO LOG EVENT AND TIME
:
: LOGTXC:
:   MOV    #STXC,TEMP1    ;SET UP MSG. TO PRINT
:   MOV    #TXC,TEMP      ;SET UP EVENT TYPE
:   BR     LOGS1          ;GO LOG EVENT AND TIME
:
: LOGRXQ:
:   MOV    #SRXQ,TEMP1    ;SET UP MSG. TO PRINT
:   MOV    #RXQ,TEMP      ;SET UP EVENT TYPE
:   BR     LOGS1          ;GO LOG EVENT AND TIME
:
: LOGRXC:
:   MOV    #RXC,TEMP      ;SET UP EVENT TYPE
:   BR     LOGS1          ;GO LOG EVENT AND TIME
:
: LGDVE:
```

```
3393
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3400
3401
3402
3403
3404
3405
3406
3407
3408
3409
3410
3411
3412
3413
3414
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3418
3419
3420
3421
3422
3423
3424
3425
3426
3427
3428
3429
3430 026352
3431 026352 012737 020003 007430
3432 026360 012737 000000 007426
3433 026366 000510
3434
3435 026370
3436 026370 012737 020014 007430
3437 026376 012737 000002 007426
3438 026404 000501
3439
3440 026406
3441 026406 012737 020025 007430
3442 026414 012737 000004 007426
3443 026422 000472
3444
3445 026424
3446 026424 012737 000006 007426
3447 026432 000466
3448 026434
```

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EVENT LOG SUBROUTINES

3449	026434	012737	020036	007430	MOV	#SDVE,TEMP1	;SET UP MSG. TO PRINT	
3450	026442	012737	00C010	007426	MOV	#DER,TEMP	;SET UP EVENT TYPE	
3451	026450	000474			BR	LOGS3	;GO LOG EVENT AND TIME	
3452								
3453	026452				LOGDVI:			
3454	026452	012737	020060	007430	MOV	#SDVI,TEMP1	;SET UP MSG. TO PRINT	
3455	026460	012737	000012	007426	MOV	#DVI,TEMP	;SET UP EVENT TYPE	
3456	026466	113737	007470	007432	MOVB	MODTYP,TEMP2		
3457	026474	113737	007472	007433	MOVB	MLTYP,TEMP2+1		
3458	026502	013737	007500	007434	MOV	RPASS,TEMP3		
3459	026510	013737	007476	007436	MOV	PARAM,TEMP4	;SET UP EVNT ENTRIES	
3460	026516	000451			BR	LOGS3	;GO LOG EVENT AND TIME	
3461								
3462	026520				LOGCMP:			
3463	026520	012737	020047	007430	MOV	#SCM,TEMP1	;SET UP MSG. TO PRINT	
3464	026526	012737	000014	007426	MOV	#DCK,TEMP	;SET UP EVENT TYPE	
3465	026534	000442			BR	LOGS3		
3466	026536				LOGCML:			
3467	026536	012737	020071	007430	MOV	#SCML,TEMP1		
3468	026544	012737	000020	007426	MOV	#DLE,TEMP	;SET UP MSG. AND TYPE	
3469	026552	000433			BR	LOGS3	;GO LOG EVENT AND TIME	
3470	026554				LOGCMD:			
3471	026554	012737	020102	007430	MOV	#SCMD,TEMP1		
3472	026562	012737	000022	007426	MOV	#DDE,TEMP		
3473	026570	000424			BR	LOGS3	;GO LOG MSG TYPE AND TIME	
3474	026572				LOGEOP:			
3475	026572	012737	020113	007430	MOV	#SEOP,TEMP1		
3476	026600	012737	000024	007426	MOV	#EOP,TEMP		
3477	026606	000415			BR	LOGS3	;GO LOG MSG TYPE AND TIME	
3478								
3479	026610	013746	007400		LOGS1:	MOV	ERRCNT,-(SP)	;SAVE CURRENT ERROR COUNT
3480	026614	004737	044050			JSR	PC,DVMODS	;GO GET MODEM STATUS
3481	026620	012604				MOV	(SP)+,R4	;GET SAVED ERRCNT VALUE
3482	026622	020437	007400			CMP	R4,ERRCNT	;WHERE ANY ERRORS FOUND
3483	026626	001402				BEQ	1\$	;BR IF NONE
3484	026630	000137	027044			JMP	LOGEX	;ELSE, LEAVE WITHOUT LOGGING ANYTHING
3485								;BUT THE DEVICE ERROR FROM 'DVMODS'
3486	026634	013737	010456	007436	1\$:	MCV	MODS,TEMP4	;AND PUT IT IN TEMP4
3487								
3488	026642				LOGS3:			
3489	026642	022737	000006	007426	CMP	#RXC,TEMP		
3490	026650	001434			BEQ	LOGS5	;IF RXC DONT PRINT	
3491	026652	032737	000001	007476	BIT	#STATB,PARAM		
3492	026660	001430			BEQ	LOGS5	;IF NO STATUS SELECTED	
3493							;GO TO 5	
3494								
3495	026662	022737	000010	007372	CMP	#10,LNCNT	;HAVE WE DONE 10?	
3496	026670	001012			BNE	LOGS4	;IF NOT GO TO 4	
3497	026672	005037	007372		CLR	LNCNT	;ELSE CLEAR IT	
3498								
3499	026676				PRINTF	#CR	;ELSE PRINT CR	
3500	026676	012746	020000					MOV #CR,-(SP)
3501	026702	012746	000001					MOV #1,-(SP)
3502	026706	010600						MOV SP,R0
3503	026710	104417						TRAP C\$PNTF
3504	026712	062706	000004					ADD #4,SP

RTS

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REPORT BASE TABLE OR EVENT LOG

```

3534 .SBTTL REPORT BASE TABLE OR EVENT LOG
3535 ;REV B BY EC
3536 ;THE FOLLOWING COMMANDS ADDED TO REVISION 6 CZCLK
3537 ;DMR/DMC DCLT PROGRAM
3538 ;RPT> LOG
3539 ;: BASE/ERROR
3540 ;: BASE/FULL
3541 ;: BASE/OFFSET=NN
3542 ;: HELP
3543 ;: EXIT
3544
3545 REPORT: MOV R2,-(SP) ;SAVE R2,R3,R4 ON THE STACK
3546 MOV R3,-(SP)
3547 MOV R4,-(SP)
3548
3549 ;PRINT HELP MESSAGE
3550 PRINTF #RHLPO ;BASIC HELP MESSAGE
3551 MOV #RHLPO,-(SP)
3552 MOV #1,-(SP)
3553 MOV SP,R0
3554 TRAP C$PNTF
3555 ADD #4,SP
3556
3557 GETRCL: CLRB PS$GDBD ;INIT GOOD/BAD FLAG -1=BAD INPUT
3558 CLRB PS$NNUF ;INIT MORE COMMAND LINE INPUT NEEDED
3559
3560 ;PRINT PROMPT 'RPT>'
3561 GMANID CLISRP,CMD$BUF,A,0,1,72.,NO
3562 TRAP C$GMAN
3563 BR 10000$
3564 .WORD CMD$BUF
3565 .WORD T$CODE
3566 .WORD CLISRP
3567 .WORD 0
3568 .WORD T$LOLIM
3569 .WORD T$HILIM
3570 10000$:
3571 MOV #CMD$BUF,PS$BUFA ;INPUT BUFFER
3572 MOV #CLIRT,$TREE ;REPORT CLI TREE
3573 MOV #CLIRAC,PS$ACT ;ACTION ROUTINES
3574 CLR QUALFG
3575 JSR PC,PS$TRV ;GO PARSE COMMAND LINE
3576 TSTB PS$GDBD ;COMMAND OK ?
3577 BEQ 1$ ;YES,BRANCH
3578 PRINTF #CLIERM ;PRINT INVALID INPUT MESSAGE
3579 MOV #CLIERM,-(SP)
3580 MOV #1,-(SP)
3581 MOV SP,R0
3582 TRAP C$PNTF
3583 ADD #4,SP
3584 JMP GETRCL ;TRY AGAIN
3585
3586 1$: TSTB PS$NNUF ;MORE COMMAND NEEDED ?
3587 BEQ 10$ ;NO,BRANCH
3588 PRINTF #CLINUF ;INCOMPLETE MESSAGE
3589 MOV #CLINUF,-(SP)

```

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REPORT BASE TABLE OR EVENT LOG

3590	027222	012746	000001
3591	027226	010600	
3592	027230	104417	
3593	027232	062706	000004
3594	027236	000137	027074
3595			
3596	027242	023727	003202
3597	027250	001402	
3598	027252	000137	027074
3599	027256	012604	
3600	027260	012603	
3601	027262	012602	
3602	027264	000207	

```

      JMP      GETRCL

```

;TRY AGAIN

```
MOV    #1,-(SP)
MOV    SP,R0
TRAP   C$PNTF
ADD    #4,SP
```

```

CMP      KEYWD1,#RPEXT
BEQ      20$
JMP      GETRCL
MOV      (SP)+,R4
MOV      (SP)+,R3
MOV      (SP)+,R2
RTS      PC

```

```

;EXIT COMMAND ?
;YES,BRANCH
;GET ANOTHER COMMAND
;RESTORE R4
;RESTORE R3
;RESTORE R2
;RETURN

```

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COMMAND LINE PARSING TREE FOR REPORT

```

3603 .SBTTL COMMAND LINE PARSING TREE FOR REPORT
3604 CLIRT: CLI CLISPA,0,R10$ ;SKIP SPACES IN COMMAND LINE
3605 R10$: CLI <'?'>,RPHLP,R11$ ;IF INPUT = ? THEN PRINT HELP MESSAGE
3606 CLI CLIEXI,0 ;AND EXIT PARSE
3607 R11$: CLI CLISTR,RPHLP,R12$,<'HELP'> ;IF INPUT = 'HELP' THEN PRINT HELP
3608 CLI CLIEXI,0 ;MESSAGE AND EXIT PARSE
3609 R12$: CLI CLISTR,RPEXT,R13$,<'EXIT'> ;IF INPUT = 'EXIT' THEN SET KEYWORD =
3610 CLI CLIEXI,0 ;RPEXT AND EXIT PARSE
3611 R13$: CLI CLISTR,RPLOG,R14$,<'LOG'> ;IF INPUT = 'LOG' THEN GO PRINT EVENT
3612 CLI CLIEXI,0 ;LOG AND EXIT PARSE
3613 R14$: CLI CLISTR,RNOTNF,R30$,<'BASE'>;IF INPUT = 'BASE' THEN MORE COMMAND
3614 CLI CLIBR,0,R15$ ;LINE IS NEEDED
3615 R15$: CLI < />,RNOTNF,R125$ ;IF INPUT = '/' THEN LOOK FOR MORE
3616 CLI CLISTR,RPSWE,R16$,<'ERROR'> ;IF INPUT = 'ERROR' THEN GO PRINT
3617 CLI CLIEXI,0 ;ERROR INFORMATION
3618 R16$: CLI CLISTR,RPSWF,R17$,<'FULL'> ;IF INPUT = 'FULL' THEN GO PRINT
3619 CLI CLIEXI,0 ;ENTIRE BASE TABLE
3620 R17$: CLI CLISTR,RNOTNF,R30$,<'OFFSET'>;IF INPUT = 'OFFSET' THEN LOOK FOR
3621 CLI <'='>,0,R30$ ;'='
3622 CLI CLIOCT,RPSWO,R30$ ;IF INPUT = OCTAL VALUE THEN GO
3623 CLI CLIEXI,0 ;PRINT SINGLE BASE TABLE ITEM
3624 R30$: CLI CLIERR,0
3625 R125$: CLI CLIEXI,0

```

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CLI ACTION DISPATCHER AND ROUTINES

```

3626 .SBTTL CLI ACTION DISPATCHER AND ROUTINES
3627 CLIRAC: ASL R2 ;SET UP INDEX
3628 MOV 10$(R2),R2 ;
3629 ADD #10$,R2 ;
3630 JSR PC,(R2) ;GO DO ACTION
3631 RTS PC ;RETURN
3632 10$: .WORD ACTRNL-10$ ;NULL
3633 .WORD ACTRHL-10$ ;HELP ROUTINE
3634 .WORD ACTREX-10$ ;EXIT ROUTINE
3635 .WORD ACTRLG-10$ ;REPORT EVENT LOG ROUTINE
3636 .WORD ACTSWE-10$ ;REPORT ERRORS ROUTINE
3637 .WORD ACTSWF-10$ ;REPORT ENTIRE BASE TABLE
3638 .WORD ACTSWO-10$ ;REPORT SINGLE BASE ADDRESS
3639 .WORD ACTRNF-10$ ;MORE COMMAND NEEDED
3640
3641 ;MORE COMMAND NEEDED
3642 027522 112737 177777 003560 ACTRNF: MOVB #-1,PSNNUF ;MORE COMMAND NEEDED
3643 027530 000207 ACTRNL: RTS PC ;NULL
3644
3645 ;PRINT HELP MESSAGE
3646 027532 012702 003230 ACTRHL: MOV #RHLPTB,R2 ;INDEX FOR HELP MESSAGES
3647 027536 1$: PRINTF #HLPF,(R2)+ ;PRINT IT
3648 027536 012246
3649 027540 012746 013231
3650 027544 012746 000002
3651 027550 010600
3652 027552 104417
3653 027554 062706 000006
3654 027560 020227 003246
3655 027564 001364
3656 027566 012737 000001 003202
3657 027574 000207
3658
3659 ;EXIT REPORT LEVEL
3660 027576 012737 000002 003202 ACTREX: MOV #RPEXT,KEYWD1 ;SET KEYWORD AND RETURN
3661 027604 000207
3662
3663 ;PRINT ERROR LOG
3664 027606 004737 030574 ACTRLG: JSR PC,REPLOG ;GO PRINT EVENT LOG
3665 027612 012737 000003 003202 MOV #RPLOG,KEYWD1 ;SET KEYWORD
3666 027620 000207 RTS PC ;RETURN
3667
3668 ;PRINT ONLY ERROR LOCATIONS
3669 027622 005737 012412 ACTSWE: TST OPTYP ;DMR ?
3670 027626 001026 BNE 10$ ;YES,BRANCH
3671 027630 012737 003432 007450 MOV #DMCIND,INDEX ;SETUP DMC MESSAGES
3672 027636 062737 000006 007450 ADD #6,INDEX ;POINT TO CORRECT MESSAGE
3673 027644 012737 003462 007452 MOV #DMCEND,INDEXE ;LAST DMC ADDRESS
3674 027652 012737 017370 007454 MOV #BASE,BEND ;SET UP LAST ADDRESS
3675 027660 062737 000012 007454 ADD #12,BEND ;TO BE PRINTED
3676 027666 012737 017370 007456 MOV #BASE,BDATA ;BASE TABLE START ADDRESS
3677 027674 062737 000003 007456 ADD #3,BDATA ;ERROR START ADDRESS
3678 027702 000425 BR 20$ ;
3679 027704 012737 003250 007450 10$: MOV #DMRIND,INDEX ;SETUP FOR DMR MESSAGES
3680 027712 062737 000006 007450 ADD #6,INDEX ;POINT TO FIRST ERROR MESSAGE
3681 027720 012737 003430 007452 MOV #DMREND,INDEXE ;LAST DMR MESSAGE

```

```

MOV (R2)+,-(SP)
MOV #HLPF,-(SP)
MOV #2,-(SP)
MOV SP,R0
TRAP C$PNTF
ADD #6,SP

```

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CII ACTION DISPATCHER AND ROUTINES

3682	027726	012737	017370	007454		MOV	#BASE,BEND	:SETUP LAST ADDRESS	
3683	027734	062737	000041	007454		ADD	#41,BEND	:TO BE PRINTED	
3684	027742	012737	017370	007456		MOV	#BASE,BDATA	:START ADDRESS BASE TABLE	
3685	027750	062737	000003	007456		ADD	#3,BDATA	:START ADDRESS ERRORS	
3686	027756	004737	030336		20\$:	JSR	PC,RPBASE	:GO PRINT DATA	
3687	027762	000207				RTS	PC	:RETURN	
3688									
3689									
3690	027764	005737	012412		ACTSWF:	TST	OPTYP	:DMR ?	
3691	027770	001020				BNE	10\$	:YES,BRANCH	
3692	027772	012737	003432	007450		MOV	#DMCIND,INDEX	:SETUP DMC MESSAGES	
3693	030000	012737	003462	007452		MOV	#DMCEND,INDEXE	:LAST MESSAGE	
3694	030006	012737	017370	007454		MOV	#BASE,BEND	:TABLE START ADDRESS	
3695	030014	062737	000377	007454		ADD	#377,BEND	:PRINT 256. BYTES OF DATA	
3696	030022	012737	017370	007456		MOV	#BASE,BDATA	:FIRST ADDRESS TO PRINT	
3697	030030	000417				BR	20\$		
3698	030032	012737	003250	007450	10\$:	MOV	#DMRIND,INDEX	:SETUP DMR MESSAGES	
3699	030040	012737	003430	007452		MOV	#DMREND,INDEXE	:LAST DMR MESSAGE	
3700	030046	012737	017370	007454		MOV	#BASE,BEND	:TABLE START ADDRESS	
3701	030054	062737	000177	007454		ADD	#177,BEND	:PRINT 128. BYTES OF DATA	
3702	030062	012737	017370	007456		MOV	#BASE,BDATA	:FIRST ADDRESS TO PRINT	
3703	030070	004737	030336		20\$:	JSR	PC,RPBASE	:GO PRINT DATA	
3704	030074	000207				RTS	PC	:RETURN	
3705									
3706									
3707	030076	105037	003560		ACTSWO:	CLRB	P\$NNUF	:INIT NOT ENOUGH FLAG	
3708	030102	005737	012412			TST	OPTYP	:DMR?	
3709	030106	001004				BNE	5\$	:YES,BRANCH	
3710	030110	012737	000377	007454		MOV	#377,BEND	:BASE TABLE FOR DMC = 256 BYTES	
3711	030116	000403				BR	7\$	:BRANCH	
3712	030120	012737	000177	007454	5\$:	MOV	#177,BEND	:BASE TABLE FOR DMR = 128 BYTES	
3713	030126	027737	003554	007454	7\$:	CMP	P\$NUM,BEND	:DMC = 256 BYTES DMR = 128 BYTES	
3714	030134	101416				BLOS	10\$	:YES,BRANCH	
3715	030136					PRINTF	#RPTIV,P\$NUM	:PRINT ILLEGAL VALUE	
3716	030136	013746	003554						MOV P\$NUM,-(SP)
3717	030142	012746	014374						MOV #RPTIV,-(SP)
3718	030146	012746	000002						MOV #2,-(SP)
3719	030152	010600							MOV SP,R0
3720	030154	104417							TRAP C\$PNTF
3721	030156	062706	000006						ADD #6,SP
3722	030162	112737	177777	003561		MOVB	#-1,P\$GDBD	:SET BAD DATA	
3723	030170	000461				BR	30\$	:RETURN	
3724	030172	013701	003554		10\$:	MOV	P\$NUM,R1	:OFFSEI VALUE	
3725	030176	006301				ASL	R1	:MULTIPLY BY 2	
3726	030200	005737	012412			TST	OPTYP	:DMR ?	
3727	030204	001025				BNE	15\$	:YES,BRANCH	
3728	030206	012737	003432	007450		MOV	#DMCIND,INDEX	:DMC MESSAGES	
3729	030214	060137	007450			ADD	R1,INDEX	:GET RIGHT MESSAGE	
3730	030220	012737	003462	007452		MOV	#DMCEND,INDEXE	:LAST DMC MESSAGE	
3731	030226	012737	017370	007454		MOV	#BASE,BEND	:TABLE ADDRESS	
3732	030234	063737	003554	007454		ADD	P\$NUM,BEND	:LAST ADDRESS	
3733	030242	012737	017370	007456		MOV	#BASE,BDATA	:BASE ADDRESS	
3734	030250	063737	003554	007456		ADD	P\$NUM,BDATA	:ADD OFFSET	
3735	030256	000424				BR	20\$	:GO PRINT DATA	
3736	030260	012737	003250	007450	15\$:	MOV	#DMRIND,INDEX	:SETUP FOR DMR MESSAGES	
3737	030266	060137	007450			ADD	R1,INDEX	:GET CORRECT MESSAGE	

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CLI ACTION DISPATCHER AND ROUTINES

3738	030272	012737	003430	007452	MOV	#DMREND,INDEXE	;LAST DMR MESSAGE
3739	030300	012737	017370	007454	MOV	#BASE,BEND	;TABLE ADDRESS
3740	030306	063737	003554	007454	ADD	P\$NUM,BEND	;LAST ADDRESS
3741	030314	012737	017370	007456	MOV	#BASE,BDATA	;TABLE ADDRESS
3742	030322	063737	003554	007456	ADD	P\$NUM,BDATA	;ADD OFFSET
3743	030330	004737	030336		20\$: JSR	PC,RPBASE	;GO PRINT SINGLE LOCATION
3744	030334	000207			30\$: RTS	PC	;RETURN

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CLI ACTION DISPATCHER AND ROUTINES

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;;PRINT BASE TABLE SUBROUTINE

FUNCTIONAL DESCRIPTION - THIS ROUTINE IS USED TO PRINT DATA
STORED IN THE BASE TABLE AREA IN MEMORY. THIS BASE
TABLE IS UPDATED BY THE DMR OR DMC. THE USER HAS THE
OPTION OF PRINTING THE FULL TABLE, PRINTING THE FIRST
FEW ERROR LOCATIONS OR A SINGLE LOCATION.

DEFINITIONS

INDEX - CONTAINS POINTER TO DMR OR DMC DATA
DESCRIPTION MESSAGES.

INDEXE - CONTAINS POINTER TO LAST DMR OR DMC
DESCRIPTION MESSAGES.

BEND - LAST LOCATION IN TABLE TO BE PRINTED.

BDATA - ADDRESS OF DATA TO BE PRINTED.

THE ABOVE VARIABLES MUST BE ASSIGNED THE CORRECT VALUES
BEFORE THIS SUBROUTINE IS CALLED.

```
RPBASE: MOV     R1,-(SP)      ;SAVE R1
        MOV     R2,-(SP)      ;SAVE R2
        PRINTF  #BTHEAD      ;PRINT BRIEF HEADER MESSAGE

                                MOV     #BTHEAD,-(SP)
                                MOV     #1,-(SP)
                                MOV     SP,R0
                                TRAP    C$PNTF
                                ADD     #4,SP

                                MOV     INDEX,R2      ;POINTER TO MESSAGES
                                MOV     BDATA,R1      ;ADDRESS OF DATA
10$:    MOV     R1,TEMP3      ;SAVE CURRENT ADDRESS OF DATA
        MOVB    (R1)+,TEMP1   ;READ DATA
        CMP     R2,INDEXE    ;END OF MESSAGES?
        BLT     20$          ;NO,BRANCH
        MOV     INDEXE,R2    ;'SEE MANUAL' MESSAGE
20$:    MOV     (R2)+,TEMP2   ;READ MESSAGE ADDRESS
        PRINTF  #DMFMT,TEMP3,<R,TEMP1>,TEMP2 ;PRINT DATA AND MESSAGE

                                MOV     TEMP2,-(SP)
                                CLR     -(SP)
                                BISB    TEMP1,(SP)
                                MOV     TEMP3,-(SP)
                                MOV     #DMFMT,-(SP)
                                MOV     #4,-(SP)
                                MOV     SP,R0
                                TRAP    C$PNTF
                                ADD     #12,SP

        CMP     R1,BEND      ;LAST ADDRESS ?
        BLOS    10$          ;NO,BRANCH
        CLRB    P$NNUF      ;CLEAR ENOUGH FLAG
        MOV     (SP)+,R2     ;RESTORE R2
        MOV     (SP)+,R1     ;RESTORE R1
        RTS     PC           ;RETURN

.NLIST BEX
BTHEAD: .ASCIIZ /%N%ADDRESS%S2%ACONTENTS%S6%ADESCRIPTION/
DMFMT:  .ASCIIZ /%N%S1%06%S5%03%S5%T/
.EVEN
.LIST BEX
```

030476 047045 040445 042101
030547 045 022516 030523
030574

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PRINT EVENT LOG

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3797 .SBTTL PRINT EVENT LOG
3798 ;PRINT THE EVENT LOG
3799 REPLOG: MOV R2,-(SP) ;SAVE R2
3800 MOV R3,-(SP) ;SAVE R3
3801 MOV R4,-(SP) ;SAVE R4
3802 MOV EVTPTR,R2 ;MAKE R2 A POINTER TO EVENT TABLE
3803 CMP EVTLOG,#-1 ;SEE IF EVENT TABLE IS EMPTY
3804 BNE RPT0 ;BR IF NO
3805 PRINTS #NULEVT ;IF EMPTY TELL OPERATOR.
3806 MOV #NULEVT,-(SP)
3807 MOV #1,-(SP)
3808 MOV SP,R0
3809 TRAP C$PNTS
3810 ADD #4,SP
3811 JMP ENDEVT ;AND END
3812
3813 RPT: SUB #12,R2 ;NOW POINT BACK TO TOP OF ENTRY U
3814 ;JUST PRINTED
3815
3816 CMP R2,#EVTLOG ;POINTING TO TOP OF EVNT LOG QUEUE?
3817 BNE RPT1 ;BR IF NO
3818 MOV #EVTEND,R2 ;SET R2 TO POINT TO BOTTOM OF LOG
3819 CMP -2(R2),#-1
3820 BNE RPT0 ;IF END OF LOG IS NOT EMPTY
3821 JMP ENDEVT ;CONTINUE...ELSE EXIT
3822
3823 RPT1: CMP R2,EVTPTR ;ARE WE BACK TO POINTER?
3824 BNE RPT0 ;IF NOT CONTINUE
3825 JMP ENDEVT ;IF SO EXIT....
3826
3827 RPT0: SUB #12,R2 ;POINT R2 TO START OF ENTRY
3828 RPTAA: PRINTS #EVTFO ;PRINT EVENT ENTRY HEADER
3829 MOV #EVTFO,-(SP)
3830 MOV #1,-(SP)
3831 MOV SP,R0
3832 TRAP C$PNTS
3833 ADD #4,SP
3834 MOV R2,R3 ;PUT EVENT TYPE INTO R3
3835 MOV R2,EVTICK ;PUT EVENT TIME (TICKS,SECS,MINS IN TEMP LOC.S)
3836 MOV R2,EVTSEC
3837 MOV R2,EVTMIN
3838 PRINTS #EVTFO,EVTMIN,EVTSEC,EVTICK,EVTLS(R3) ;PRINT EVENT TIME AND DESCRIPT.
3839 MOV EVTLS(R3),-(SP)
3840 MOV EVTICK,-(SP)
3841 MOV EVTSEC,-(SP)
3842 MOV EVTMIN,-(SP)
3843 MOV #EVTFO,-(SP)
3844 MOV #5,-(SP)
3845 MOV SP,R0
3846 TRAP C$PNTS
3847 ADD #14,SP
3848 JMP @RPTDSP(R3) ;DISPATCH TO DECODING SECTION FOR SPECIFIC TYPE
3849
3850 RPTTXQ: MOV (R2)+,EVTADD ;STORE MESSAGE ADDRESS FOR PRINTING
3851 MOV (R2)+,EVTBCT ;STORE BYTE COUNT FOR PRINTING
3852 MOV (R2)+,R3 ;STORE MODEM STATUS FOR PRINTING

```

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PRINT EVENT LOG

```

3853 031026 PRINTS #EVTf2,EVTADD,EVTBCT ;PRINT ADDR,BYTE CNT
3854 031026 013746 010620 MOV EVTbCT,-(SP)
3855 031032 013746 010616 MOV EVTADD,-(SP)
3856 031036 012746 016447 MOV #EVTf2,-(SP)
3857 031042 012746 000003 MOV #3,-(SP)
3858 031046 010600 MOV SP,R0
3859 031050 104416 TRAP C$PNTS
3860 031052 062706 000010 ADD #10,SP
3861 031056 004737 031442 JSR PC,RPTMSB ;GO PRINT MODEM STATUS
3862 031062 000137 030642 JMP RPT ;GO BACK FOR NEXT EVENT ENTRY
3863
3864 031066 012237 010622 RPTDER: MOV (R2)+,EVTTMP ;GET ADDRESS OF DEVICE INFO MESSAGE
3865 031072 012237 010654 MOV (R2)+,DEV1 ;STORE DEVICE REG CONTENTS FOR PRINTING
3866 031076 012237 010656 MOV (R2)+,DEV2
3867 031102 PRINTS #EVTf3,EVTTMP ;PRINT DEVICE REG CONTENTS.
3868 031102 013746 010622 MOV EVTTMP,-(SP)
3869 031106 012746 016521 MOV #EVTf3,-(SP)
3870 031112 012746 000002 MOV #2,-(SP)
3871 031116 010600 MOV SP,R0
3872 031120 104416 TRAP C$PNTS
3873 031122 062706 000006 ADD #6,SP
3874 031126 PRINTS #EVTf3C,DEV1,DEV2
3875 031126 013746 010656 MOV DEV2,-(SP)
3876 031132 013746 010654 MOV DEV1,-(SP)
3877 031136 012746 016533 MOV #EVTf3C,-(SP)
3878 031142 012746 000003 MOV #3,-(SP)
3879 031146 010600 MOV SP,R0
3880 031150 104416 TRAP C$PNTS
3881 031152 062706 000010 ADD #10,SP
3882 031156 000137 030642 JMP RPT ;GO BACK FOR NEXT EVENT ENTRY
3883
3884 031162 005037 010654 RPTDVI: CLR DEV1
3885 031166 005037 010656 CLR DEV2 ;CLEAR UPPER BYTES OF DEV1 & DEV2 BEFORE USE
3886 031172 112237 010654 MOVb (R2)+,DEV1 ;STORE SETUP OPERATION PARAMETERS FOR PRINTING
3887 031176 112237 010656 MOVb (R2)+,DEV2
3888 031202 012237 010660 MOV (R2)+,DEV3
3889 031206 012237 010662 MOV (R2)+,DEV4
3890 031212 010246 MOV R2,-(SP) ;SAVE R2 ON THE STACK
3891 031214 004737 032340 JSR PC,SHWOP ;GO PRINT MODE, MAINT-LOOP TYPE, PARAMETERS.
3892 031220 012602 MOV (SP)+,R2 ;RESTORE R2
3893 031222 000137 030642 JMP RPT ;GO BACK FOR NEXT EVENT ENTRY
3894
3895 031226 ;:REPORT END OF PASS OR ^C ABORT
3896 031226 012237 010616 RPTABO: MOV (R2)+,EVTADD
3897 031232 012237 010620 RPTTEOP: MOV (R2)+,EVTBCT
3898 031236 012237 010622 MOV (R2)+,EVTTMP
3899 031242 PRINTS #EVTf4B,EVTADD,EVTBCT,EVTTMP ;PRINT ADDR,RXBYTES,CMPBYTES.
3900 031242 013746 010622 MOV EVTTMP,-(SP)
3901 031246 013746 010620 MOV EVTbCT,-(SP)
3902 031252 013746 010616 MOV EVTADD,-(SP)
3903 031256 012746 016772 MOV #EVTf4B,-(SP)
3904 031262 012746 000004 MOV #4,-(SP)
3905 031266 010600 MOV SP,R0
3906 031270 104416 TRAP C$PNTS
3907 031272 062706 000012 ADD #12,SP
3908

```

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3909 031276 000137 030642          JMP      RPT          ;THEN GO GET NEXT EVENT ENTRY
3910
3911
3912 031302 012237 010616          RPTDDE: MOV      (R2)+,EVTADD      ;STORE MESSAGE ADDRESS FOR PRINTING
3913 031306 012237 010620          MOV      (R2)+,EVTBCT      ;STORE BYTE COUNT FOR PRINTING
3914 031312 012237 010622          MOV      (R2)+,EVTTMP      ;STORE TOTAL # OF CMP ERRORS
3915 031316          PRINTS      #EVT4,EVTADD,EVTBCT,EVTMP      ;PRINT ADDR, BYTE CNT, # CMP ERRS
3916 031316 013746 010622          MOV      EVTMP,-(SP)
3917 031322 013746 010620          MOV      EVTBCT,-(SP)
3918 031326 013746 010616          MOV      EVTADD,-(SP)
3919 031332 012746 016572          MOV      #EVT4,-(SP)
3920 031336 012746 000004          MOV      #4,-(SP)
3921 031342 010600          MOV      SP,R0
3922 031344 104416          TRAP      C$PNTS
3923 031346 062706 000012          ADD      #12,SP
3924 031352 000137 030642          JMP      RPT          ;THEN GO GET NEXT EVENT ENTRY
3925
3926 031356          RPTDLE:
3927 031356 012237 010616          RPTDCK: MOV      (R2)+,EVTADD      ;STORE MSG ADDR FOR PRINT
3928 031362 012237 010620          MOV      (R2)+,EVTBCT      ;STORE BYTE COUNT
3929 031366 012237 010622          MOV      (R2)+,EVTTMP      ;STORE BYTE COUNT COMP
3930 031372          PRINTS      #EVT4A,EVTADD,EVTBCT,EVTMP      ;PRINT ADDR,RXBYTES,CMPBYTES.
3931 031372 013746 010622          MOV      EVTMP,-(SP)
3932 031376 013746 010620          MOV      EVTBCT,-(SP)
3933 031402 013746 010616          MOV      EVTADD,-(SP)
3934 031406 012746 016674          MOV      #EVT4A,-(SP)
3935 031412 012746 000004          MOV      #4,-(SP)
3936 031416 010600          MOV      SP,R0
3937 031420 104416          TRAP      C$PNTS
3938 031422 062706 000012          ADD      #12,SP
3939
3940 031426 000137 030642          JMP      RPT          ;THEN GO GET NEXT EVENT ENTRY
3941
3942 031432 012604          ENDEVT: MOV      (SP)+,R4      ;RESTORE R4,R3,R2
3943 031434 012603          MOV      (SP)+,R3
3944 031436 012602          MOV      (SP)+,R2
3945 031440 000207          RTS      PC          ;RETURN TO CALLING ROUTINE
3946
3947
3948          ;REPORT MODEM STATUS SUBROUTINE
3949          ; PART OF STATISICAL REPORTING (DUMPING EVENT LOG)
3950
3951 031442          RPTMSB: PRINTS      #EVMOH0      ;PRINT MODEM STATUS HEADER
3952 031442 012746 017160          MOV      #EVMOH0,-(SP)
3953 031446 012746 000001          MOV      #1,-(SP)
3954 031452 010600          MOV      SP,R0
3955 031454 104416          TRAP      C$PNTS
3956 031456 062706 000004          ADD      #4,SP
3957 031462 012704 010460          MOV      #MOBITS,R4      ;MAKE R4 A POINTER TO MODEM SIG. BIT DEF. TABLE
3958 031466 012705 010476          MOV      #MOMSGS,R5      ;MAKE R5 A POINTER TO MODEM MSG. POSITION TABLE
3959 031472 005714          6$: TST      (R4)          ;SEE IF BIT AVAILABLE FROM DEVICE
3960 031474 001004          BNE      7$          ;BR IF THAT MODEM SIG. AVAILABLE
3961 031476 112735 000130          MOVB     #'X',@ (R5)+      ;ELSE PUT 'X' IN REPORT IF SIGNAL NOT AVAILABLE
3962 031502 005724          TST      (R4)+          ;BUMP R4 TO POINT TO NEXT BIT DEFINITION
3963 031504 000407          BR      9$          ;GO SEE IF CHECKED ALL MODEM SIGNALS
3964 031506 032403          7$: BIT      (R4)+,R3      ;IF THERE, SEE IF THAT BIT IN DEVICE'S ENTRY=1

```

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PRINT EVENT LOG

3965	031510	001403	
3966	031512	112735	000061
3967	031516	000402	
3968	031520	112735	000060
3969	031524	020427	010476
3970	031530	002760	
3971	031532		
3972	031532	012746	017240
3973	031536	012746	000001
3974	031542	010600	
3975	031544	104416	
3976	031546	062706	000004
3977	031552	000207	
3978			
3979			

```

      BEQ      8$      ;BR IF BIT (SIGNAL) VALUE =0
      MOVWB   #1,a(R5)+ ;IF=1, PUT '1' IN REPORT MESSAGE
      BR      9$      ;GO SEE IF ALL MODEM SIGNALS CHECKED
8$:    MOVWB   #0,a(R5)+ ;IF BIT(SIGNAL)=0, PUT '0' IN REPORT MESSAGE
9$:    CMP     R4,#MOBITE ;SEE IF ALL BITS(SIGNALS) CHECKED
      BLT     6$      ;LOOP UNTIL ALL SIGNALS(BITS) CHECKED
      PRINTS  #EVMOST ;THEN PRINT MODEM SIGNAL VALUE MESSAGE
                               MOV      #EVMOST,-(SP)
                               MOV      #1,-(SP)
                               MOV      SP,R0
                               TRAP     C$PNTS
                               ADD      #4,SP

      RTS      PC      ;RETURN TO EVENT DECODING

```

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DUMP BYTES OR WORDS

.SBTTL DUMP BYTES OR WORDS

++
FUNCTIONAL DESCRIPTION:
DUMPSR - DUMP BYTES OR WORDS SUBROUTINE

THIS SUBROUTINE PRINTS THE CONTENTS OF THE LOCATIONS BETWEEN
A STARTING AND END ADDRESS IN LOCS. "STADD" AND "ENADD".
THE WORD OR BYTE CONTENTS ARE PRINTED 8 TO A LINE WITH THE
ADDRESS OF THE FIRST BYTE AS THE FIRST 6 OCTAL CHARS. FOLLOWED
BY A SEMICOLON.

INPUTS:
STADD= STARTING ADDRESS (FIRST LOC. TO PRINT)
ENADD= END ADDRESS (LAST LOCATION TO DUMP)
BYTBIT= 1 IF SUPPOSED TO PRINT 'BYTES'
0 IF SUPPOSED TO PRINT 'WORDS'

OUTPUTS:
CONTENTS OF A RANGE OF LOC.S PRINTED ON THE OPERATORS CONSOLE.

CALLING SEQUENCE:
JSR PC,DUMPSR ;CALL DUMP BYTES SUBROUTINE

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4000
4001
4002
4003
4004
4005
4006
4007 031554 013702 007402
4008 031560 005003
4009 031562
4010 031562 010246
4011 031564 012746 016257
4012 031570 012746 000002
4013 031574 010600
4014 031576 104417
4015 031600 062706 000006
4016 031604 005737 007406
4017 031610 001416
4018 031612 112237 007426
4019 031616
4020 031616 005046
4021 031620 153716 007426
4022 031624 012746 016241
4023 031630 012746 000002
4024 031634 010600
4025 031636 104417
4026 031640 062706 000006
4027 031644 000411
4028 031646
4029 031646 012246
4030 031650 012746 016250
4031 031654 012746 000002
4032 031660 010600
4033 031662 104417
4034 031664 062706 000006
4035 031670 020237 007404

DUMPSR: MOV STADD,R2 ;SET R2 UP TO STARTING ADDR.
DUM4: CLR R3 ;CLEAR R3
PRINTF #BASM1,R2 ;PRINT ADDRESS

MOV R2,-(SP)
MOV #BASM1,-(SP)
MOV #2,-(SP)
MOV SP,R0
TRAP C\$PNTF
ADD #6,SP

DUM3: TST BYTBIT ;IS THIS BYTE OR WORD
BEQ DUM1 ;BR IF WORD
MOVB (R2)+,TEMP ;MOV BYTE TO TEMP
PRINTF #BASM3,<B,TEMP> ;PRINT BYTE

CLR -(SP)
BISB TEMP,(SP)
MOV #BASM3,-(SP)
MOV #2,-(SP)
MOV SP,R0
TRAP C\$PNTF
ADD #6,SP

DUM1: BR DUM2
PRINTF #BASM2,(R2)+ ;PRINT WORD

MOV (R2)+,-(SP)
MOV #BASM2,-(SP)
MOV #2,-(SP)
MOV SP,R0
TRAP C\$PNTF
ADD #6,SP

DUM2: CMP R2,ENADD ;COMPARE FOR LAST ADD

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DUMP BYTES OR WORDS

4036 031674 003005
4037 031676 005203
4038 031700 022703 000010
4039 031704 001725
4040 031706 000736
4041
4042 031710 000207
4043

BGT DUMEX
INC R3
CMP #8,R3
BEQ DUM4
BR DUM3

DUMEX: RTS PC

;IF DONE EXIT
;ELSE BUMP R3
;HAVE WE PRINTED 8 ACCROSS
;IF SO GO BACK TO 4
;ELSE GO BACK AND PRINT ANOTHER
;BYTE OR WORD
;RETURN TO CALLER

CZCLKC0 DMR,DMC-11 DATA COMM. LINK TEST
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BUILD MESSAGE BUFFERS SUBROUTINE

.SBTTL BUILD MESSAGE BUFFERS SUBROUTINE

```

++
FUNCTIONAL DESCRIPTION:
BLDBUF-- BUILD POINTER TABLE AND BUFFERS

THIS SUBROUTINE ADDS A MESSAGE TO THE TRANSMIT OR EXPECT LIST
USING THE POINTER, BYTE COUNT, AND ADDRESS PASSED TO IT.

INPUTS:
CURCC= CHAR. COUNT OF MESSAGE TO BE ADDED
CURADD= ADDRESS OF MESSAGE TO BE ADDED
CPTR= ADDRESS OF POINTER TABLE WORD WHERE MESSAGE POINTERS ARE
      TO BE BUILT
MSGTYP= VALUE TO USE AS AN INDEX TO FIND SOURCE OF MESSAGE DATA
      INDEX INTO DMSGCT() AND DMSGAD().

OUTPUTS:
A MESSAGE ADDED TO EITHER TXBUF OR CMPBUF
APPROPRIATE POINTERS IN PTRTAB POINTER TABLE

CALLING SEQUENCE:
JSR PC,BLDBUF ;BUILD MESSAGE IN BUFFER AND ADD PTRS.
--

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032010
032010 010246
032012 010346
032014 013702 007416

032020 013720 007420
032024 013722 007412
032030 010237 007416
032034 013702 007410
032040 006302
032042 013737 007420 007426
032050 063737 007412 007426
032056 013703 007420
032062 016237 002150 007432
032070 016204 002176
032074 060437 007432
032100 112423
032102 020337 007426
032106 001404
032110 020437 007432
032114 001762
032116 000770
032120 063737 007412 007420
032126 012603
032130 012602
032132 000207

```

BLDBUF:  MOV    R2,-(SP)      ;SAVE R2 AND R3 ON THE STACK
        MOV    R3,-(SP)
        MOV    CPTR,R2

BLDB1:  MOV    CURADD,(R2)+  ;PUT CURRENT ADD ON POINTER TAB
        MOV    CURCC,(R2)+  ;PUT CURRENT CC ON POINTER TAB
        MOV    R2,CPTR      ;PUT UPDATED R2 BACK TO CURRENT POINT
        MOV    MSGTYP,R2    ;GET MESSAGE TYPE TO USE AS INDEX
        ASL    R2           ;DOUBLE FOR WORD INDEX
        MOV    CURADD,TEMP   ;MOVE CURRENT ADD TO TEMP
        ADD    CURCC,TEMP    ;ADD CHAR COUNT TO IT TO GET END
        MOV    CURADD,R3     ;SET R3 TO CURRENT START ADD
        MOV    DMSGCT(R2),TEMP2 ;GET BYTE COUNT
        MOV    DMSGAD(R2),R4 ;PUT STARTING FROM ADD IN R4
        ADD    R4,TEMP2      ;ADD IT TO TEMP2 TO GET END OF FROM
        MOVB   (R4)+,(R3)+   ;MOV BYTE FROM PATTERN TO BUFFER
        CMP    R3,TEMP       ;ALL DONE?
        BEQ    BLDBEX        ;IF SO EXIT
        CMP    R4,TEMP2      ;IS PATTERN COUNT EXPIRED
        BEQ    BLDB2        ;IF SO GO START AGAIN
        BR     BLDB3         ;IF NOT GET ANOTHER BYTE
BLDBEX: ADD    CURCC,CURADD   ;BUMP CURADD
        MOV    (SP)+,R3      ;RESTORE R3 AND R2
        MOV    (SP)+,R2
        RTS    PC           ;RETURN TO CALLER
BLDB2:  MOV    DMSGCT(R2),TEMP2
BLDB3:  MOVB   (R4)+,(R3)+

```

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CREATE FACSIMILE OF TX BUFFER AND MESSAGE LIST

.SBTTL CREATE FACSIMILE OF TX BUFFER AND MESSAGE LIST

..++

THIS ROUTINE ADDED FOR REV B BY EC
FUNCTIONAL DESCRIPTION:

FACSIMILE: THIS ROUTINE IS USED TO CREATE A FACSIMILE OF THE
OF THE TRANSMIT LIST AND TRANSMIT BUFFER IN THE
EXPECTED LIST AND EXPECTED BUFFER. THE ROUTINE IS
NORMALLY CALLED WHEN USER COMMAND 'SET E [XPECT]=
T [TRANSMIT] IS ENTERED.

CALLING SEQUENCE: JSR PC,FACSIMILE

DEFINITIONS CMPBUF = EXPECTED DATA BUFFER HOLDS MAX 512 BYTES
TXBUF = TRANSMIT DATA BUFFER HOLDS MAX 512 BYTES
TTOTCC = NUMBER OF BYTES IN TXBUF
PTRTAB = TOP OF MESSAGE LIST POINTER TABLE
CTOTCC = NUMBER OF BYTES IN EXPECT MESSAGE
CMPTOT = NUMBER OF EXPECTED MESSAGES
CMPPTR = EXPECTED MESSAGE LIST POINTER
TXPTR = TRANSMIT MESSAGE LIST POINTER
TXMTOT = NUMBER OF TRANSMIT MESSAGES
CCURAD = STORAGE ADDRESS OF MESSAGE IN CMPBUF
MSGLIN = MAXIMUM NUMBER OF MESSAGES THAT CAN BE STORED

BEGIN FACSIMILE ROUTINE
(*COPY TXBUF ==> CMPBUF*)

..SAVE R1
..INIT R1
..REPEAT
....[CMPBUF]R1=[TXBUF]R1
....R1=R1+1
..UNTIL R1 = BUFLIM

(*NOW CALCULATE EXPECT LIST MESSAGE POINTER*)
..CMPPTR = PTRTAB + (2 * MSGLIM)

(*NOW PRIME THE WHILE - DO LOOP*)

..TXPTR = PTRTAB
..CCURAD = CMPBUF
..TXPTR = TXPTR + 2
..CTOTCC = [TXPTR]
..CMPTOT = 0
..WHILE TXMTOT <> CMPTOT DO
....[CMPPTR] = CCURAD
....CMPPTR = CMPPTR + 2
....[CMPPTR] = CTOTCC
....TXPTR = TXPTR + 4
....CCURAD = CCURAD + CTOTCC
....CTOTCC = [TXPTR]
....CMPPTR = CMPPTR + 2
....CMPTOT = CMPTOT + 1
..END WHILE DO
..CTOTCC = TTOTCC

END FACSIMILE ROUTINE

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CREATE FACSIMILE OF TX BUFFER AND MESSAGE LIST

4193											
4194	032134										
4195	032134	010146									
4196	032136	005001									
4197	032140	116161	003562	005562	10\$:						
4198	032146	005201									
4199	032150	020127	001000								
4200	032154	001371									
4201											
4202	032156	012701	000017		20\$:						
4203	032162	006301									
4204	032164	006301									
4205	032166	012737	006562	007336							
4206	032174	060137	007336								
4207	032200	005001									
4208											
4209											
4210	032202	012737	006562	007334							
4211	032210	012737	005562	007344							
4212	032216	062737	000002	007334							
4213	032224	017737	155104	007342							
4214	032232	005037	007340								
4215											
4216											
4217	032236	023737	007354	007340	30\$:						
4218	032244	001430									
4219	032246	013777	007344	155062							
4220	032254	062737	000002	007336							
4221	032262	013777	007342	155046							
4222	032270	062737	000004	007334							
4223	032276	063737	007342	007344							
4224	032304	017737	155024	007342							
4225	032312	062737	000002	007336							
4226	032320	005237	007340								
4227	032324	000744									
4228											
4229	032326	013737	007356	007342	40\$:						
4230											
4231											
4232	032334	012601									
4233	032336	000207									
4234											
4235											

FACSIMILE:

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MOV R1,-(SP) ;SAVE R1
CLR R1 ;INIT R1
MOVB TXBUF(R1),CMPBUF(R1) ;COPY TX BUFFER TO EXPECTED BUFFER
INC R1 ;BUMP INDEX
CMP R1,#BUFLIM ;ALL DATA COPIED ?
BNE 10$ ;NO,BRANCH

20$: MOV #MSG LIM,R1 ;MESSAGE LIMIT
ASL R1 ;MULTIPLY BY 2
ASL R1 ;MULTIPLY BY 2
MOV #PTRTAB,CMPPTR ;TOP OF POINTER TABLE
ADD R1,CMPPTR ;START OF EXPECTED POINTER TABLE
CLR R1 ;INIT R1

;SET UP WHILE - DO LOOP
MOV #PTRTAB, TXPTR ;TX POINTER NOW AT TOP OF TABLE
MOV #CMPBUF, CCURAD ;TRANSFER ADDRESS OF 1ST MESSAGE
ADD #2, TXPTR ;BUMP POINTER
MOV @TXPTR, CTOTCC ;BYTE COUNTER 1ST MESSAGE
CLR CMPTOT ;INIT EXPECTED MESSAGE COUNT

;WHILE TX MESSAGE TOTAL <> EXPECTED MESSAGE TOTAL DO
CMP TXMTOT, CMPTOT ;ALL MESSAGES COPIED ?
BEQ 40$ ;YES,BRANCH
MOV CCURAD, @CMPPTR ;TRANSFER ADDRESS OF MESSAGE
ADD #2, CMPPTR ;BUMP POINTER
MOV CTOTCC, @CMPPTR ;BYTE COUNT OF MESSAGE
ADD #4, TXPTR ;BUMP TX MESSAGE POINTER
ADD CTOTCC, CCURAD ;CALC. TRANSFER ADDRESS
MOV @TXPTR, CTOTCC ;BYTE COUNT NEXT MESSAGE
ADD #2, CMPPTR ;BUMP POINTER
INC CMPTOT ;INCREMENT MESSAGE COUNT
BR 30$ ;DO IT AGAIN

;END WHILE - DO
MOV TTOTCC, CTOTCC ;COPY TOTAL CHARACTER COUNT

;END ROUTINE
MOV (SP)+, R1 ;RESTORE R1
RTS PC ;RETURN

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SHOW MODE OF OPERATION, LOOP TYPE AND QUALIFIERS

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4236 .SBTTL          SHOW MODE OF OPERATION, LOOP TYPE AND QUALIFIERS
4237
4238 :++
4239 : FUNCTIONAL DESCRIPTION:
4240 :     SHWOP - SHOW MODE OF OPERATION, LOOP, QUALIFIERS
4241 :     PRINTED ON THE OPERATOR'S CONSOLE.
4242 :
4243 : INPUTS:
4244 :     DEV1=  MODE TYPE (MODTYP)
4245 :     DEV2=  MAINT LOOP TYPE (MLTYP)
4246 :     DEV3=  'RUN PASS' COUNT (RPASS) - COUNT DOWN
4247 :     DEV4=  PARAMETERS WORD (PARAM)
4248 :
4249 : IMPLICIT INPUTS:
4250 :     MODES= TABLE OF ADDRESSES OF MODE NAME STRINGS
4251 :     LOOPS= TABLE OF ADDRESSES OF LOOP TYPE NAMES
4252 :
4253 : CALLING SEQUENCE:
4254 :     JSR PC,SHWOP
4255 : --
4256
4257 032340 013702 010654      SHWOP:  MOV     DEV1,R2          ;GET THE MODE TYPE IN R2
4258 032344 006302           ASL      R2              ;MAKE IT A WORD TABLE OFFSET
4259 032346 016237 003514 007426  MOV     MODES(R2),TEMP  ;GET ADDRESS OF MODE-IN-ASCII
4260 032354 013702 010656           MOV     DEV2,R2          ;GET MAINTENANCE LOOP TYPE
4261 032360 006302           ASL      R2
4262 032362 012737 014642 007434  MOV     #LP00,TEMP3      ;LOAD TEMP3 TO POINT TO '/LOOP='
4263 032370 005702           TST      R2              ;SEE IF /LOOP=XXXXXX OR NONE
4264 032372 001003           BNE     10$              ;BR IF /LOOP= OF SOME KIND
4265 032374 012737 014641 007434  MOV     #LP0,TEMP3       ;IF NO LOOP THEN DON'T PRINT '/LOOP='
4266 032402 016237 003532 007430 10$:  MOV     LOOPS(R2),TEMP1  ;GET ADDRESS OF LOOP-IN-ASCII
4267 032410 013737 010660 007432  MOV     DEV3,TEMP2      ;GET NUMBER OF PASSES
4268 032416           PRINTS  #SHF0,TEMP,TEMP3,TEMP1,TEMP2
4269 032416 013746 007432           MOV     TEMP2,-(SP)
4270 032422 013746 007430           MOV     TEMP1,-(SP)
4271 032426 013746 007434           MOV     TEMP3,-(SP)
4272 032432 013746 007426           MOV     TEMP,-(SP)
4273 032436 012746 015361           MOV     #SHF0,-(SP)
4274 032442 012746 000005           MOV     #5,-(SP)
4275 032446 010600           MOV     SP,R0
4276 032450 104416           TRAP    C$PNTS
4277 032452 062706 000014           ADD     #14,SP
4278
4279 032456 005002           CLR      R2              ;NOW SET UP FOR QUALIFIERS IN ASCII
4280 032460 012737 014721 007426  MOV     #PST,TEMP?
4281 032466 032737 000001 010662  BIT     #STATB,DEV4
4282 032474 001003           BNE     1$              ;SEE IF /STATUS OR /NOSTATUS
4283 032476 012737 014717 007426  MOV     #PNST,TEMP
4284 032504 012737 014732 007430 1$:  MOV     #PCK,TEMP1
4285 032512 032737 000002 010662  BIT     #DATCKB,DEV4
4286 032520 001003           BNE     2$              ;SEE IF /CHECK OR /NOCHECK
4287 032522 012737 014730 007430  MOV     #PNCK,TEMP1
4288 032530 012737 014742 007432 2$:  MOV     #PEC,TEMP2
4289 032536 032737 000004 010662  BIT     #ECHOB,DEV4
4290 032544 001003           BNE     3$              ;SEE IF /ECHO OR /NOECHO
4291 032546 012737 014740 007432  MOV     #PNEC,TEMP2

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SHOW MODE OF OPERATION, LOOP TYPE AND QUALIFIERS

4292 032554 012737 014751 007440 3\$:
4293 032562 032737 000010 010662
4294 032570 001003
4295 032572 012737 014747 007440
4296
4297
4298 032600 5\$:
4299 032600 013746 007440
4300 032604 013746 007432
4301 032610 013746 007430
4302 032614 013746 007426
4303 032620 012746 015417
4304 032624 012746 000005
4305 032630 010600
4306 032632 104416
4307 032634 062706 000014
4308 032640 000207
4309
4310

MOV #PMS,TEMP5 ;ASSUME /MODEM ;REV B EC
BIT #MOCHK,DEV4 ;MODEM CHECK ? ;REV B EC
BNE 5\$;YES,BRANCH ;REV B EC
MOV #PNMS,TEMP5 ;'/NOMODEM' MESSAGE ;REV B EC

PRINTS #SHF1,TEMP,TEMP1,TEMP2,TEMP5 ;,TEMP3,TEMP4 **:SEE NOTE ABOVE

MOV TEMP5,-(SP)
MOV TEMP2,-(SP)
MOV TEMP1,-(SP)
MOV TEMP,-(SP)
MOV #SHF1,-(SP)
MOV #5,-(SP)
MOV SP,R0
TRAP C\$PNTS
ADD #14,SP

RTS PC ;RETURN

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TRAVERSE COMMAND LINE SUBROUTINES

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4311 .SBTTL          TRAVERSE COMMAND LINE SUBROUTINES
4312
4313 :++
4314 :      P$TRV SUBROUTINE
4315 :
4316 :      PARSE THE COMMAND LINE SUBROUTINE
4317 :      TAKE ACTIONS (VIA ACTION TREE) AS PARSING LINE
4318 :      PARSING DIRECTIONS FROM 'CLI PARSING NODES'
4319 :      REGS USED:
4320 :
4321 :      R1,R5=SCRATCH                                P$NUM=NUMERIC CODE FROM DATA
4322 :      R2=ACTION CODE PARAMETER FROM TREE
4323 :      R3=PARSE TREE POINTER
4324 :      R4=INPUT STRING POINTER
4325 :      CALLING SEQUENCE:
4326 :      JSR      PC,P$TRV
4327 :      --
4328
4329 P$TRV:
4330     MOV      P$BUFA,R4
4331     MOV      P$TREE,R3
4332 P$TR5:     TSTB      (R4)                                ;SEE IF ANY CHARS LEFT IN INPUT STRING
4333     BEQ      P$EXIT                                       ;BR IF NO
4334     CMPB     (R3),#11.                                     ;SEE IF SPECIAL CLI CHAR CODE OR ASCII
4335     BGT      20$                                           ;BR IF REGULAR ASCII CHAR.
4336     MOVB     (R3),R5                                       ;GET SPECIAL CHAR CODE INTO R5
4337     ASL      R5
4338     MOV      10$(R5),R5                                    ;BUILD TRAVERSE ROUTINE ADDRESS
4339     ADD      #10$,R5
4340     JSR      PC,(R5)                                       ;JSR TO SPECIAL CLI TRAVERSE ROUTINE
4341     BR       P$TR5                                       ;GC SEE IF MORE OF STRING LEFT
4342
4343 :      ;TRAVERSE TABLE FOR 'CLI FUNTIONS'
4344 10$:      .WORD   TRVERR-10$                                ;TAKE ERROR ACTION
4345           .WORD   TRVEXI-10$                                ;TAKE EXIT ACTION
4346           .WORD   TRVBR-10$                                ;TAKE BRANCH ACTION
4347           .WORD   TRVBIF-10$                               ;TEST P$GDBD & TAKE BRANCH
4348           .WORD   TRVSPA-10$                               ;SKIP SPACES OR TABS IN CMD LINE
4349           .WORD   TRVNUM-10$                               ;TRAVERSE NUMERIC FIELD
4350           .WORD   TRVALP-10$                               ;TRAVERSE ALPHABETICS
4351           .WORD   TRVALN-10$                               ;TRAVERSE ALPHANUMERICS
4352           .WORD   TRVOCT-10$                               ;SAME AS TRVNUM
4353           .WORD   TRVDEC-10$                               ;SAME AS CLINUM BUT DECIMAL
4354           .WORD   TRVSTR-10$                               ;FIND ASCII MATCH IN CMD LINE
4355
4356 :      ;NOT A SPECIAL CODE
4357
4358 20$:      CMPB     (R3),(R4)                                ;SEE IF FIRST CHAR OF STRING IS A MATCH
4359           BEQ      22$                                       ;BR IF A MATCH
4360           JSR      PC,TRVBRC                                ;IF NOT A MATCH, GO TAKE MISS BRANCH
4361           BR       P$TR5                                    ; THEN GO BACK PT'G TO MISS NODE
4362 22$:      JSR      PC,TRVACT                                ;IF A MATCH, GO DO ACTION DEFINED BY
4363           ADD      #4,R3                                     ; ACTION CODE IN CLI NODE, THEN
4364           ; ADJUST PTR TO NEXT CLI NODE
4365           INC      R4                                       ;ADJUST BUF PTR TO NEXT CHAR IF MATCH
4366           BR       P$TR5

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TRAVERSE COMMAND LINE SUBROUTINES

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4367
4368 032760 000207 P$EXIT: RTS PC ;RETURN FROM PARSER
4369
4370 ;-----
4371
4372 ;GOTO USER ACTION ROUTINE
4373 032762 116302 000001 TRVACT: MOV 1(R3),R2 ;GET ACTION CODE FROM CLI NODE
4374 032766 042702 177400 BIC #177400,R2 ;CLEAR ANY SIGN EXTENSION
4375 032772 013705 003550 MOV P$ACT,R5 ;GET ADDRESS OF CLI ACTION ROUTINE
4376 032776 004715 JSR PC,(R5) ;GO DO ACTION DEFINED BY CODE
4377 033000 000207 RTS PC ;RETURN TO CALLING CODE
4378
4379 ;TAKE BRANCH IN TREE
4380 033002 016305 000002 TRVBRC: MOV 2(R3),R5 ;GET BRANCH DISPLACEMENT FROM TREE
4381 033006 060503 ADD R5,R3 ; AND POINT R3 TO THE 'MISS' NODE
4382 033010 000207 RTS PC ; RETURN TO P$TRV
4383
4384 ;NO BRANCH TAKEN
4385 033012 062703 000004 TRVNOB: ADD #4,R3 ;THINGS OK, UPDATE R3 TO POINT TO NEXT
4386 033016 000207 RTS PC ; NODE AND RETURN TO P$TRV
4387
4388 ;-----
4389 033020 004737 032762 TRVERR: JSR PC,TRVACT ;TAKE ERROR ACTION
4390 033024 112737 177777 003561 MOVB #-1,P$GDBD ;SET ERROR RETURN FLAG
4391 033032 005726 TST (SP)+ ;GET RID OF 'JSR PUSH TO TRVERR'
4392 033034 000137 032760 JMP P$EXIT ;RETURN DIRECT TO EXIT OF P$TRV ROUTINE
4393
4394 033040 004737 032762 TRVEXI: JSR PC,TRVACT ;TAKE EXIT ACTION
4395 033044 105037 003561 CLRB P$GDBD ;SET GOOD/BAD FLAG TO 'SUCCESS (0)'
4396 033050 005726 TST (SP)+ ;GET RID OF 'JSR PUSH TO TRVEXI'
4397 033052 000137 032760 JMP P$EXIT ;RETURN DIRECT TO EXIT OF P$TRV ROUTINE
4398
4399 033056 004737 032762 TRVBR: JSR PC,TRVACT ;GO TAKE BRANCH ACTION
4400 033062 000137 033002 JMP TRVBRC
4401
4402 033066 004737 032762 TRVBIF: JSR PC,TRVACT
4403 033072 105737 003561 TSTB P$GDBD ;SEE IF P$GDBD SET OR CLEARED BY ACTION
4404 033076 001402 BEQ 1$ ;IF CLEAR FALL THRU TO NEXT NODE
4405 033100 000137 033002 JMP TRVBRC ;ELSE TAKE THE 'MISS' BRANCH
4406 033104 000137 033012 1$: JMP TRVNOB ;JUST UPDATE TO NEXT NODE IF THINGS OK
4407
4408 033110 005005 TRVSPA: CLR R5 ;CLEAR 'SPACE OR TAB FOUND' FLAG
4409 033112 121427 000011 1$: CMPB (R4),#11 ;SEE IF CHAR. IN CMD LINE= TAB
4410 033116 001003 BNE 2$ ;BR IF NO, NOT A TAB
4411 033120 005204 INC R4 ;INC INPUT STRING POINTER
4412 033122 005205 INC R5 ;INDICATE A TAB FOUND
4413 033124 000772 BR 1$ ;GO CHECK NEXT CHAR
4414
4415 033126 121427 000040 2$: CMPB (R4),#40 ;SEE IF CHAR. IN CMD LINE= SPACE
4416 033132 001003 BNE 10$ ;BR IF NO, NON-SPACE OR NON-TAB CHAR.
4417 033134 005204 INC R4 ;INC INPUT STRING POINTER
4418 033136 005205 INC R5 ;INDICATE A SPACE FOUND
4419 033140 000764 BR 1$ ;GO CHECK NEXT CHAR
4420 033142 005705 10$: TST R5 ;SEE IF ANY SPACES OR TABS FOUND
4421 033144 001404 BEQ 15$ ;BR IF NO, TAKE NO ACTION
4422 033146 004737 032762 JSR PC,TRVACT ;GO TAKE ACTION IF ANY FOUND

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TRAVERSE COMMAND LINE SUBROUTINES

4423	033152	000137	033012		JMP	TRVNOB		;JUST GO UPDATE R3 TO NEXT NODE IF OK
4424	033156	000137	033002	15\$:	JMP	TRVBRC		;TAKE BRANCH (MISS) IF NONE FOUND
4425								
4426								
4427	033162	012737	000012	003556	TRVDEC:	MOV	#10.,PSRADX	;USE DECIMAL AS RADIX AND ASSUME +
4428	033170	000137	033202		JMP	TRVNMA		
4429	033174				TRVOCT:	;(SAME AS TRVNUM SINCE DEFAULT RADIX IS OCTAL)		
4430	033174	012737	000010	003556	TRVNUM:	MOV	#8.,PSRADX	;USE OCTAL AS RADIX AND ASSUME +
4431	033202	005005			TRVNMA:	CLR	R5	;CLEAR DIGIT COUNTER
4432	033204	121427	000053		CMPB	(R4),#'+		;SEE IF THERE'S A + SIGN THERE
4433	033210	001001			BNE	10\$		; BR IF NO
4434	033212	000406			BR	11\$		; ELSE PSRADX ALREADY SAYS +, JUST BR
4435	033214	121427	000055	10\$:	CMPB	(R4),#'-		;SEE IF THERE'S A - SIGN THERE
4436	033220	001004			BNE	1\$		; BR IF NO
4437	033222	112737	177777	003557	MOVB	#-1,PSRADX+1		;SET 'MINUS FLAG' (HI BYTE OF PSRADX)
4438	033230	005204		11\$:	INC	R4		;BUMP R4 TO POINT TO FIRST CHAR
4439								
4440	033232	121427	000060	1\$:	CMPB	(R4),#60		;SEE IF CHAR. LESS THAN A '0'
4441	033236	002434			BLT	2\$		;BR IF YES (NOT NUMERIC)
4442	033240	121427	000067		CMPB	(R4),#67		;SEE IF CHAR. GREATER THAN A '7'
4443	033244	003426			BLE	13\$		; BR IF YES
4444	033246	123727	003556	000012	CMPB	PSRADX,#10.		;SEE IF IN DECIMAL MODE
4445	033254	001417			BEQ	12\$		; BR IF YES (CAN USE HIGHER LIMIT)
4446	033256	121427	000071		CMPB	(R4),#71		;SEE IF DIGIT WAS A 8 OR 9
4447	033262	003022			BGT	2\$		;BR IF NON-NUMERIC
4448	033264				PRINTF	#CLIBRX		;ELSE WAS A 8 OR 9 WHEN IN OCTAL RADIX
4449	033264	012746	012613				MOV	#CLIBRX,-(SP)
4450	033270	012746	000001				MOV	#1,-(SP)
4451	033274	010600					MOV	SP,R0
4452	033276	104417					TRAP	C\$PNTF
4453	033300	062706	000004				ADD	#4,SP
4454	033304	112737	177777	003561	MOVB	#-1,PSGDBD		;SET ERROR RETURN FLAG
4455	033312	000474			BR	5\$		; PRINT ERROR AND TAKE MISS
4456								
4457	033314	121427	000071	12\$:	CMPB	(R4),#71		;SEE IF CHAR. GREATER THAN A '9'
4458	033320	003003			BGT	2\$		;BR IF YES (NOT NUMERIC)
4459	033322	005204		13\$:	INC	R4		;UPDATE CMD LINE PTR TO NEXT CHAR.
4460	033324	005205			INC	R5		;INDICATE A NUMERIC FOUND
4461	033326	000741			BR	1\$		;GO LOOK AT NEXT CHAR.
4462								
4463	033330	005705		2\$:	TST	R5		;SEE IF FOUND ANY NUMERICS
4464	033332	001464			BEQ	5\$		;BR IF NO, TAKE 'MISS' BRANCH
4465	033334	010401			MOV	R4,R1		;GET POINTER TO START OF NUMERIC STRING
4466	033336	160501			SUB	R5,R1		
4467	033340	005037	003554		CLR	PSNUM		;CLEAR LOC. WHERE VALUE WILL BE STORED
4468	033344	112102		3\$:	MOVB	(R1)+,R2		;GET ASCII CHAR AND CONVERT IT TO A #
4469	033346	162702	000060		SUB	#60,R2		
4470	033352	006337	003554		ASL	PSNUM		;SHIFT CURRENT VALUE TO MAKE ROOM
4471	033356	103437			BCS	7\$		;ERROR IF NUMBER TOO BIG
4472	033360	013737	003554	003552	MOV	PSNUM,PSCNT		;SAVE FOR LATER IN CASE DECIMAL RADIX
4473	033366	006337	003554		ASL	PSNUM		
4474	033372	103431			BCS	7\$		;ERROR IF NUMBER TOO BIG
4475	033374	006337	003554		ASL	PSNUM		
4476	033400	103426			BCS	7\$		;ERROR IF NUMBER TOO BIG
4477	033402	123727	003556	000012	CMPB	PSRADX,#10.		;SEE IF DECIMAL RADIX
4478	033410	001004			BNE	4\$		;BR IF NOT EQUAL

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TRAVERSE COMMAND LINE SUBROUTINES

4479	033412	063737	003552	003554	ADD	P\$CNT,P\$NUM		
4480	033420	103416			BCS	7\$		;ERROR IF NUMBER TOO BIG
4481	033422	060237	003554		ADD	R2,P\$NUM	4\$:	
4482	033426	103413			BCS	7\$		;ERROR IF NUMBER TOO BIG
4483	033430	005305			DEC	R5		
4484	033432	001344			BNE	3\$		
4485	033434	105737	003557		TSTB	P\$RADX+1		;SEE IF NUM WAS PRECEDED BY A - SIGN
4486	033440	001402			BEQ	15\$		; BR IF NO
4487	033442	005437	003554		NEG	P\$NUM		; ELSE NEGATE THE NUMBER BEFORE LEAVING
4488	033446	004737	032762		JSR	PC,TRVACT	15\$:	;SINCE NUMERIC FOUND, GO TAKE ACTION
4489	033452	000137	033012		JMP	TRVNOB		;GO POINT R3 TO NEXT NODE
4490								
4491	033456				PRINTF	#CLINBG	7\$:	;PRINT NUMBER TOO BIG ERROR
4492	033456	012746	012571					MOV #CLINBG,-(SP)
4493	033462	012746	000001					MOV #1,-(SP)
4494	033466	010600						MOV SP,R0
4495	033470	104417						TRAP C\$PNTF
4496	033472	062706	000004					ADD #4,SP
4497	033476	112737	177777	003561	MOVB	#-1,P\$GDBD		;SET ERROR RETURN FLAG
4498	033504	000137	033002		JMP	TRVBRC	5\$:	;TAKE 'MISS' BRANCH
4499								
4500								
4501	033510	005005			TRVALP: CLR	R5		;CLEAR ALPHA FOUND FLAG
4502	033512	121427	000101		1\$:	CMPB (R4),#101		;SEE IF CHAR. LESS THAN A 'A'
4503	033516	002406			BLT	2\$		;BR IF YES (NOT ALPHA)
4504	033520	121427	000132		CMPB	(R4),#132		;SEE IF CHAR. GREATER THAN A 'Z'
4505	033524	003003			BGT	2\$		;BR IF YES (NOT ALPHA)
4506	033526	005204			INC	R4		;UPDATE CMD LINE PTR TO NEXT CHAR
4507	033530	005205			INC	R5		;INDICATE AN ALPHA WAS FOUND
4508	033532	000767			BR	1\$		;GO LOOK AT NEXT CHAR.
4509	033534	005705			2\$:	TST R5		;SEE IF ANY ALPHA'S WERE FOUND
4510	033536	001404			BEQ	3\$		;BR IF NO
4511	033540	004737	032762		JSR	PC,TRVACT		;IF ANY FOUND TAKE ACTION
4512	033544	000137	033012		JMP	TRVNOB		;THEN UPDATE R3 TO NEXT NODE -NO BRANCH
4513	033550	000137	033002		3\$:	JMP TRVBRC		;NONE FOUND, TAKE MISS BRANCH
4514								
4515	033554	005005			TRVALN: CLR	R5		;CLEAR ALPHANUM FOUND FLAG
4516	033556	121427	000060		10\$:	CMPB (R4),#60		;SEE IF CHAR. LESS THAN A '0'
4517	033562	002417			BLT	2\$		;BR IF YES (NOT NUMERIC OR ALPHA)
4518	033564	121427	000072		CMPB	(R4),#72		;SEE IF CHAR. GREATER THAN A '9'
4519	033570	003003			BGT	1\$		;BR IF YES (NOT NUMERIC)
4520	033572	005204			INC	R4		;UPDATE CMD LINE PTR TO NEXT CHAR.
4521	033574	005205			INC	R5		;INDICATE A NUMERIC FOUND
4522	033576	000767			BR	10\$		;GO LOOK AT NEXT CHAR.
4523	033600	121427	000101		1\$:	CMPB (R4),#101		;SEE IF CHAR. LESS THAN A 'A'
4524	033604	002406			BLT	2\$		;BR IF YES (NOT ALPHA)
4525	033606	121427	000132		CMPB	(R4),#132		;SEE IF CHAR. GREATER THAN A 'Z'
4526	033612	003003			BGT	2\$		;BR IF YES (NOT ALPHA)
4527	033614	005204			INC	R4		;UPDATE CMD LINE PTR TO NEXT CHAR
4528	033616	005205			INC	R5		;INDICATE AN ALPHA FOUND
4529	033620	000756			BR	10\$		;GO LOOK AT NEXT CHAR.
4530	033622	005705			2\$:	TST R5		;SEE IF ANY ALPHANUM'S WERE FOUND
4531	033624	001404			BEQ	3\$		;BR IF NO
4532	033626	004737	032762		JSR	PC,TRVACT		;IF ANY FOUND TAKE ACTION
4533	033632	000137	033012		JMP	TRVNOB		;THEN UPDATE R3 TO NEXT NODE -NO BRANCH
4534	033636	000137	033002		3\$:	JMP TRVBRC		;NONE FOUND, TAKE MISS BRANCH

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TRAVERSE COMMAND LINE SUBROUTINES

```

4535
4536
4537
4538 033642 010401 TRVSTR: MOV R4,R1 ;POINT R1 TO CMD STRING
4539 033644 010305 MOV R3,R5
4540 033646 062705 000006 ADD #6,R5 ;POINT R5 TO MATCH STRING FROM CLI NODE
4541 033652 005037 003552 CLR P$CNT ;CLEAR CHAR MATCH COUNT
4542 033656 105715 2$: TSTB (R5) ;SEE IF END OF MATCH STRING YET
4543 033660 001411 BEQ 10$ ;BR IF YES
4544 033662 105711 TSTB (R1) ;SEE IF END OF CMD LINE YET
4545 033664 001407 BEQ 10$ ;BR IF YES
4546 033666 121115 CMPB (R1),(R5) ;SEE IF CHARACTERS MATCH
4547 033670 001005 BNE 10$ ;BR IF NO
4548 033672 005237 003552 INC P$CNT ;MATCH -INCREMENT MATCH COUNT
4549 033676 005201 INC R1 ;UPDATE STRING POINTERS
4550 033700 005205 INC R5
4551 033702 000765 BR 2$ ;BR TO CONTINUE CHECKING CHARS.
4552
4553 033704 005737 003552 10$: TST P$CNT ;WHEN DONE SEE IF ANY MATCHES FOUND
4554 033710 001406 BEQ 15$ ;BR IF NO, GO TAKE THE MISS BRANCH
4555 033712 010104 MOV R1,R4 ;POINT CMD POINTER TO END OF STRING &
4556 033714 004737 032762 JSR PC,TRVACT ;IF A MATCH FOUND, GO DO MATCH ACTION
4557 033720 066303 000004 ADD 4(R3),R3 ;UPDATE R3 TO NEXT NODE (NO BRANCH)
4558 033724 000207 RTS PC ; (NO RETURN THRU TRVNOB SINCE DIFFERNT
4559 ; DISPLACEMENT DUE TO MATCH STRING)
4560 033726 000137 033002 15$: JMP TRVBRC ; GO TAKE BRANCH
4561
4562 ; (PARSED OK), -1 IF ILL CMD.....
4563 ;-----
4564

```

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REPORT CODING SECTION

.SBTTL REPORT CODING SECTION

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

BGNRPT

LSRPT::

JSR PC,REPORT

;CALL SUBROUTINE TO DUMP EVENT LOG
; AND BASE TABLE

ENDRPT

L10011:

TRAP CSRPT

4565
4566
4567
4568
4569
4570
4571
4572
4573 033732
4574 033732
4575
4576
4577 033732 004737 027046
4578
4579
4580
4581
4582
4583 033736
4584 033736
4585 033736 104425

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PROTECTION TABLE

.SBTTL PROTECTION TABLE

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

4586
4587
4588
4589
4590
4591
4592
4593 033740
4594 033740
4595
4596 033740 177777
4597 033742 177777
4598 033744 177777
4599
4600 033746
4601

BGNPROT

L\$PROT::

-1 ;OFFSET INTO P-TABLE FOR CSR ADDRESS
-1 ;OFFSET INTO P-TABLE FOR MASSBUS ADDRESS
-1 ;OFFSET INTO P-TABLE FOR DRIVE NUMBER

ENDPROT

```
.SBTTL  INITIALIZE SECTION
```

```

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

```

4602
4603
4604
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4610
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4644
4645
4646
4647
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4650
4651
4652
4653
4654
4655
4656
4657

033746
033746

BGNINIT

LSINIT::

```
CLR      KEYWD1
TST      DCLFLG
BEQ      INIT1
CLR      DCLFLG
DOCLN
```

```

:INIT USER COMMAND VARIABLE
:CLEANUP & EXIT ?
:NO,BRANCH
:CLEAR FLAG
:GO CLEANUP

```

TRAP CSDCLN

```
INIT1:  MOV     #-1,RESFLG
        READEF  #EF.START
```

```

;SET RESTART FLAG
;IF HERE CAUSE OF START,DO SOME INIT
                                MOV     #EF.START,RO
                                TRAP     C$REFG

```

```
BCOMplete      START
READef  #EF.RESTART
```

```

;IF HERE CAUSE OF RESTART, DO SOME INIT
BCS      START
MOV      #EF.RESTART,R0
TRAP     CSREFG

```

```
BCOMplete      RESTRt
READef  #EF.CONTINUE
```

```

                                BCS      RESTR
;SEE IF WE'RE HERE CAUSE OF A CONTINUE
                                MOV      #EF.CONTINUE,R0
                                TRAP     CSREFF

```

BNCOMPLETE S1

;BR IF NOT HERE CAUSE OF CONITNUE
BCC S1

```

S1:      JMP      ENDIT
        READEX  #EF.NEW

```

```

;JMP IF HERE CAUSE OF A CONTINUE
;SEE IF THIS IS A 'NEW PASS'
                                MOV     #EF.NEW,RO
                                TRAP    CSREFG
;IF YES, BR AROUND LOGUNIT # SETUP
                                BCS     NEW

```

BCOMplete NEW

```

;IF YES, BR AROUND LOGUNIT # SETUP
                                BCS     NE

```

BR GETPRM

```
START:  CLR      RESFLG
        CLR      CLKVEC
```

```

;CLEAR RESTART FLAG SINCE HERE ON START
;CLEAR CLK VECTOR PTR. AS A FLAG IN
; NO CLOCK IS FOUND.
;SETUP R2 AS A PTR. TO CLOCK INFO BLOCK
;LOOK FOR A LINE CLOCK

```

```
MOV    #CLKCSR,R2
CLOCK  L,R1
```

```

MOV    #'L,R0
TRAP   C$CLCK
MOV    R0,R1

```

BNCOMPLETE S2

```

; IF NONE THERE GO LOOK FOR A P-CLOCK
; GO SET UP CLOCK INFO TABLE & CLK VEC.
; SETUP THE ENABLE LINE CLOCK DATA

```

```
JSR    PC,CLKSET
MOV    #LCLKEN,CLKEN
BR      RESTR
```

;LOOK FOR A P-CLOCK SINCE NO LINE CLOCK

S2: CLOCK P,R1

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INITIALIZE SECTION

4658	034104	012700	000120				MOV #P,RO
4659	034110	104462					TRAP C\$CLK
4660	034112	010001					MOV RO,R1
4661	034114					BNCOMPLETE S3	; IF NONE THERE GO SEE IF THIS IS LSI
4662	034114	103017					BCC S3
4663	034116	004737	026204			JSR PC,CLKSET	; ELSE GO SET UP CLOCK INFO & VECTOR
4664	034122	062737	000002	007522		ADD #2,CLKCSR	;POINT CLKCSR TO P-CLK COUNT SET REG.
4665	034130	012777	001600	153364		MOV #PCLKCT,@CLKCSR	;LOAD CLK SET REG. WITH COUNT VALUE
4666	034136	162737	000002	007522		SUB #2,CLKCSR	;POINT CLKCSR BAC TO P-CLK CSR
4667	034144	012737	000111	007532		MOV #PCLKEN,CLKEN	;SETUP THE ENABLE THE P-CLK DATA
4668	034152	000433				BR RESTRT	
4669							
4670	034154					S3: READBUS	;READ BUS TYPE TO SEE IF ON AN LSI
4671	034154	104407					TRAP C\$RDBU
4672	034156					BNCOMPLETE S4	;BR IF NOT, NO CHANCE OF A CLOCK
4673	034156	103021					BCC S4
4674	034160	012737	000100	007526		MOV #100,CLKVEC	;LOAD 100 AS CLK VECTOR
4675	034166	005037	007524			CLR CLKBR	;LOAD 0 AS CLK INT. LEVEL
4676	034172	012737	007532	007522		MOV #CLKEN,CLKCSR	;KLUDGE UP THE CSR & ENABLE DATA LOCS
4677	034200					GMANID L5060,CLKHZ,D,377,50.,60.,YES	
4678	034200	104443					TRAP C\$GMAN
4679	034202	000406					BR 10000\$
4680	034204	007530					.WORD CLKHZ
4681	034206	000052					.WORD T\$CODE
4682	034210	014775					.WORD L5060
4683	034212	000377					.WORD 377
4684	034214	000062					.WORD T\$LOLIM
4685	034216	000074					.WORD T\$HILIM
4686	034220						10000\$:
4687	034220	000410				BR RESTRT	
4688							
4689	034222					S4: PRINTF #NOCLK	;INFORM OPR. NO CLOCK, & EXIT INIT
4690	034222	012746	015106				MOV #NOCLK,-(SP)
4691	034226	012746	000001				MOV #1,-(SP)
4692	034232	010600					MOV SP,RO
4693	034234	104417					TRAP C\$PNTF
4694	034236	062706	000004				ADD #4,SP
4695							
4696	034242	005037	007534			RESTRT: CLR TIMMIN	;CLEAR TIME SINCE START LOCATIONS
4697	034246	005037	007536			CLR TIMSEC	
4698	034252	013737	007530	007540		MOV CLKHZ,TIMTCK	;LOAD TICKS/SEC
4699	034260	012702	007552			MOV #EVTLOG,R2	;INIT EVENT TABLE TO ALL 1'S AFTER EACH
4700	034264	010237	007550			MOV R2,EVTPT	; START OR RES AND INIT TABLE POINTER
4701	034270	012722	177777			1\$: MOV #-1,(R2)+	
4702	034274	020227	010454			CMP R2,#EVTEND	;SEE IF REACHED END OF TABLE
4703	034300	001373				BNE 1\$	;LOOP UNTIL DONE
4704							
4705	034302	012737	177777	007460		NEW: MOV #-1,LOGUNT	;INITIALIZE LOGICAL UNIT #
4706							
4707	034310	005237	007460			GETPRM: INC LOGUNT	;POINT TO NEXT LOGICAL UNIT
4708	034314	023737	007460	002012		CMP LOGUNT,L\$UNIT	;SEE IF PAST MAX. LOG. UNIT #
4709	034322	002367				BGE NEW	;BR IF YES, AND START OVER
4710							
4711	034324					GPHARD LOGUNT,R1	;GET THE P-TABLE FOR THIS LOG. UNIT
4712	034324	013700	007460				MOV LOGUNT,RO
4713	034330	104442					TRAP C\$GPHRD

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INITIALIZE SECTION

```

4714 034332 010001
4715 034334
4716 034334 103365
4717
4718 034336 011137 007474
4719
4720
4721
4722
4723 034342 016137 000002 012364
4724 034350 016137 000002 012366
4725 034356 005237 012366
4726 034362 016137 000002 012370
4727 034370 062737 000002 012370
4728 034376 016137 000002 012372
4729 034404 062737 000003 012372
4730 034412 016137 000002 012374
4731 034420 062737 000004 012374
4732 034426 016137 000002 012376
4733 034434 062737 000005 012376
4734 034442 016137 000002 012400
4735 034450 062737 000006 012400
4736 034456 016137 000002 012402
4737 034464 062737 000007 012402
4738
4739 034472 016137 000004 012404
4740 034500 016137 000004 012406
4741 034506 062737 000004 012406
4742 034514 016137 000006 012410
4743 034522 016137 000012 012412
4744
4745 034530
4746 034530
4747 034530 012746 000340
4748 034534 012746 026230
4749 034540 013746 007526
4750 034544 012746 000003
4751 034550 104437
4752 034552 062706 000010
4753
4754
4755
4756 034556
4757 034556 013746 012410
4758 034562 012746 044664
4759 034566 013746 012404
4760 034572 012746 000003
4761 034576 104437
4762 034600 062706 000010
4763 034604
4764 034604 013746 012410
4765 034610 012746 044674
4766 034614 013746 012406
4767 034620 012746 000003
4768 034624 104437
4769 034626 062706 000010

BNCOMPLETE GETPRM ;IF NO P-TABLE AVAIL., GO GET NEXT ONE
MOV R0,R1
BC GETPRM

MOV (R1),FHDPLX ;PUT FULL OR HALF DUPLEX ANSWER IN LOC.

;DEVICE DEPENDENT PART OF GETTING INFO FROM P-TABLE

MOV 2(R1),SEL0 ;STORE AWAY CSR ADDRESSES
MOV 2(R1),BSEL1
INC BSEL1
MOV 2(R1),SEL2
ADD #2,SEL2
MOV 2(R1),BSEL3
ADD #3,BSEL3
MOV 2(R1),SEL4
ADD #4,SEL4
MOV 2(R1),BSEL5
ADD #5,BSEL5
MOV 2(R1),SEL6
ADD #6,SEL6
MOV 2(R1),BSEL7
ADD #7,BSEL7

MOV 4(R1),INVEC ;STORE AWAY INPUT INTERRUPT VECTOR
MOV 4(R1),OUTVEC
ADD #4,OUTVEC ;BUILD OUTPUT INTERRUPT VECTOR
MOV 6(R1),INTPRI ;STORE AWAY INTERRUPT PRIORITY
MOV 12(R1),OPTYP ;STORE AWAY DEVICE OPTION TYPE

ENDIT:
SETVEC CLKVEC,#CLKINT,#340 ;SETUP CLOCK VECTOR
MOV #340,-(SP)
MOV #CLKINT,-(SP)
MOV CLKVEC,-(SP)
MOV #3,-(SP)
TRAP C$SVEC
ADD #10,SP

;DEVICE DEPENDENT VECTOR SETUP
SETVEC INVEC,#DVINS,INTPRI ;SETUP INPUT INTERRUPT VECTOR
MOV INTPRI,-(SP)
MOV #DVINS,-(SP)
MOV INVEC,-(SP)
MOV #3,-(SP)
TRAP C$SVEC
ADD #10,SP

SETVEC OUTVEC,#DVOJTS,INTPRI ;SETUP OUTPUT INTERRUPT VECTOR
MOV INTPRI,-(SP)
MOV #DVOJTS,-(SP)
MOV OUTVEC,-(SP)
MOV #3,-(SP)
TRAP C$SVEC
ADD #10,SP

```

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
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INITIALIZE SECTION

4770								
4771	034632			SETPRI	#PRI00		;SET THE 'RUN' PRIORITY TO 0	
4772	034632	012700	000000				MOV	#PRI00,R0
4773	034636	104441					TRAP	C\$SPRI
4774	034640			EXIT	INIT			
4775	034640	104432					TRAP	C\$EXIT
4776	034642	000002					.WORD	L10013-.
4777								
4778								
4779				.EVEN				
4780				ENDINIT				
4781	034644							
4782	034644						L10013:	
4783	034644	104411					TRAP	C\$INIT

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AUTODROP SECTION

.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

L10014:

TRAP

CSAUTO

4784
4785
4786
4787
4788
4789
4790
4791
4792
4793 034646
4794 034646
4795
4796
4797 034646
4798 034646
4799 034646 104461

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CLEANUP CODING SECTION

.SBTTL CLEANUP CODING SECTION

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

BGNCLN

L\$CLEAN::

4800									
4801									
4802									
4803									
4804									
4805									
4806									
4807	034650								
4808	034650								
4809									
4810	034650	004737	045774			JSR	PC,DVBTUP	:GO UPDATE BASE TABLE	
4811	034654	005077	152642			CLR	@CLKCSR	:DISABLE CLOCK	
4812	034660					SETPRI	#PRI07	:SET PROCESSOR PRIORITY BACK TO 7	
4813	034660	012700	000340					MOV	#PRI07,R0
4814	034664	104441						TRAP	C\$SPRI
4815	034666	022737	000057	003202		CMP	#EXIT,KEYWD1	: 'EXIT' COMMAND ?	
4816	034674	001416				BEQ	EXITCLN	:YES,BRANCH	
4817						::^C WAS ENTERED-- LOG IT			
4818	034676	012737	000026	007426		MOV	#ABO,TEMP	:EVENT TYPE	
4819	034704	013737	007374	007436		MOV	NOBUF,TEMP4	:;BUFFER NOT AVAILABLE	
4820	034712	013737	007376	007432		MOV	PSCNT,TEMP2	:;PASSES	
4821	034720	013737	007400	007434		MOV	ERRCNT,TEMP3	:;ERRORS	
4822	034726	004737	026742			CALL	LOGS5	:GO LOG IT	
4823	034732					EXITCLN:EXIT	CLN		
4824	034732	104432						TRAP	C\$EXIT
4825	034734	000002						.WORD	L10015-.
4826									
4827									
4828						.EVEN			
4829						ENDCLN			
4830	034736								
4831	034736							L10015:	
4832	034736	104412						TRAP	C\$CLEAN

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DROP UNIT SECTION

.SBTTL DROP UNIT SECTION

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

4833

4834

4835

4836

4837

4838

4839

4840 034740

4841 034740

4842

4843

4844 034740

4845 034740 000167

4846 034742 000000

4847

4848

4849

4850

4851 034744

4852 034744

4853 034744 104453

BGNDU

LSDU::

EXIT DU

.WORD JSJMP
.WORD L100'6-2-.

.EVEN

ENDDU

L10016: TRAP CSDU

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ADD UNIT SECTION

.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.
:--

```

4854
4855
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034746
034746

034746 000167
034750 000000

034752
034752
034752 104452

BGNAU

EXIT AU

.EVEN

ENDAU

LSAU::

.WORD JSJMP
.WORD L10017-2-

L10017: TRAP CSAU

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TEST 1: SETUP AND MODES OF OPERATION

.SBTTL TEST 1: SETUP AND MODES OF OPERATION

;;
; TEST TO DETECT FAULTS IN THE DATA COMMUNICATION LINK. THIS TEST WILL
; THE PROVIDE COVERAGE NECESSARY TO ISOLATE FAILURES TO THE COMPUTER
; EQUIPMENT, THE COMMUNICATION LINK, OR THE MODEM.
;--

BGNTST

T1::

.SBTTL PROGRAM SETUP SECTION

4878									
4879									
4880									
4881									
4882									
4883									
4884									
4885									
4886									
4887									
4888									
4889	034754								
4890	034754								
4891									
4892									
4893									
4894									
4895	034754	013777	007532	152540		MOV	CLKEN,@CLKCSR	;ENABLE THE CLOCK	
4896									
4897	034762								
4898	034762	005001				GTXRXB:			
4899	034764	012737	000001	007542		GTRA2:	CLR R1		
4900	034772	005737	007542			MOV	#1,TIMER1	;SET TIMER TO COUNT 1 TICK	
4901	034776	001412				1\$:	TST TIMER1	;CHECK FOR IT TO BE COUNTED OFF	
4902	035000	005301					BEQ GTRA3	;BRANCH IF CLOCK EXISTS (COUNTED A TICK)	
4903	035002	001373					DEC R1		
4904	035004						BNE 1\$	;KEEP CHECKING UNTIL R1 DOES FULL COUNTDOWN	
4905	035004	012746	015106				PRINTF #NOCLK	;PRINT BAD CLK MSG AND WARN OF HANG IF TIMEOUT	
4906	035010	012746	000001					MOV #NOCLK,-(SP)	
4907	035014	010600						MOV #1,-(SP)	
4908	035016	104417						MOV SP,R0	
4909	035020	062706	000004					TRAP C\$PNTF	
4910								ADD #4,SP	
4911	035024	005737	007466			GTRA3:	TST RESFLG	;SEE IF HERE AFTER A RESTART.	
4912	035030	001117					BNE GTRA5	;BR IF HERE CAUSE OF A RESTART	
4913									
4914								; CLEAR COUNTS AND SET UP DEFAULTS	
4915									
4916	035032	005037	007422			GTRA4:	CLR TOTCC	;CLEAR TOTAL CHAR. COUNT TEMP. LOC.	
4917	035036	005037	007356				CLR TTOTCC	; CLEAR TOTAL CHAR. COUNT FOR TX BUFF	
4918	035042	005037	007342				CLR CTOTCC	; CLEAR TOTAL CHAR. COUNT FOR CMP BUFF	
4919	035046	012701	006562				MOV #PTRTAB,R1	;INIT TRANSMIT MESSAGE POINTER	
4920	035052	010137	007334				MOV R1,TXPTR		
4921	035056	005037	007332				CLR RXPTR	; ZERO RX POINTER	
4922	035062	012702	000017				MOV #MSG LIM,R2		
4923	035066	006302					ASL R2		
4924	035070	006302					ASL R2		
4925	035072	010137	007336				MOV R1,CMPPTR		
4926	035076	060237	007336				ADD R2,CMPPTR	;INIT COMPARE MESSAGE POINTER	
4927									
4928	035102	012737	000005	007410			MOV #5,MSGTYP	;SET UP DEFAULT MSG TYPE (QUICK FOX - ITEP MSG)	
4929	035110	013737	002162	007412			MOV MSG5C,CURCC	;SET UP DEFAULT CHAR COUNT	
4930	035116	012737	003562	007360			MOV #TXBUF,TCURAD	;SET UP CURRENT ADDR TO START OF TX BUFFER	
4931	035124	012737	005562	007344			MOV #CMPBUF,CCURAD	;SET UP CURRENT ADDR TO START OF CMP BUFFER	
4932									
4933	035132	013737	007360	007420			MOV TCURAD,CURADD	;SETUP CURRENT ADDR TO START OF TXBUF	

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PROGRAM SETUP SECTION

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MOV      TXPTR,CPTR      ;SETUP CURRENT POINTER TABLE FOR TXBUF
JSR      PC,BLDBUF      ; GO BUILD POINTER TABLE AND BUFFER
MOV      #1,TXMTOT      ;BUMP TOTAL MESSAGE COUNT

MOV      CMPPTR,CPTR     ;SET UP START OF COMPARE POINTER TABLE
MOV      CCURAD,CURADD   ;SET UP CURRENT ADDR. TO START OF CMPBUF
MOV      #5,MSGTYP
MOV      MSG5C,CURCC
JSR      PC,BLDBUF      ;PUT DEFAULT MESSAGE INTO CMPBUF
MOV      #1,CMPTOT      ;BUMP THE COMP MSG COUNT
MOV      #ACT,MODTYP     ;SET DEFAULT MODE= ACTIVE
CLR      MLTYP          ;SET DEFAULT MAINTENANCE LOOP MODE =NONE
MOV      #1,RPASS       ;SET UP DEFAULT 'RUN PASS' COUNT TO 1
MOV      #2,PARAM       ;SET UP PROG. PARAMETERS - DATACHECKING ENABLED
                                ;
                                ; OPERATOR STATUS MSGS. PRINT OFF
PRINTF   #HLP0

MOV      #HLP0,-(SP)
MOV      #1,-(SP)
MOV      SP,R0
TRAP     C$PNTF
ADD      #4,SP

MOV      MODTYP,DEV1
MOV      MLTYP,DEV2
MOV      RPASS,DEV3
MOV      PARAM,DEV4
JSR      PC,SHWOP      ;PRINT TO OPERATOR THE CURRENT MODE.....

MANUAL      ;SEE IF MANUAL INTERVENTION ALLOWED
                                TRAP     C$MANI
BCOMplete   GETCL      ; BR IF YES (UAM=0 AND NOT CHAINED)
                                BCS      GETCL

TST        RPASS      ;SEE IF THIS IS FIRST 'DCLT PASS'
BNE        1$         ; BR IF NOT COMPLETED 1 PASS
EXIT       TST        ; IF DONE 1 PASS IN UNATTENDED MODE - EXIT
                                TRAP     C$EXIT
                                .WORD   L10020-.

MOV      #TTL,MLTYP    ;SET UP DEFAULT FOR UNATTENDED MODE
JMP      GTR9          ; 'R M=ACT/LO=1/PAS=1/NOST/CH' AND RUN

COMMAND LINE FETCH & INTERPRETATION SECTION

CLRB      P$GDBD      ;CLEAR CMD LINE PARSING ERROR FLAGS
CLRB      P$NNUF
GMANID    CLISPM,CMDBUF,A,0,1,72.,NO      ;GET A COMMAND LINE FROM QPR.
                                TRAP     C$GMAN
                                BR       10000$
                                .WORD   CMDBUF
                                .WORD   T$CODE
                                .WORD   CLISPM
                                .WORD   0
                                .WORD   T$LOLIM
                                .WORD   T$HILIM
                                10000$:

MOV      #CMDBUF,P$BUFA
MOV      #CLITRE,P$TREE
MOV      #CLIACT,P$ACT

```

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COMMAND LINE FETCH & INTERPRETATION SECTION

4990	035426	005037	003204			CLR	QUALFG		:CLEAR QUALIFIER FLAG LOCATION
4991	035432	004737	032142			JSR	PC,P\$TRV		:GO PARSE COMMAND LINE
4992	035436	105737	003551			TSTB	P\$GDBD		:SEE IF PARSED OK OR AN ERROR
4993	035442	001412				BEQ	1\$		
4994	035444					PRINTF	#CLIERM		
4995	035444	012746	012516					MOV	#CLIERM,-(SP)
4996	035450	012746	000001					MOV	#1,-(SP)
4997	035454	010600						MOV	SP,R0
4998	035456	104417						TRAP	C\$PNTF
4999	035460	062706	000004					ADD	#4,SP
5000	035461	000137	035354			JMP	GETCL		
5001	035470	105737	003560			TSTB	P\$NNUF		:SEE IF INCOMPLETE COMMAND TYPED
5002	035474	001412				BEQ	10\$		
5003	035476					PRINTF	#CLINUF		
5004	035476	012746	012546					MOV	#CLINUF,-(SP)
5005	035502	012746	000001					MOV	#1,-(SP)
5006	035506	010600						MOV	SP,R0
5007	035510	104417						TRAP	C\$PNTF
5008	035512	062706	000004					ADD	#4,SP
5009	035516	000137	035354			JMP	GETCL		
5010									
5011						:REV B BY EC			
5012	035522	023727	003202	000060	10\$:	CMP	KEYWD1,#SETET		:WAS 'SET EXPECT = TRANSMIT' ENTERED?
5013	035530	001711				BEQ	GETCL		:YES,BRANCH
5014									
5015	035532	023727	003202	000005		CMP	KEYWD1,#HLP		:SEE IF HELP WAS TYPED
5016	035540	001705				BEQ	GETCL		:GO GET CMD AGAIN IF YES
5017	035542	023727	003202	000055		CMP	KEYWD1,#PRNT		:SEE IF PRINT WAS TYPED
5018	035550	001701				BEQ	GETCL		:GO GET CMD AGAIN IF YES
5019	035552	023727	003202	000004		CMP	KEYWD1,#RUN		:SEE IF RUN WAS TYPED
5020	035560	001002				BNE	11\$		:BR IF NO
5021	035562	000137	040400			JMP	GTR9		:START EXEC. IF YES
5022	035566	023727	003202	000052	11\$:	CMP	KEYWD1,#DMPS		:SEE IF DUMP WAS TYPED
5023	035574	001004				BNE	12\$		:BR IF NO
5024	035576	004737	031554			JSR	PC,DUMPSR		:ELSE, DUMP PART OF MEMORY
5025	035602	000137	035354			JMP	GETCL		:THEN RETURN TO GET ANOTHER CMD.
5026						:EXIT COMMAND IS A REVISION B CHANGE BY EC			
5027	035606	023727	003202	000057	12\$:	CMP	KEYWD1,#EXIT		:EXIT COMMAND ?
5028	035614	001005				BNE	13\$		:NO,BRANCH
5029	035616	012737	000001	007464		MOV	#1,DCLFLG		:SET CLEANUP & EXIT FLAG
5030	035624					EXIT	TST		:GO BACK TO INIT ROUTINE
5031	035624	104432						TRAP	C\$EXIT
5032	035626	010306						.WORD	L10020-
5033	035630	023727	003202	000001	13\$:	CMP	KEYWD1,#CLEAR		:SEE IF CLEAR WAS TYPED
5034	035636	001646				BEQ	GETCL		:IF YES, BACK TO GET ANOTHER CMD.
5035	035640	023727	003202	000002		CMP	KEYWD1,#SHOW		:SEE IF SHOW WAS TYPED
5036	035646	001642				BEQ	GETCL		:IF YES, BACK TO GET ANOTHER CMD.
5037	035650	023727	003202	000010	4\$:	CMP	KEYWD1,#SETEXP		:SEE IF SET EXPECTED
5038	035656	001512				BEQ	2\$		:BR IF YES (A SETEXP WAS TYPED)
5039	035660	013737	007356	007422	5\$:	MOV	TOTCC,TOTCC		
5040	035666	023727	007422	001000		CMP	TOTCC,#BUFLIM		:SEE IF BUFFER ALREADY FULL
5041	035674	002414				BLT	15\$		:BR IF NOT FULL (BUFLIM # OF CHARS.)
5042	035676					PRINTF	#MSGTRN,#BUFEX		:ELSE TELL OPR. AND DON'T BUILD MSG.
5043	035676	012746	015227					MOV	#BUFEX,-(SP)
5044	035702	012746	015245					MOV	#MSGTRN,-(SP)
5045	035706	012746	000002					MOV	#2,-(SP)

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COMMAND LINE FETCH & INTERPRETATION SECTION

Address	Instruction	Register	Value	Label	Comment
5046	MOV	SP,R0			
5047	TRAP	C\$PNTF			
5048	ADD	#6,SP			
5049					; THEN GO GET A NEW COMMAND
5050					; IF FIRST "SET" THEN GET RID OF DEFAULT
5051					
5052					
5053					; GET POSITION OF END OF TX LIST
5054					
5055					; SEE IF MSG COUNT EXCEEDED.
5056					; BR IF NO
5057					; ELSE TELL OPR AND DON'T BUILD MSG.
5058	MOV	#TABEX,-(SP)			
5059	MOV	#MSGTRN,-(SP)			
5060	MOV	#2,-(SP)			
5061	MOV	SP,R0			
5062	TRAP	C\$PNTF			
5063	ADD	#6,SP			
5064					; THEN GO GET A NEW COMMAND.
5065					; # OF MSGS *4 = NEXT FREE PTR BLOCK
5066					
5067					
5068					; SETUP CHAR. COUNT, CURRENT ADDR, & PTR
5069					
5070					; ADD IN CHAR. COUNT AND CHECK TOTAL
5071					; GO BUILD MESSAGE IN BUFFER AND PTRS.
5072					
5073					; UPDATE CHAR. COUNT, CURR ADDR, & PTR
5074					
5075					
5076					; DEC THE COPY COUNT
5077					
5078					
5079					
5080					; SETUP CHAR. COUNT, CURR. ADDR. & PTR
5081					; SEE IF BUFFER ALREADY FULL
5082					; BR IF NOT FULL (BUFLIM # OF CHARS.)
5083					; ELSE TELL OPR. AND DON'T BUILD MSG.
5084	MOV	#BUFEX,-(SP)			
5085	MOV	#MSGTRN,-(SP)			
5086	MOV	#2,-(SP)			
5087	MOV	SP,R0			
5088	TRAP	C\$PNTF			
5089	ADD	#6,SP			
5090					; THEN GO GET A NEW COMMAND
5091					; IF FIRST "SET" THEN GET RID OF DEFAULT
5092					
5093					
5094					
5095					
5096					
5097					
5098					
5099					; INIT COMPARE MESSAGE POINTER
5100					
5101					; SEE IF MSG COUNT EXCEEDED.

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COMMAND LINE FETCH & INTERPRETATION SECTION

5102 036220 002414
5103 036222
5104 036222 012746 015167
5105 036226 012746 015245
5106 036232 012746 000002
5107 036236 010600
5108 036240 104417
5109 036242 062706 000006
5110 036246 000137 035354
5111 036252 006301
5112 036254 006301
5113 036256 060137 007336
5114 036262 013737 007336 007416
5115 036270 013737 007344 007420
5116 036276 004737 031712
5117 036302 004737 032010
5118 036306 013737 007416 007336
5119 036314 005237 007340
5120 036320 013737 007420 007344
5121 036326 013737 007422 007342
5122 036334 005337 003206
5123 036340 001261
5124 036342 000137 035354
5125
5126
5127
5128
5129

18\$:

BLT 18\$
PRINTF #MSGTRN,#TABEX

JMP GETCL
ASL R1
ASL R1
ADD R1,CMPPTR
MOV CMPPTR,CPTR
MOV CCURAD,CURADD
JSR PC,ADDCC
JSR PC,BLDBUF
MOV CPTR,CMPPTR
INC CMPTOT
MOV CURADD,CCURAD
MOV TOTCC,CTOTCC
DEC QUALVL
BNE 2\$
JMP GETCL

; BR IF NO
; ELSE TELL OPR. AND DON'T BUILD MSG.
MOV #TABEX,-(SP)
MOV #MSGTRN,-(SP)
MOV #2,-(SP)
MOV SP,R0
TRAP C\$PNTF
ADD #6,SP
; THEN GO GET A NEW COMMAND.
; # OF MSGS *4 = NEXT FREE PTR BLOCK

;ADD IN XHAR. COUNT AND CHECK TOTAL

;UPDATE CHAR. COUNT, CURR ADDR. & PTR
;IF COPY WAS GIVEN, PUT MSG IN BUFF
; AGAIN
;GO BACK UNTIL GET A 'RUN'

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COMMAND LINE FETCH & INTERPRETATION SECTION

Address	Hex	Dec	Label	Operation	Comments
5130					
5131					
5132					
5133					
5134	036346				
5135	036346	006302			
5136	036350	016202	036364		
5137	036354	062702	036364		
5138	036360	004712			
5139	036362	000207			
5140					
5141					
5142	036364	000150	10\$:	.WORD	ACTNUL-10\$
5143	036366	000152		.WORD	ACTCLR-10\$
5144	036370	000162		.WORD	ACTSHO-10\$
5145	036372	001604		.WORD	ACTCHK-10\$
5146	036374	000262		.WORD	ACTRUN-10\$
5147	036376	000172		.WORD	ACTHLP-10\$
5148	036400	000306		.WORD	ACTCSE-10\$
5149	036402	000434		.WORD	ACTCST-10\$
5150	036404	000756		.WORD	ACTSTE-10\$
5151	036406	000766		.WORD	ACTSTT-10\$
5152	036410	001004		.WORD	ACTSZE-10\$
5153	036412	001014		.WORD	ACTCOP-10\$
5154	036414	001024		.WORD	ACTNUM-10\$
5155	036416	001116		.WORD	ACTOPM-10\$
5156	036420	001612		.WORD	ACTSTS-10\$
5157	036422	001136		.WORD	ACTEQO-10\$
5158	036424	001216		.WORD	ACTMS0-10\$
5159	036426	001224		.WORD	ACTMS1-10\$
5160	036430	001234		.WORD	ACTMS2-10\$
5161	036432	001244		.WORD	ACTMS3-10\$
5162	036434	001254		.WORD	ACTMS4-10\$
5163	036436	001264		.WORD	ACTMS5-10\$
5164	036440	001302		.WORD	ACTMS6-10\$
5165	036442	001370		.WORD	ACTATV-10\$
5166	036444	001400		.WORD	ACTPAS-10\$
5167	036446	001420		.WORD	ACTREC-10\$
5168	036450	001426		.WORD	ACTLIS-10\$
5169	036452	001436		.WORD	ACTDLL-10\$
5170	036454	001446		.WORD	ACTTRA-10\$
5171	036456	001456		.WORD	ACTTAL-10\$
5172	036460	001504		.WORD	ACTNO-10\$
5173	036462	001514		.WORD	ACTECH-10\$
5174	036464	001620		.WORD	ACTCRC-10\$
5175	036466	001634		.WORD	ACTPRO-10\$
5176	036470	001666		.WORD	ACTRPS-10\$
5177	036472	001676		.WORD	ACTMOP-10\$
5178	036474	001706		.WORD	ACTTLP-10\$
5179	036476	001716		.WORD	ACTCLP-10\$
5180	036500	001726		.WORD	ACTLLP-10\$
5181	036502	001736		.WORD	ACTRLP-10\$
5182	036504	000142		.WORD	ACTNUF-10\$
5183	036506	001174		.WORD	ACTBCR-10\$
5184	036510	000712		.WORD	ACTDMS-10\$
5185	036512	000742		.WORD	ACTDME-10\$

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ACTION TABLE AND ROUTINES

5186 036514 000734
5187 036516 000246
5188 036520 001626
5189 036522 000236
5190 036524 001326
5191

.WORD ACTDMQ-10\$:DUMP WORD
.WORD ACTPRT-10\$:PRINT
.WORD ACTMOS-10\$:MODEM ACTION REV B BY EC
.WORD ACTEXT-10\$:EXIT ACTION REV B BY EC
.WORD ACTSEX-10\$:SET E=T ACTION REV B BY EC NPI

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ACTION TABLE AND ROUTINES

Line	Address	Offset	Value	Label	Operation	Comment
5192	036526	112737	177777	003560	ACTNUF: MOV	#-1,PSNNUF ;SET FLAG TO SAY NEED MORE OF COMMAND
5193	036534	000207			ACTNUL: RTS	PC ;RETURN TO PARSER
5195						
5196	036536	012737	000001	003202	ACTCLR: MOV	#CLEAR,KEYWD1 ;SET LOC TO SAY A CLEAR WAS TYPED
5197	036544	000207			RTS	PC
5198						
5199	036546	012737	000002	003202	ACTSHO: MOV	#SHOW,KEYWD1 ;SET LOC. TO SAY A SHOW WAS TYPED
5200	036554	000207			RTS	PC
5201						
5202	036556	012702	003210		ACTHLP: MOV	#HLP,KEYWD1 ;SETUP R2 AS A POINTER TO HELP MSG TABLE
5203	036562				1\$: PRINTF	#HLPF,(R2)+ ;PRINT HELP INFORMATION MESSAGES
5204	036562	012246				MOV (R2)+,-(SP)
5205	036564	012746	013231			MOV #HLPF,-(SP)
5206	036570	012746	000002			MOV #2,-(SP)
5207	036574	010600				MOV SP,R0
5208	036576	104417				TRAP C\$PNTF
5209	036600	062706	000006			ADD #6,SP
5210	036604	020227	003230			
5211	036610	001364			CMP R2,#HLPEND	;SEE IF ALL INFO PRINTED YET
5212	036612	012737	000005	003202	BNE 1\$	;IF NO KEEP PRINTING
5213	036620	000207			MOV #HLP,KEYWD1	;SET LOC. TO SAY A HELP WAS TYPED
5214	036622	012737	000057	003202	RTS	PC
5215	036630	000207			ACTEXT: MOV	#EXIT,KEYWD1 ;EXIT COMMAND
5216	036632	012737	000055	003202	RTS	PC
5217	036640	004737	027046		ACTPRT: MOV	#PRNT,KEYWD1 ;SET LOC. TO SAY A HELP WAS TYPED
5218	036644	000207			JSR PC,REPORT	;CALL ROUTINE TO PRINT EVENT LOG AND BASE TABLE
5219					RTS	PC
5220	036646	012737	000004	003202	ACTRUN: MOV	#RUN,KEYWD1 ;SET RUN FLAG
5221	036654	112737	177777	003560	MOVB #-1,PSNNUF	;SET FLAG TO SAY NEED MORE OF COMMAND
5222	036662	012737	000001	007500	MOV #1,RPASS	;SET DEFAULT RUN 'PASS' TO 1
5223	036670	000207			RTS	PC
5224						
5225	036672	012701	006562		ACTCSE: MOV	#PTRTAB,R1
5226	036676	012702	000017		MOV #MSG LIM,R2	
5227	036702	006302			ASL R2	
5228	036704	006302			ASL R2	
5229	036706	010137	007336		MOV R1,CMP PTR	
5230	036712	060237	007336		ADD R2,CMP PTR	
5231	036716	013701	007336		MOV CMP PTR,R1	;INIT COMPARE MESSAGE POINTER
5232						
5233	036722	013702	007340		MOV CMPTOT,R2	
5234	036726	105037	003560		CLRB PSNNUF	;FLAG THAT HAVE VALID COMMAND AT THIS PT.
5235	036732	023727	003202	000002	CMP KEYWD1,#SHOW	;SEE IF A CLEAR OR SHOW WAS TYPED
5236	036740	001500			BEQ ACTSHW	;BR IF A SHOW WAS TYPED
5237	036742	012737	000001	007340	MOV #1,CMPTOT	;CLEAR COMPARE MESSAGE COUNT, CHAR. COUNT
5238	036750	005037	007342		CLR CTOTCC	; AND RESET POINTER
5239						
5240	036754	012701	006562		MOV #PTRTAB,R1	
5241	036760	012702	000017		MOV #MSG LIM,R2	
5242	036764	006302			ASL R2	
5243	036766	006302			ASL R2	
5244	036770	010137	007336		MOV R1,CMP PTR	
5245	036774	060237	007336		ADD R2,CMP PTR	;INIT COMPARE MESSAGE POINTER
5246	037000	013737	007336	007416	MOV CMP PTR,CPTR	;SET UP TO FILL IN DEFAULT MESSAGE
5247	037006	012701	005562		MOV #CMPBUF,R1	

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5248	037012	010137	007344		MOV	R1,CCURAD		
5249	037016	000431			BR	ACTCLB		
5250								
5251	037020	012701	006562		ACTCST:	MOV	#PTRTAB,R1	
5252	037024	013702	007354			MOV	TXMTOT,R2	
5253	037030	105037	003560			CLRB	PSNNUF	;FLAG THAT HAVE VALID COMMAND AT THIS PT.
5254	037034	023727	003202	000002		CMP	KEYWD1,#SHOW	;SEE IF A CLEAR OR SHOW WAS TYPED
5255	037042	001437				BEQ	ACTSHW	;BR IF A SHOW WAS TYPED
5256	037044	012737	000001	007354		MOV	#1,TXMTOT	;CLEAR TRANSMIT MESSAGE COUNT, CHAR. COUNT
5257	037052	005037	007356			CLR	TTOTCC	; AND RESET POINTER
5258	037056	012737	006562	007334		MOV	#PTRTAB, TXPTR	
5259	037064	013737	007334	007416		MOV	TXPTR, CPTR	
5260	037072	012701	003562			MOV	#TXBUF, R1	
5261	037076	010137	007360			MOV	R1,TCURAD	
5262								
5263	037102	012702	001000		ACTCLB:	MOV	#BUFLIM,R2	
5264	037106	010137	007420			MOV	R1,CURADD	;SET UP TO PUT DEFAULT MSG IN LIST AFTER 033'S
5265	037112	012737	000005	007410		MOV	#5,MSGTYP	
5266	037120	013737	002162	007412		MOV	MSG5C,CURCC	
5267	037126	105021			1\$:	CLRB	(R1)+	;FILL EXPT OR TRAN BUFFER WITH 0'S IF A CLEAR
5268	037130	005302				DEC	R2	;DO 'BUFLIM' NUMBER OF BYTE LOCATIONS
5269	037132	001375				BNE	1\$	
5270	037134	004737	032010			JSR	PC,BLDBUF	;'CLEAR' REALLY MEANS TO PUT DEFAULT MSG IN
5271	037140	000207				RTS	PC	;WHEN DONE, RETURN TO PARSER
5272								
5273								
5274	037142	012705	003504		ACTSHW:	MOV	#SHTAB,R5	
5275	037146	122571	000000		5\$:	CMPB	(R5)+,a(R1)	;LOOK AT FIRST BYTE OF MSG TO DECIPHER TYPE
5276	037152	001404				BEQ	6\$	
5277	037154	020527	003513			CMP	R5,#SHTEND	;SEE IF LOOKED AT ALL OF DEFAULTS YET
5278	037160	001372				BNE	5\$	
5279	037162	005205				INC	R5	;MUST BE OPR. SPEC'D THEN
5280	037164	162705	003505		6\$:	SUB	#SHTAB+1,R5	
5281	037170	006305				ASL	R5	
5282	037172	016137	000002	007426		MOV	2(R1),TEMP	
5283	037200					PRINTF	#SHMSG,SHTYTB(R5),TEMP	;PRINT MSG SIZE & TYPE
5284	037200	013746	007426					MOV TEMP,-(SP)
5285	037204	016546	003464					MOV SHTYTB(R5),-(SP)
5286	037210	012746	014434					MOV #SHMSG,-(SP)
5287	037214	012746	000003					MOV #3,-(SP)
5288	037220	010600						MOV SP,R0
5289	037222	104417						TRAP C\$PNTF
5290	037224	062706	000010					ADD #10,SP
5291	037230	062701	000004					
5292	037234	005302				ADD	#4,R1	;BUMP R1 TO NEXT SET OF POINTERS
5293	037236	001341				DEC	R2	
5294	037240	013737	007470	010654		BNE	ACTSHW	
5295	037246	013737	007472	010656		MOV	MODTYP,DEV1	
5296	037254	013737	007500	010660		MOV	MLTYP,DEV2	
5297	037262	013737	007476	010662		MOV	RPASS,DEV3	
5298	037270	004737	032340			MOV	PARAM,DEV4	
5299	037274	000207				JSR	PC,SHWOP	;SHOW THE OPERATOR THE CURRENT MODE..... ALSO
5300						RTS	PC	
5301	037276	013737	003554	007402	ACTDMS:	MOV	PSNUM,STADD	;SETUP STARTING ADDRESS FOR DUMP
5302	037304	005037	007406			CLR	BYTBIT	;SET DEFAULT OF WORD DUMP
5303	037310	012737	000052	003202		MOV	#DMPS,KEYWD1	;FLAG THAT A DUMP WAS TYPED

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5304	037316	000403			BR	ACTDME	
5305							
5306	037320	012737	177777	007406	ACTDMQ: MOV	#-1,BYTBIT	;SET DUMP FLAG TO 'DUMP-WORD'
5307	037326	013737	003554	007404	ACTDME: MOV	P\$NUM,ENADD	;SETUP END ADDRESS FOR DUMP (=START IF NO 'EEE'
5308	037334	105037	003560		ACTDMX: CLRB	P\$NNUF	;CLEAR NOT-ENOUGH FLAG, 'DUMP N-N/B' IS VALID
5309	037340	000207			RTS	PC	
5310							

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5311
5312
5313 037342 012737 000010 003202 ACTSTE: MOV #SETEXP,KEYWD1
5314 037350 000403 BR ACTSTX
5315
5316 037352 012737 000011 003202 ACTSTT: MOV #SETTRN,KEYWD1
5317 037360 012737 000001 003206 ACTSTX: MOV #1,QUALVL ;SET UP DEFAULT COPY TO 1 (/COPY=0)
5318 037366 000207 RTS PC
5319
5320 037370 012737 000012 003204 ACTSIZE: MOV #SIZE,QUALFG
5321 037376 000207 RTS PC
5322
5323 037400 012737 000013 003204 ACTCOP: MOV #QCOPY,QUALFG
5324 037406 000207 RTS PC
5325
5326 037410 023727 003204 000012 ACTNUM: CMP QUALFG,#SIZE ;SEE IF A SIZE OR COPY TYPED
5327 037416 001023 BNE 1$ ;BR IF IT WAS A COPY
5328 037420 005737 003554 TST P$NUM ;CHECK TO BE SURE DIDN'T TRY SIZE=0
5329 037424 001014 BNE 3$ ; BR IF NO
5330 037426 PRINTF #CLISEO
5331 037426 012746 013005 MOV #CLISEO,-(SP)
5332 037432 012746 000001 MOV #1,-(SP)
5333 037436 010600 MOV SP,R0
5334 037440 104417 TRAP C$PNTF
5335 037442 062706 000004 ADD #4,SP
5336 037446 112737 177777 003561 MOV #1,P$GDBD ;SEE ERROR-IN-CMD FLAG
5337 037454 000411 BR 2$
5338 037456 013737 003554 007412 3$: MOV P$NUM,CURCC ;IF A SIZE LOAD CURCC WITH BYTE COUNT
5339 037464 000405 BR 2$
5340 037466 013737 003554 003206 1$: MOV P$NUM,QUALVL ;IF A COPY, LOAD COPY COUNT
5341 037474 005237 003206 INC QUALVL ;INCREMENT SO FIRST DEC MAKES IT REAL #
5342 037500 000522 2$: BR ACTMEX
5343
5344 037502 012737 000007 007410 ACTOPM: MOV #7,MSGTYP
5345 037510 010437 007426 MOV R4,TEMP ;KEEP TRACK OF START OF QUOTED TEXT
5346 037514 005237 007426 INC TEMP ; SO CAN CALC OPCNT AT END OF QUOTES
5347 037520 000207 RTS PC
5348
5349 037522 010402 ACTEQO: MOV R4,R2
5350 037524 163702 007426 SUB TEMP,R2
5351 037530 010237 007412 MOV R2,CURCC ;CALC BYTE COUNT FOR QUOTED TEXT
5352 037534 010237 002166 MOV R2,OPCNT
5353 037540 013701 007426 MOV TEMP,R1
5354 037544 012705 002524 MOV #OPBUF,R5
5355 037550 112125 1$: MOV (R1)+,(R5)+ ;COPY QUOTED TEXT TO OPBUF
5356 037552 005302 DEC R2
5357 037554 001375 BNE 1$
5358 037556 000473 BR ACTMEX
5359
5360 037560 ACTBCR: PRINTF #CLIBCR ;BAD CHAR. IN OPR. QUOTED STRING
5361 037560 012746 012740 MOV #CLIBCR,-(SP)
5362 037564 012746 000001 MOV #1,-(SP)
5363 037570 010600 MOV SP,R0
5364 037572 104417 TRAP C$PNTF
5365 037574 062706 000004 ADD #4,SP
5366 037600 000207 RTS PC

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5367      ;SET THE MESSAGE TYPE AS PER COMMAND LINE
5368 037602 005037 007410 ACTMS0: CLR MSGTYP
5369 037606 000435          BR ACTME1
5370 037610 012737 000001 007410 ACTMS1: MOV #1,MSGTYP ;ALL ONES
5371 037616 000431          BR ACTME1
5372 037620 012737 000002 007410 ACTMS2: MOV #2,MSGTYP ;ONES & ZEROS
5373 037626 000425          BR ACTME1
5374 037630 012737 000003 007410 ACTMS3: MOV #3,MSGTYP ;ZEROS & ONES
5375 037636 000421          BR ACTME1
5376 037640 012737 000004 007410 ACTMS4: MOV #4,MSGTYP ;CCITT
5377 037646 000415          BR ACTME1
5378 037650 012737 000005 007410 ACTMS5: MOV #5,MSGTYP ;QUICK FOX
5379 037656 013737 002162 007412      MOV MSG5C,CURCC ;SETUP DEFAULT SIZE FOR THIS TYPE
5380 037664 000430          BR ACTMEX
5381 037666 012737 000006 007410 ACTMS6: MOV #6,MSGTYP ;ALPHA/NUM
5382 037674 013737 002164 007412      MOV MSG6C,CURCC ;SETUP DEFAULT SIZE FOR THIS TYPE
5383
5384 037702 012737 000100 007412 ACTME1: MOV #64,CURCC ;SETUP DEFAULT SIZE FOR MSG0-4
5385 037710 000416          BR ACTMEX ;GO TO EXIT
5386
5387      ;REV B BY EC
5388 037712 022737 000010 003202 ACTSEX: CMP #SETEXP,KEYWD1 ;DID WE GET HERE FROM 'SET E =' COMMAND?
5389 037720 001404          BEQ 10$ ;YES,BRANCH
5390 037722 112737 177777 003561      MOVB #-1,PSGDBD ;SET ERROR FLAG
5391 037730 000406          BR ACTMEX ;GO TO EXIT
5392 037732 004737 032134          10$: JSR PC,FACSIMILE ;GO COPY TRANMIT BUFFER TO EXPECT BUFFER
5393 037736 012737 000060 003202      MOV #SETET,KEYWD1 ;SET FLAG TO BE USED IN T1::
5394 037744 000400          BR ACTMEX ;GO TO EXIT
5395
5396 037746 105037 003560 ACTMEX: CLRB PSNNUF ;CLEAR NOT-ENOUGH FLAG
5397 037752 000207          RTS PC
5398

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5399	037754	012737	000003	007470	ACTATV: MOV	#ACT,MODTYP	
5400	037762	000432			BR	ACTM2X	
5401							
5402	037764	012737	000002	007470	ACTPAS: MOV	#PAS,MODTYP	
5403	037772	105037	003560		CLRB	PSNNUF	:CLEAR NOT-ENOUGH FLAG
5404	037776	005037	007472		CLR	MLTYP	:CLEAR MAINT LOOP TYPE
5405	040002	000207			RTS	PC	
5406							
5407	040004	005037	007470		ACTREC: CLR	MODTYP	
5408	040010	000417			BR	ACTM2X	
5409							
5410	040012	012737	000006	007470	ACTLIS: MOV	#LIS,MODTYP	
5411	040020	000413			BR	ACTM2X	
5412							
5413	040022	012737	000004	007470	ACTDLL: MOV	#DOW,MODTYP	
5414	040030	000407			BR	ACTM2X	
5415							
5416	040032	012737	000001	007470	ACTTRA: MOV	#TRA,MODTYP	
5417	040040	000403			BR	ACTM2X	
5418							
5419	040042	012737	000005	007470	ACTTAL: MOV	#TAL,MODTYP	
5420							
5421	040050	042737	000004	007476	ACTM2X: BIC	#ECHOB,PARAM	:DISABLE /ECHO (ALL BUT PASSIVE MODE)
5422	040056	105037	003560		CLRB	PSNNUF	:CLEAR NOT-ENOUGH FLAG
5423	040062	005037	007472		CLR	MLTYP	:CLEAR MAINT LOOP TYPE
5424	040066	000207			RTS	PC	
5425							

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5426	040070	012737	000036	003204	ACTNO:	MOV	#NO,QUALFG	
5427	040076	000207				RTS	PC	
5428								
5429	040100	022737	000036	003204	ACTECH:	CMP	#NO,QUALFG	
5430	040106	001422				BEQ	1\$	
5431	040110	052737	000004	007476		BIS	#ECHOB,PARAM	
5432	040116	022737	000002	007470		CMP	#PAS,MODTYP	
5433	040124	001416				BEQ	2\$	
5434	040126					PRINTF	#CLINPS	
5435	040126	012746	012675					MOV #CLINPS,-(SP)
5436	040132	012746	000001					MOV #1,-(SP)
5437	040136	010600						MOV SP,R0
5438	040140	104417						TRAP C\$PNTF
5439	040142	062706	000004					ADD #4,SP
5440	040146	112737	177777	003561		MOVB	#-1,P\$GDBD	
5441	040154	042737	000004	007476	1\$:	BIC	#ECHOB,PARAM	
5442	040162	005037	003204		2\$:	CLR	QUALFG	
5443	040166	000501				BR	ACTLXX	;CLEAR 'NO' OUT OF QUALIFIER FLAG
5444								
5445	040170	012701	000002		ACTCHK:	MOV	#DATCKB,R1	
5446	040174	000413				BR	ACTQFG	;SET DATA CHECK BIT
5447								
5448	040176	012701	000001		ACTSTS:	MOV	#STATB,R1	
5449	040202	000410				BR	ACTQFG	;SET THE STATUS BIT
5450								
5451	040204	012701	000020		ACTCRC:	MOV	#CRCB,R1	
5452	040210	000405				BR	ACTQFG	;SET THE CRC BIT
5453								
5454	040212	012701	000010		ACTMOS:	MOV	#MOCHK,R1	
5455	040216	000402				BR	ACTQFG	;MODEM BIT ADDED BY EC
5456								
5457	040220	012701	000040		ACTPRO:	MOV	#PROTOB,R1	
5458								;SET THE PROTOCOL BIT
5459	040224	050137	007476		ACTQFG:	BIS	R1,PARAM	
5460	040230	022737	000036	003204		CMP	#NO,QUALFG	
5461	040236	001002				BNE	1\$	
5462	040240	040137	007476			BIC	R1,PARAM	
5463	040244	005037	003204		1\$:	CLR	QUALFG	
5464	040250	000450				BR	ACTLXX	;CLEAR 'NO' OUT OF QUALIFIER FLAG
5465								
5466	040252	013737	003554	007500	ACTRPS:	MOV	P\$NUM,RPASS	
5467	040260	000444				BR	ACTLXX	;GET NUMBER OF 'RUN PASSES'
5468								
5469	040262	012737	000005	007472	ACTMOP:	MOV	#5,MLTYP	
5470	040270	000417				BR	ACTLPX	
5471	040272	012737	000001	007472	ACTTLP:	MOV	#1,MLTYP	
5472	040300	000413				BR	ACTLPX	
5473	040302	012737	000002	007472	ACTCLP:	MOV	#2,MLTYP	
5474	040310	000407				BR	ACTLPX	
5475	040312	012737	000003	007472	ACTLLP:	MOV	#3,MLTYP	
5476	040320	000403				BR	ACTLPX	
5477	040322	012737	000004	007472	ACTRLP:	MOV	#4,MLTYP	
5478								
5479	040330	022737	000003	007470	ACTLPX:	CMP	#ACT,MODTYP	
5480	040336	001415				BEQ	ACTLXX	
5481	040340	112737	177777	003561		MOVB	#-1,P\$GDBD	;BE SURE IN ACTIVE IF TRYING TO SET LOOP ; BR IF IN ACTIVE

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5482 040346 005037 007472
5483 040352
5484 040352 012746 J12633
5485 040356 012746 000001
5486 040362 010600
5487 040364 104417
5488 040366 062706 000004
5489 040372 105037 003560
5490 040376 000207
5491

CLR MLTYP
PRINTF #CLIBDL

;CLEAR ANY LOOP TYPE THAT MAY HAVE GOT SET

MOV #CLIBDL,-(SP)
MOV #1,-(SP)
MOV SP,R0
TRAP C\$PNTF
ADD #4,SP

ACTLXX: CLRB PSNNUF
RTS PC

;CLEAR NOT-ENOUGH FLAG

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ACTION TABLE AND ROUTINES

5492					:REV B BY EC		
5493					TST MLTYP	:LOOP MODE ?	
5494	040400	005737	007472	GTR9:	BEQ 10\$	:NO,BRANCH	
5495	040404	001422			BIT #DATCKB,PARAM	:DATA CHECK ?	
5496	040406	032737	000002	007476	BEQ 10\$	:NO,BRANCH	
5497	040414	001416			CMP CMPTOT,TXMTOT	:TX & EX EQUAL	
5498	040416	023737	007340	007354	BEQ 10\$	:YES,BRANCH	
5499	040424	001412			PRINTF #CLIPW	:PRINT WARNING	
5500	040426						MOV #CLIPW,-(SP)
5501	040426	012746	013036				MOV #1,-(SP)
5502	040432	012746	000001				MOV SP,R0
5503	040436	010600					TRAP C\$PNTF
5504	040440	104417					ADD #4,SP
5505	040442	062706	000004				
5506	040446	000137	035354	JMP GETCL	:TRY AGAIN		
5507							
5508					:RX ALLOCATE CODE		
5509	040452	012701	006562	10\$:	MOV #PTRTAB,R1	:INIT TRANSMIT MESSAGE POINTER	
5510	040456	010137	007334		MOV R1,TXPTR		
5511	040462	012702	000017		MOV #MSG LIM,R2		
5512	040466	006302			ASL R2		
5513	040470	006302			ASL R2		
5514	040472	010137	007336		MOV R1,CMP PTR		
5515	040476	060237	007336		ADD R2,CMP PTR	:INIT COMPARE MESSAGE POINTER	
5516	040502	013701	007336		MOV CMP PTR,R1		
5517	040506	012702	000017		MOV #MSG LIM,R2		
5518	040512	006302			ASL R2		
5519	040514	006302			ASL R2		
5520	040516	010137	007332		MOV R1,RXPTR		
5521	040522	060237	007332		ADD R2,RXPTR	:INIT RECEIVE MESSAGE POINTER	
5522							
5523	040526	013737	007340	007370	MOV CMPTOT,RXMTOT	:MAKE COMPARE AND RX MESSAGE COUNTS EQUAL	
5524							
5525							
5526	040534	005037	007502	GTREX:	CLR FLAG	:CLEAR FLAG	
5527	040540	005037	007374		CLR NOBUF	:CLEAR NO BUFFER COUNTER	
5528	040544	005037	007376		CLR PSCNT	:CLEAR PASS COUNT	
5529	040550	005037	007400		CLR ERRCNT	:CLEAR ERROR COUNT	
5530	040554	005037	007372		CLR LNCNT	:CLEAR LINE COUNTER	
5531							
5532	040560	004737	026452		JSR PC,LOGDVI	:LOG ABOUT TO INIT DEVICE	
5533	040564	004737	043364		JSR PC,DVINIT	:INIT DEVICE	
5534							
5535	040570	012737	001000	007412	GTRX2: MOV #BUFLIM,CURCC	:SET CHAR COUNT TO 'BUFLIM' NO. OF BYTES	
5536	040576	012737	004562	007420	MOV #RXBUF,CURADD	:SET UP RX BUFFER AS CURRENT ADD.	
5537	040604	013737	007332	007416	MOV RXPTR,CPTR		
5538	040612	012737	000010	007410	MOV #10,MSG TYP	:SET UP FOR 33 TO FILL RX BUFFERS	
5539	040620	004737	032010		JSR PC,BLD BUF	:CLEAR RX BUFFER	
5540	040624	013702	007470		MOV MODTYP,R2		
5541	040630	006302			ASL R2		
5542	040632	000172	007504		JMP @MODE(R2)	:MODE DISPATCH	
5543							

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RECEIVE MODE SECTION

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5544 .S8TTL          RECEIVE MODE SECTION
5545 :++
5546 : FUNCTIONAL DESCRIPTION:
5547 : RECEIVE-ONLY (OR ONE-WAY-IN) ROUTINE
5548 : IN THIS MODE OF TESTING THE DEVICE'S RECEIVER IS ENABLED IN EXPECTATION
5549 : OF RECEIVING A MESSAGE. AFTER RECEIVING AN 'EXPECTED' NUMBER OF
5550 : MESSAGES, THE DATA RECEIVED CAN BE COMPARED AGAINST A LIST OF 'EXPECT
5551 : TO RECEIVE' MESSAGES IF DATA-CHECKING IS ENABLED.
5552 :
5553 : SUBORDINATE ROUTINES USED:
5554 : 'ALLTR'
5555 :
5556 : CALLING SEQUENCE:
5557 : JMP @MODE(R2) ;DISPATCH TO MODE BASED ON MODE TYPE IN R2
5558 :--
5559 :
5560 040636 RXONLY:
5561 040636 013737 007332 007414 RXON2: MOV RXPTR,CPTRR
5562 040644 013737 007370 007366 MOV RXMTOT,DVRCT ;SET UP MESSAGE COUNT
5563 040652 052737 000104 007502 BIS #QRX+#ERX,FLAG ;SET UP RX QUE
5564 040660 005037 007416 CLR CPTR ;CLEAR THE TX POINTER
5565 040664 000137 041026 JMP ALLTR ;GO RX.
5566

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TRANSMIT MODE SECTION

.SBTTL TRANSMIT MODE SECTION

++
FUNCTIONAL DESCRIPTION:
TRANSMIT-ONLY (OR ONE-WAY-OUT) ROUTINE
IN THIS MODE OF TESTING A LIST OF MESSAGES IS TRANSMITTED WITHOUT
EXPECTING ANY DATA TO BE RECEIVED. A REPETITION COUNT CAN BE
SPECIFIED TO REPETITIVELY TRANSMIT THE LIST.

SUBORDINATE ROUTINES USED:
'ALLTR'

CALLING SEQUENCE:
JMP @MODE(R2) ;DISPATCH TO MODE BASED ON MODE TYPE IN R2

--

5567									
5568									
5569									
5570									
5571									
5572									
5573									
5574									
5575									
5576									
5577									
5578									
5579									
5580									
5581									
5582									
5583	040670	042737	000002	007476	TXONLY: BIC	#DATCKB,PARAM	;SET NOCHECK		
5584	040676	013737	007334	007416	TXON2: MOV	TXPTR,CPTR			
5585	040704	013737	007354	007352	MOV	TXMTOT,DVTCT	;COPY COUNTER FOR THIS PASS		
5586	040712	052737	000210	007502	BIS	#QTX+#ETX,FLAG	;SET THE QUE TX FLAG		
5587	040720	005037	007414		CLR	CPTRR	;CLEAR RX POINTER		
5588	040724	000137	041026		JMP	ALLTR	;GO TX.		

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
CZCLKC.P11 19-MAR-82 18:32

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PASSIVE MODE SECTION

.SBTTL PASSIVE MODE SECTION

;;
: FUNCTIONAL DESCRIPTION:
: PASSIVE MODE SECTION
: IN THIS MODE OF TESTING, THE DEVICE'S RECEIVER IS ENABLED IN
: EXPECTATION OF RECEIVING A MESSAGE. THEN EVERY TIME A MESSAGE IS
: RECEIVED, A MESSAGE IS TRANSMITTED. DATA CHECKING CAN BE DONE ON THE
: RECEIVED DATA.

: SUBORDINATE ROUTINES USED:

: 'ALLTR'

: CALLING SEQUENCE:
: JMP @MODE(R2) ;DISPATCH TO MODE BASED ON MODE TYPE IN R2
:--

5589
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5601
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5613

040730
040730 013737 007354 007352
040736 013737 007334 007416
040744 013737 007332 007414
040752 052737 000104 007502
040760 000137 041026

PLCK: MOV TXMTOT,DVTCT ;SET UP THE TRANSMIT COUNT
PLCK2: MOV TXPTR,CPTR ;SET UP CPTR TO TRANSMIT POINTER
 MOV RXPTR,CPTRR ;SET UP CPTRR TO REC POINTER
PLCK3: BIS #QRX+#ERX,FLAG ;SET UP Q AND EXPECT RX
 JMP ALLTR ;AND GO RX FIRST MSG.

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
CZCLKC.P11 19-MAR-82 18:32

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ACTIVE MODE SECTION

.SBTTL ACTIVE MODE SECTION

```

:++
: FUNCTIONAL DESCRIPTION:
: ACTIVE MODE SECTION
: IN THIS MODE OF TESTING A LIST OF MESSAGES IS TRANSMITTED AND
: MESSAGES ARE EXPECTED TO BE RECEIVED. RECEIVED DATA CAN BE COMPARED
: AGAINST 'EXPECTED' DATA IF DATA-CHECKING IS ENABLED.
: NOTE: IF BOTH ENDS OF THE LINK ARE IN ACTIVE MODE, THEN THE
: LINK MUST BE A FULL DUPLEX LINK!

```

: SUBORDINATE ROUTINES USED:

: 'ALLTR'

: CALLING SEQUENCE:

: JMP @MODE(R2) ;DISPATCH TO MODE BASED ON MODE TYPE IN R2

:--

```

5614
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5630
5631
5632
5633 040764 013737 007354 007352
5634 040772 013737 007334 007416
5635 041000 013737 007370 007366
5636 041006 013737 007332 007414
5637 041014 052737 000314 007502
5638 041022 000137 041026
5639
5640
5641

```

```

ALCK: MOV TXMTOT,DVTCT
      MOV TXPTR,CPTR ;SET UP TX COUNTS
      MOV RXMTOT,DVRCT ;SET UP COUNTS
      MOV RXPTR,CPTRR
      BIS #QRX+#QTX+#ETX+#ERX,FLAG
      JMP ALLTR

```

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
CZCLKC.P11 19-MAR-82 18:32

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TRANSMIT - RECEIVE FOR ALL STANDARD MODES

.SBTTL TRANSMIT - RECEIVE FOR ALL STANDARD MODES

++
FUNCTIONAL DESCRIPTION:
THIS CODE PERFORMS THE FOLLOWING FUNCTIONS
1.) IF RX BUFFERS ARE TO BE QUED, TELL DEVICE
CODE TO QUE THEM, LOG RECEIVE QUED.
2.) IF TX BUFFERS ARE TO BE QUED, TELL DEVICE
CODE TO QUE THEM, LOG TRANSMIT QUED.
3.) WAIT FOR EITHER RECIVE BUFFER OR TRANSMIT BUFFER OR
BOTH TO COMPLETE
4.) IF RECEIVE COMPLETE LOG IT UPDATE RX TABLE IF DATA
CHECKING
5.) IF TRANSMIT COMPLETE LOG IT.
6.) WHEN BOTH TRANSMIT AND RECIEVE LISTS ARE DONE
GO TO THE COMPARE BUFFER CODE

SUBORDINATE ROUTINES USED:

'DVRXQ' - QUE RECEIVE BUFFER SPACE TO DEVICE
'LOGRXQ' - LOG RECEIVE BUFFER SPACE TO EVENT LOG
'LOGTXQ' - LOG TRANSMIT BUFFER QUED TO EVENT LOG
'DVTXRX' - QUE TRANSMIT BUFFER AND WAIT FOR RX
OR TX TO COMPLETE
'LOGRXC' - LOG RECEIVE BUFFER COMPLETED TO EVENT LOG
'LOGTXC' - LOG TRANSMIT BUFFER COMPLETED TO EVENT LOG

USE OF FLAG BITS:

QRX - SET ON INPUT TO ALLTR IF REC IS TO BE QUED TO
DEVICE. CLEARED BY DVRXQ AND THEN SET BY DVTXRX
WHEN RX BUFFER IS COMPLETED.
QTX - SET ON INPUT TO ALLTR IF TRANSMIT IS TO BE QUED TO
DEVICE. CLEARED ON ENTRY TO DVTXRX AND SET BY DVTXRX
WHEN TX BUFFER IS COMPLETED.
ETX - USED BY DVTXRX TO DETERMINE IF TX BUFFER COMPLETED IS
EXPECTED.
ERX - USED BY DVTXRX TO DETERMINE IF RX BUFFER COMPLETED IS
EXPECTED.

CALLING SEQUENCE:

JMP ALLTR

;GO TO TRANSMIT-RECEIVE FOR ALL STANDARD MODES

--

5686	041026			ALLTR:		
5687	041026	032737	000004	ALCK5:	BIT	#QRX, FLAG
5688	041034	001420			BEQ	ALCK1 ;IF NOT RX GO TO TX'S
5689	041036	013702	007414		MOV	CPTRR, R2
5690	041042	011237	007432		MOV	(R2), TEMP2
5691	041046	012237	007362		MOV	(R2)+, DVRXA
5692	041052	011237	007434		MOV	(R2), TEMP3
5693	041056	011237	007364		MOV	(R2), DVRCC
5694	041062	010237	007414		MOV	R2, CPTRR
5695	041066	004737	044104		JSR	PC, DVRXQ ;GO QUE DEVICE
5696	041072	004737	026406		JSR	PC, LOGRXQ ;LOG REC QUED
5697	041076	032737	000010	ALCK1:	BIT	#QTX, FLAG

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
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TRANSMIT - RECEIVE FOR ALL STANDARD MODES

5698	041104	001416			BEQ	ALCK2		:IF NO TX'S GO TO 2
5699	041106	013702	007416		MOV	CPTR,R2		
5700	041112	011237	007432		MOV	(R2),TEMP2		
5701	041116	012237	007346		MOV	(R2)+,DVTXA		
5702	041122	011237	007434		MOV	(R2),TEMP3		
5703	041126	012237	007350		MOV	(R2)+,DVTCC		
5704	041132	010237	007416		MOV	R2,CPTR		
5705	041136	004737	026352		JSR	PC,LOGTXQ		
5706								
5707	041142	004737	044164		ALCK2: JSR	PC,DVTXRX		:GO TO TX AND RX SUB ROUT.
5708								
5709	041146	032737	000004	007502	BIT	#QRX,FLAG		:CHECK FOR REC. MSG.
5710	041154	001514			BEQ	ALCK3		
5711	041156	013737	007362	007432	MOV	DVRXA,TEMP2		
5712	041164	013737	007364	007434	MOV	DVRCC,TEMP3		
5713	041172	004737	02642+		JSR	PC,LOGRXC		:LOG REC COMPLETE
5714	041176	032737	000004	007476	UPTABL: BIT	#ECHOB,PARAM		:IS THIS ECHO MODE(PASSIVE)
5715	041204	001406			BEQ	UPTA4		:IF NOT GO TO 4
5716	041206	013702	007416		MOV	CPTR,R2		:ELSE SET R2 TO PRESENT TX TABL
5717	041212	013722	007432		MOV	TEMP2,(R2)+		:STORE OFF RX ADD
5718	041216	013712	007434		MOV	TEMP3,(R2)		:AND CC
5719	041222	032737	000002	007476	UPTA4: BIT	#DATCKB,PARAM		:DATA CHECK?
5720	041230	001015			BNE	UPTA1		:YES,BRANCH
5721	041232	012737	000001	007366	MOV	#01,DVRCT		:ELSE SET DVRCT TO A 1
5722	041240	013737	007332	007414	MOV	RXPTR,CPTRR		:RESET POINTER
5723	041246	022737	000003	007470	CMP	#ACT,MODTYP		:IS THIS ACTIVE
5724	041254	001002			BNE	UPTA3		
5725	041256	005237	007366		INC	DVRCT		:IF YES BUMP COUNT
5726	041262	000424			UPTA3: BR	UPTX		
5727	041264	013702	007414		UPTA1: MOV	CPTRR,R2		
5728	041270	011237	007426		MOV	(R2),TEMP		:LOAD TEMP WITH PREV. COUNT
5729	041274	163737	007434	007426	SUB	TEMP3,TEMP		:LOAD TEMP WITH PREV.COUNT-CURRENT
5730	041302	013722	007434		MOV	TEMP3,(R2)+		
5731	041306	063737	007434	007432	ADD	TEMP3,TEMP2		
5732	041314	013722	007432		MOV	TEMP2,(R2)+		:STORE OF NEW ADD
5733	041320	013712	007426		MOV	TEMP,(R2)		:AND NEW CC
5734	041324	162702	000002		SUB	#2,R2		:PUT POINTER BACK TO ADDR.
5735	041330	010237	007414		MOV	R2,CPTRR		:AND RESTORE IT.
5736	041334				UPTX:			
5737	041334	022737	000002	007470	CMP	#PAS,MODTYP		
5738	041342	001007			BNE	ALCK2A		:IF NOT PASSIVE LOOP THEN GO TO 2A
5739	041344	042737	000104	007502	BIC	#QRX+RERX,FLAG		:CLEAR BOTH EXPECTED AND COMPLETED FLAGS
5740	041352	052737	000210	007502	BIS	#QTX+RCTX,FLAG		:SET THE TX FLAGS
5741	041360	000646			BR	ALCK1		
5742								
5743	041362	005337	007366		ALCK2A: DEC	DVRCT		:DEC REC COUNT
5744	041366	005737	007366		TST	DVRCT		:IS IT ALL DONE
5745	041372	001005			BNE	ALCK3		:NO. GO CHECK TX
5746	041374	042737	000004	007502	BIC	#QRX,FLAG		:CLEAR THE RX FLAG
5747	041402	005037	007414		CLR	CPTRR		:YES. CLEAR POINTER
5748	041406	032737	000010	007502	ALCK3: BIT	#QTX,FLAG		:IS IT TX
5749	041414	001447			BEQ	ALCK4		:IF NOT TX THEN GO BACK
5750	041416	013737	007346	007432	MOV	DVTXA,TEMP2		
5751	041424	013737	007350	007434	MOV	DVTCC,TEMP3		:LOG TX COMPLETED
5752	041432	004737	026370		JSR	PC,LOGTXC		
5753	041436	005337	007352		DEC	DVTCT		:DEC TX COUNT

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TRANSMIT - RECEIVE FOR ALL STANDARD MODES

Address	Op Code	Op	Op2	Op3	Op4	Op5	Op6	Op7	Op8	Op9	Op10	Op11	Op12	Op13	Op14	Op15	Op16	Op17	Op18	Op19	Op20	Op21	Op22	Op23	Op24	Op25	Op26	Op27	Op28	Op29	Op30	Op31	Op32	Op33	Op34	Op35	Op36	Op37	Op38	Op39	Op40	Op41	Op42	Op43	Op44	Op45	Op46	Op47	Op48	Op49	Op50	Op51	Op52	Op53	Op54	Op55	Op56	Op57	Op58	Op59	Op60	Op61	Op62	Op63	Op64	Op65	Op66	Op67	Op68	Op69	Op70	Op71	Op72	Op73	Op74	Op75	Op76	Op77	Op78	Op79	Op80	Op81	Op82	Op83	Op84	Op85	Op86	Op87	Op88	Op89	Op90	Op91	Op92	Op93	Op94	Op95	Op96	Op97	Op98	Op99	Op100	Op101	Op102	Op103	Op104	Op105	Op106	Op107	Op108	Op109	Op110	Op111	Op112	Op113	Op114	Op115	Op116	Op117	Op118	Op119	Op120	Op121	Op122	Op123	Op124	Op125	Op126	Op127	Op128	Op129	Op130	Op131	Op132	Op133	Op134	Op135	Op136	Op137	Op138	Op139	Op140	Op141	Op142	Op143	Op144	Op145	Op146	Op147	Op148	Op149	Op150	Op151	Op152	Op153	Op154	Op155	Op156	Op157	Op158	Op159	Op160	Op161	Op162	Op163	Op164	Op165	Op166	Op167	Op168	Op169	Op170	Op171	Op172	Op173	Op174	Op175	Op176	Op177	Op178	Op179	Op180	Op181	Op182	Op183	Op184	Op185	Op186	Op187	Op188	Op189	Op190	Op191	Op192	Op193	Op194	Op195	Op196	Op197	Op198	Op199	Op200	Op201	Op202	Op203	Op204	Op205	Op206	Op207	Op208	Op209	Op210	Op211	Op212	Op213	Op214	Op215	Op216	Op217	Op218	Op219	Op220	Op221	Op222	Op223	Op224	Op225	Op226	Op227	Op228	Op229	Op230	Op231	Op232	Op233	Op234	Op235	Op236	Op237	Op238	Op239	Op240	Op241	Op242	Op243	Op244	Op245	Op246	Op247	Op248	Op249	Op250	Op251	Op252	Op253	Op254	Op255	Op256	Op257	Op258	Op259	Op260	Op261	Op262	Op263	Op264	Op265	Op266	Op267	Op268	Op269	Op270	Op271	Op272	Op273	Op274	Op275	Op276	Op277	Op278	Op279	Op280	Op281	Op282	Op283	Op284	Op285	Op286	Op287	Op288	Op289	Op290	Op291	Op292	Op293	Op294	Op295	Op296	Op297	Op298	Op299	Op300	Op301	Op302	Op303	Op304	Op305	Op306	Op307	Op308	Op309	Op310	Op311	Op312	Op313	Op314	Op315	Op316	Op317	Op318	Op319	Op320	Op321	Op322	Op323	Op324	Op325	Op326	Op327	Op328	Op329	Op330	Op331	Op332	Op333	Op334	Op335	Op336	Op337	Op338	Op339	Op340	Op341	Op342	Op343	Op344	Op345	Op346	Op347	Op348	Op349	Op350	Op351	Op352	Op353	Op354	Op355	Op356	Op357	Op358	Op359	Op360	Op361	Op362	Op363	Op364	Op365	Op366	Op367	Op368	Op369	Op370	Op371	Op372	Op373	Op374	Op375	Op376	Op377	Op378	Op379	Op380	Op381	Op382	Op383	Op384	Op385	Op386	Op387	Op388	Op389	Op390	Op391	Op392	Op393	Op394	Op395	Op396	Op397	Op398	Op399	Op400	Op401	Op402	Op403	Op404	Op405	Op406	Op407	Op408	Op409	Op410	Op411	Op412	Op413	Op414	Op415	Op416	Op417	Op418
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CZCLKC DMR,DMC-11 DATA COMM. LINK TEST
CZCLKC.P11 19-MAR-82 18:32

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DATA COMPARISON CODE

.SBTTL DATA COMPARISON CODE

++
FUNCTIONAL DESCRIPTION:

CMPSR - COMPARE CODE
THIS CODE COMPARES THE RECEIVED DATA AGAINST THE
EXPECTED AND FILLS THE EVENT LOG WITH 1 OF 3 MSGS.

NOTE: IF NO DATA CHECKING SKIP THIS CODE

- 1.) A DATA COMPARISON ENTRY WHICH REPORTS THE NUMBER
OF COMPARISON ERRORS FOUND.
 - 2.) A DATA COMPARISON ENTRY WHICH REPORTS DIFFERENCES
IN REC LENGTH TO COMPARE LENGTH.
 - 3.) A DATA COMPARISON STARTED ENTRY WHICH REPORTS ADDRESS
OF RECEIVE BUFFER AND BYTE COUNT.
- THIS CODE ALSO REPORTS SOFT ERRORS FOR DATA COMPARISON
(THE FIRST 5 ONLY),LENGTH ERROR,AND TOTAL NUMBER OF ERRORS

SUBORDINATE ROUTINES USED:

'LOGCMP' - SEE ITEM 3 ABOVE
'LOGCML' - SEE ITEM 2 ABOVE
'LOGCMD' - SEE ITEM 1 ABOVE

CALLING SEQUENCE:

JMP CMPSR ;JUMP TO DATA COMPARISON CODE

```

5809
5810 041554 032737 000002 007476 CMPSR: BIT #DATCKB,PARAM ;IS DATA CHECKING TO BE DONE
5811 041562 001522 BEQ CMPSEX ;IF NOT THEN EXIT
5812 041564 013737 007332 007416 MOV RXPTR,CPTR ;PUT START OF RX POINTERS TO CPTR
5813 041572 013737 007336 007414 MOV CMPPTR,CPTRR ; AND START OF COMPARE POINTS TO CPTRR
5814 041600 013737 007370 007366 MOV RXMTOT,DVRCT
5815
5816 041606 CMPS3: MOV CPTR,R2 ;MOVE CURRET RX PT.TO R2
5817 041606 013702 007416 MOV (R2),TEMP2 ;MOVE RX ADD TO EVENT LOG
5818 041612 011237 007432 MOV (R2)+,R1 ;SET R1 TO START ADD OF RX
5819 041616 012201 MOV (R2)+,TEMP3 ;SET CHAR COUNT TO FVENT LOG
5820 041620 012237 007434 MOV R2,CPTR ;RESTORE RX POINT
5821 041624 010237 007416
5822
5823 041630 013702 007414 MOV CPTRR,R2 ;PUT R2 AT COMPARE TABLE
5824 041634 012203 MOV (R2)+,R3 ;SET R3 TO COMPARE ADD
5825 041636 012204 MOV (R2)+,R4 ;SET R4 TO COMP CC
5826 041640 010237 007414 MOV R2,CPTRR ;RESTORE POINTER
5827 041644 010437 007436 MOV R4,TEMP4
5828 041650 004737 026520 JSR PC,LOGCMP ;LOG COMPARE START.
5829
5830 041654 020437 007434 CMP R4,TEMP3 ;IS COMPARE COUNT = TO RX COUNT
5831 041660 001410 BEQ CMPS7 ;IF SO GO TO 7
5832 041662 005237 007400 INC ERRCNT
5833 041666 ERRSOFT 1,EDDL,ERR10 ;PRINT ERROR

```

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DATA COMPARISON CODE

Address	Offset	Hex Data	Label	Operation	Comment	Trap	Software
5834	041666	104457				TRAP	C\$ERSOFT
5835	041670	000001				.WORD	1
5836	041672	016052				.WORD	EDDLE
5837	041674	025720				.WORD	ERR10
5838	041676	004737	026536	JSR	PC,LOGCML		
5839							
5840	041702	005037	007436	CMPS7:	CLR TEMP4		
5841	041706	012737	000001	MOV	#1,OFFSET		
5842	041714	122123		CMPS1:	CMPB (R1)+,(R3)+		
5843	041716	001422		BEQ	CMPS6		
5844							
5845	041720	005237	007436	CMPS2:	INC TEMP4		
5846	041724	023727	007436	CMP	TEMP4,#5		
5847	041732	101014		BHI	CMPS6		
5848	041734	114337	007446	MOVB	-(R3),GOOD		
5849	041740	114137	007447	MOVB	-(R1),BAD		
5850	041744	005237	007400	INC	ERRCNT		
5851	041750			ERRSOFT	2,EDDDE,ERR1		
5852	041750	104457					
5853	041752	000002				TRAP	C\$ERSOFT
5854	041754	016107				.WORD	2
5855	041756	025630				.WORD	EDDDE
5856	041760	005201				.WORD	ERR1
5857	041762	005203		INC	R1		
5858	041764	005237	007424	CMPS6:	INC R3		
5859	041770	005304		INC	OFFSET		
5860	041772	001350		DEC	R4		
5861	041774	005737	007436	BNE	CMPS1		
5862	042000	001410		TST	TEMP4		
5863	042002	005237	007400	BEQ	CMPS5A		
5864	042006			INC	ERRCNT		
5865	042006	104457		ERRSOFT	3,EDDDE,ERR2		
5866	042010	000003					
5867	042012	016107					
5868	042014	025672					
5869	042016	004737	026554	CMPS5:	JSR PC,LOGCMD		
5870	042022			CMPS5A:			
5871	042022	005337	007366	DEC	DVRC		
5872	042026	001267		BNE	CMPS3		
5873							

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INTERNAL END OF PASS CODE

INTERNAL END OF PASS CODE

;

FUNCTIONAL DESCRIPTION:

FUNCTIONAL DESCRIPTION:
THIS CODE INCREMENTS THE PASS COUNT FOR THE
EVENT LOG. LOGS THE END OF PASS EVENT
IF 'RPASS' IS A MINUS ONE RETURN TO MODE
DISPATCHER. IF NOT -1 THEN DECREMENT RPASS
AND IF 'RPASS' IS THEN = TO 0 GO TO DCLT PROMPT
IN NOT = TO 0 THEN GO BACK TO MODE DISPATCHER

SUBORDINATE ROUTINES USED:

'LOGEOP' - LOG END OF PASS TO EVENT LOG

• • • • •

CMPSEX: INC

PSCNT

: BUMP PASS COUNT

```

MOV      NOBUF,TEMP4
MOV      PSCNT,TEMP2
MOV      ERRCNT,TEMP3
JSR      PC,LOGEOP
CMP      #-1,RPASS
BEQ      1$
DEC      RPASS
BEQ      2$
JMP      GTRX2
JSR      PC,DVB8TUP
JMP      GTRA5

```

```
;LOG END OF PASS
;SEE IF RPASS=-1
;IF IT IS DON'T DECRMNT, LOOP FOREVER
;DEC PASS COUNT
;IF DONE EXIT TEST
;ELSE GO BACK AND DISPATCH
;GO UPDATE BASE TABLE
;WHEN RPASS=0 GO BACK TO 'DCLT>'
```

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DOWN-LINE-LOAD SECTION

.SBTTL DOWN-LINE-LOAD SECTION

```

:++
: FUNCTIONAL DESCRIPTION:
: DOWN-LINE-LOAD SECTION
: IN THIS MODE OF TESTING THE 'HOST' OR ORIGINATING STATION
: REQUESTS THE 'SATELLITE' OR BOOT STATION TO ENTER MOP MODE.
: THE BOOT STATION THEN SENDS A 'REQUEST PROGRAM MESSAGE'.
: THE 'HOST' THEN SENDS A 'MEMORY LOAD WITH TRANSFER ADDRESS'
: THAT CONTAINS IMAGE DATA TO BE LOADED BY THE BOOT STATION'S
: M9312 STARTING AT LOC. 0. THIS IMAGE DATA WILL CONTAIN A
: PROGRAM THAT WILL PRINT A MSG THAT DOWN-LINE-LOAD WAS SUCCESSFUL.

```

SUBORDINATE ROUTINES USED.

```
'DLTXRX' - SPECIAL TX RX ROUTINE FOR DLL
'DVRXQ' - QUE RX BUFFER SPACE TO DEVICE
'LOGRXQ' - LOG RX SPACE QUED TO EVENT LOG
'LOGTXQ' - LOG TX BUFFER QUED TO EVENT LOG
'DVTXRX' - QUE TX BUFFER AND WAIT FOR RX OR .X TO COMPLETE
'LOGTXC' - LOG TX COMPLETED TO EVENT LOG
'LOGRXC' - LOG RX COMPLETED TO EVENT LOG
```

CALLING SEQUENCE:

```

JMP      @MODE(R2)      ;DISPATCH TO MODE BASED ON MODE TYPE IN R2

```

DLL: GMANID DLLQ1,TEMP3,0,377,0,377,NO ;GET PASSWORD

```
TRAP      CS$GMAN
BR        10001$
.WORD     TEMP3
.WORD     T$CODE
.WORD     DLLQ1
.WORD     377
.WORD     T$LOLIM
.WORD     T$HILIM
```

10001\$:

```

MOVVB    TEMP3,PASS1                ;PUT PASSWORD IN MESSAGE
MOVVB    TEMP3,PASS2                ;PASSWORD IS DUPLICATE
MOVVB    TEMP3,PASS3                ;:HERE
MOVVB    TEMP3,PASS4                ;::AND HERE.
BIS       #ERX,FLAG                 ;SET EXPECTED TO RX
BIC       #DATCKB,PARAM             ;CLEAR NOCHECK
MOV       #DLLM1,CURADD             ;SET THE DOWN LINE LOAD MSG TO #1
MOV       DLLM1C,CURCC              ;SET THE CC
JSR       PC,DLTXRX                 ;GO TO THE DOWN LINE TX RX ROUTINE

```

```

:RETURN WHEN TX AND RX ARE COMPLETED

```

```

MOV      #DLLM2,CURADD      ;SET THE DOWN LINE LOAD MSG TO #2
MOV      DLLM2C,CURCC       ;SET CC
BIC      #DLLGA,FLAG        ;CLEAR THE GO AHEAD FLAG
JSR      PC,DLTXRX          ;GO TO THE DOWN LINE TX RX ROUTINE

```

```

: RETURN WHEN TX AND RX ARE COMPLETED

```

DLLPRI:

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
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DOWN-LINE-LOAD SECTION

5961	042246				PRINTF	#DLLCM			
5962	042246	012746	015034					MOV	#DLLCM,-(SP)
5963	042252	012746	000001					MOV	#1,-(SP)
5964	042256	010600						MOV	SP,R0
5965	042260	104417						TRAP	CSPNTF
5966	042262	062706	000004					ADD	#4,SP
5967	042266	000137	035270		JMP	GTRAS			
5968									
5969	042272				DLLEA:	ERRHRD	20,DLLAB,ERR14		
5970	042272								
5971	042272	104456						TRAP	C\$ERHRD
5972	042274	000074						.WORD	20
5973	042276	025214						.WORD	DLLAB
5974	042300	026142						.WORD	ERR14
5975									
5976	042302	000137	035270		JMP	GTRAS			;PRINT ABORT AND EXIT
5977									
5978									
5979									
5980	042306				DLTXRX:				
5981	042306	052737	000004	007502	BIS	#QRX,FLAG			;SET THE QUE RX FLAG
5982	042314	012737	004562	007362	MOV	#RXBUF,DVRXA			;SET THE DEVICE RX BUFFER TO RXBUF
5983	042322	012737	004562	007432	MOV	#RXBUF,TEMP2			;SET UP FOR LOG
5984	042330	012737	000400	007364	MOV	#256.,DVRCC			;SET UP FOR CC OF 256
5985	042336	012737	000400	007434	MOV	#256.,TEMP3			;SET UP FOR LOG
5986	042344	004737	044104		JSR	PC,DVRXQ			;GO QUE RX
5987	042350	004737	026406		JSR	PC,LOGRXQ			;AND LOG IT...
5988									
5989	042354	013737	007420	007346	MOV	CURADD,DVTXA			;SET UP FOR TX
5990	042362	013737	007420	007432	MOV	CURADD,TEMP2			;AND LOG
5991	042370	013737	007412	007350	MOV	CURCC,DVTCC			;SE UP FOR TX COUNT
5992	042376	013737	007412	007434	MOV	CURCC,TEMP3			;AND LOG IT
5993	042404	004737	026352		JSR	PC,LOGTXQ			;LOG THE TX QUEUED
5994	042410	052737	000210	007502	BIS	#QTX+METX,FLAG			;SET UP TO QUE AND EXPECTED
5995	042416	004737	044164		JSR	PC,DVTXRX			;GO TO DEVICE ROUTINE
5996	042422	032737	000400	007502	DLLE2:	BIT	#DLLGA,FLAG		;TEST FOR GO AHEAD BIT
5997	042430	001047			BNE	DLLE1			;IF SET GO TO ONE
5998	042432	032737	000010	007502	BIT	#QTX,FLAG			;ELSE CHECK FOR TX DONE
5999	042440	001020			BNE	DLLE6			;IF DONE THEN BRANCH
6000									;ELSE ERROR
6001	042442	012737	025521	007442	DLLE7:	MOV	#TXNC,CONOTM		
6002	042450	013737	004562	007434	MOV	RXBUF,TEMP3			
6003	042456	013737	003562	007436	MOV	TXBUF,TEMP4			
6004	042464	012737	025214	007432	MOV	#DLLAB,TEMP2			
6005	042472	004737	026434		JSR	PC,LGDVE			;LOG ERROR
6006	042476	000137	042272		JMP	DLLEA			;ABORT TEST
6007									
6008	042502	013737	007346	007432	DLLE6:	MOV	DVTXA,TEMP2		
6009	042510	013737	007350	007434	MOV	DVTCC,TEMP3			
6010	042516	004737	026370		JSR	PC,LOGTXC			;LOG TX DONE
6011	042522	042737	000210	007502	BIC	#QTX+METX,FLAG			;CLEAR QUE AND EXPECTED
6012	042530	052737	000400	007502	BIS	#DLLGA,FLAG			;SET THE GO AHEAD BIT
6013	042536	023737	002174	007350	CMP	DLLM2C,DVTCC			
6014	042544	001472			BEQ	DLLE5			;EXIT IF SECOND MSG.
6015	042546	000723			BR	DLLE2			;AND GO BACK TO 2
6016	042550	032737	000004	007502	DLLE1:	BIT	#QRX,FLAG		;IS THE A RX COMPLETED

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DOWN-LINE-LOAD SECTION

Address	Offset	Hex	Symbol	Label	Operation	Comment
6017	042556	001004			BNE	DLLE8
6018	042560	012737	025541	007442	MOV	#RXNC,CONOTM
6019	042566	000730			BR	DLLE7
6020	042570	013737	007362	007432	MOV	DVRXA,TEMP2
6021	042576	013737	007364	007434	MOV	DVRCC,TEMP3
6022	042604	004737	026424		JSR	PC,LOGRXC
6023	042610	122737	000010	004562	CMPB	#10,RXBUF
6024						:LOG RECEIVE COMPLETE
6025	042616	001404				:CHECK FOR FIRST WORD OF RX
6026	042620	012737	025561	007442	BEQ	DLLE3
6027	042626	000710			MOV	#RXM1,CONOTM
6028					BR	DLLE7
6029	042630	122737	000001	004564		:SET UP MMSG AND ABORT
6030	042636	001404				:ABORT TEST
6031	042640	012737	025604	007442	BR	DLLE7
6032	042646	000700				:IS SECOND WORD 1?
6033						:YES,BRANCH
6034						:SET UP MESSAGE AND ABORT
6035	042650	012737	020273	007426	;;PRINT	ID OF DEVICE REQUESTING
6036	042656	113703	004563		MOV	#UNKM,TEMP
6037	042662	120327	000042		MOV	R3,TEMP
6038	042666	101006			CMPB	R3,#34
6039	042670	132703	000001		BHI	DLLE5B
6040	042674	001003			BITB	#1,R3
6041	042676	016337	010544	007426	BNE	DLLE5B
6042					MOV	DLLIND(R3),TEMP
6043	042704					:GET ASCII MESSAGE FROM TABLE
6044	042704	010346			DLLE5B: PRINTF	#SECRM,TEMP,R3
6045	042706	013746	007426			:PRINT ID MESSAGE
6046	042712	012746	020135			
6047	042716	012746	000003			
6048	042722	010600				
6049	042724	104417				
6050	042726	062706	000010			
6051	042732	000207			DLLE5: RTS	PC
6052						:RETURN TO CALLER
6053						
6054						

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TALK MODE SECTION

```

6055 .SBTTL TALK MODE SECTION
6056
6057
6058 :++
6059 : FUNCTIONAL DESCRIPTION:
6060 : TALK MODE SECTION
6061 : IN THIS MODE, THE 'TALK' END OF THE LINK TRANSMITS OPERATOR
6062 : SPECIFIED MESSAGES UNTIL A 'EXIT' MESSAGE IS TYPE. AT THAT POINT,
6063 : THIS END OF THE LINK GOES INTO 'LISTEN' MODE.
6064
6065 : SUBORDINATE ROUTINES USED:
6066 :
6067 : 'LOGTXQ' - LOG TX BUFFER QUED TO EVENT LOG
6068 : 'DVTXRX' - QUE TX BUFFER TO DEVICE AND WAIT FOR COMPLETE
6069 : 'LOGTXC' - LOG TX COMPLETE TO EVENT LOG
6070
6071 : CALLING SEQUENCE:
6072 : JMP @MODE(R2) ;DISPATCH TO MODE BASED ON MODE TYPE IN R2
6073 :--
6074
6075 TALCK: BIC #DATCKB,PARAM ;SET NOCHECK
6076 MOV #OPBUF,R2
6077 1$: MOV #-1,(R2)+ ;CLEAR OUT OPBUFFER FIRST
6078 CMP #OPEND,R2
6079 BNE 1$
6080 GMANID OPRMM,OPBUF,A,0,1,72.,NO ;GET TALK MESSAGE
6081 TRAP CS$GMAN
6082 BR 10002$
6083 .WORD OPBUF
6084 .WORD T$CODE
6085 .WORD OPRMM
6086 .WORD 0
6087 .WORD T$LOLIM
6088 .WORD T$HILIM
6089
6090 10002$:
6091 CLR R2
6092 CMPB #377,OPBUF(R2) ;NOW GET CHAR COUNT
6093 BEQ 3$
6094 INC R2
6095 BR 2$
6096 2$: MOV R2,OPCNT
6097 3$: MOV #OPBUF,DVTXA ;SET UP TX ADDR.
6098 MOV #OPBUF,TEMP2
6099 MOV OPCNT,TEMP3
6100 MOV OPCNT,DVTCC ;SET UP TX CC
6101 JSR PC,LOGTXQ
6102 BIS #QTX+ETX,FLAG ;SET UP FLAGS
6103 CLR CPTRR ;CLEAR RX POINTER
6104
6105 JSR PC,DVTXRX
6106
6107 MOV DVTXA,TEMP2
6108 MOV DVTCC,TEMP3
6109 JSR PC,LOGTXC
6110 CMP #'EX,OPBUF ;CHECK FOR EXIT

```

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TALK MODE SECTION

6111	043122	001304		
6112	043124	022737	052111	002526
6113	043132	001300		
6114	043134	042737	000210	007502
6115	043142	012737	000006	007470
6116	043150	000137	040570	

BNE	TALCK	
CMP	#'IT,OPBUF+2	
BNE	TALCK	
BIC	#QTX+#ETX,FLAG	:CLEAR THE TX BITS
MOV	#LIS,MODTYP	:CHANGE TO LISTEN MODE
JMP	GTRX2	:AND GO BACK TO DISPATCH

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
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LISTEN MODE SECTION

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.SBTTL

LISTEN MODE SECTION

..

FUNCTIONAL DESCRIPTION:

LISTEN MODE SECTION

IN THIS MODE, THE 'LISTEN' END OF THE LINK PRINTS ALL OF THE MESSAGES RECEIVED BY THE DEVICE ON THE OPERATOR'S CONSOLE. IF THE MESSAGE RECEIVED IS AN 'EXIT' MESSAGE, THEN THE NODE ENTERS 'TALK' MODE.

SUBORDINATE ROUTINES USED:

'DVRXQ' - QUE RECEIVE BUFFER SPACE TO DEVICE
'LOGRXQ' - LOG RECEIVE BUFFER QUED TO EVENT LOG
'DVTXRX' - WAIT FOR RX TO COMPLETE
'LOGRXC' - LOG RX COMPLETE TO EVENT LOG

CALLING SEQUENCE:

JMP @MODE(R2) ;DISPATCH TO MODE BASED ON MODE TYPE IN R2

LISCK: BIC #DATCKB,PARAM
PRINTF #LISP

;CLEAR CHECK BIT
;PRINT PROMPT FOR OPR.

MOV #LISP,-(SP)
MOV #1,-(SP)
MOV SP,R0
TRAP C\$PNTF
ADD #4,SP

LISCKA: MOV #OPBUF,DVRXA
MOV #OPBUF,TEMP2
MOV #82.,DVRCC
MOV #82.,TEMP3
BIS #QRX+MERX,FLAG
CLR CPTR

;SET DEVICE UP TO REC AT OPBUF
;SET UP CHAR COUNT TO 82.
;SET UP FLAG
;CLEAR THE TX.

JSR PC,DVRXQ
JSR PC,LOGRXQ

;QUE RX

JSR PC,DVTXRX

;GO TO DEVICE RX. SUBROUTINE

MOV DVRXA,TEMP2
MOV DVRCC,TEMP3
JSR PC,LOGRXC
ADD DVRXA,DVRCC
CLRB @DVRCC
PRINTF #OPBFPT

;SET UP ADDR.AND CC.
;LOG COMPLETED

MOV #OPBFPT,-(SP)
MOV #1,-(SP)
MOV SP,R0
TRAP C\$PNTF
ADD #4,SP

CMP #'EX,OPBUF
BNE LISCKA
CMP #'IT,OPBUF+2
BNE LISCKA
MOV #TAL,MODTYP
JMP GTRX2

;COMPARE FOR EX OF 'EXIT'
;IF NOT EXIT THEN GO BACK
;IF FIRST HALF OK CHECK NEXT PART
;IF NOT EXIT THEN GO BACK
;CHANGE MODE TO TALK
;RETURN TO DISPATCHER

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
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LISTEN MODE SECTION

6173
6174

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DEVICE FUNCTION SUBROUTINES

```

6175      .SBTTL      DEVICE FUNCTION SUBROUTINES
6176
6177
6178
6179
6180      .SBTTL      DEVICE INIT SUBROUTINE
6181
6182
6183      :++
6184      : FUNCTIONAL DESCRIPTION:
6185      : DVINIT- DEVICE INIT ROUTINE
6186      : THIS ROUTINE IS DEVICE DEPENDENT CODE THAT INITIS
6187      : THE DEVICE BEING TESTED. (I.E. FULL/HALF DUPLEX BAUD RATE, MAINT MODE.)
6188
6189      : INPUTS:      'FHDPLX' INDICATES IF MODE IS FULL OR HALF DUPLEX. (1=FULL)
6190      :                ADDRESS POINTERS (SELO,...) ALREADY POINT TO DEVICE'S REG.S
6191
6192      : SUBORDINATE ROUTINES USED:
6193
6194      :                'LGDVE' - LOG DEVICE ERROR TO EVENT LOG
6195      :                'TOORIO' - TIME OUT OR INPUT INTERRUPT OR OUTPUT INTERRUPT
6196      :                'CLRAW' - CLEAR RQI AND WAIT FOR RDI TO GO AWAY
6197
6198
6199      : CALLING SEQUENCE:
6200      :                JSR      PC,DVINIT
6201      :--
6202
6203      DVINIT:
6204      :MASTER CLEAR DEVICE
6205
6206      043364 012737 000100 007542      MOV      #100,TIMER1      ;SET UP TIMER 1 FOR 100(OCTAL) TICKS
6207      043372 005077 147002      CLR      @SEL6
6208      043376 005077 146772      CLR      @SEL4
6209      043402 012777 040000 146754      MOV      #MCLR,@SELO      ;DO A MASTER CLEAR
6210
6211      043410 022737 000004 012412      CMP      #DMRC6,OPTYP      ;IS THIS A 8206
6212      043416 001003      BNE      DVIN6      ;IF NOT GO TO 6
6213      043420 112777 000200 146740      MOV      #200,@BSEL1      ;SET RUN FOR 8206
6214      043426 022737 000006 012412      DVIN6:  CMP      #DMR6,OPTYP      ;IS THIS AN 8206 DMR
6215      043434 001003      BNE      DVIN2      ;IF NOT GO TO 2
6216      043436 112777 000200 146722      MOV      #200,@BSEL1      ;SET RUN BIT FOR 8206
6217
6218      043444 005777 146714      DVIN2:  TST      @SELO      ;IS RUN BIT SET
6219      043450 100426      BMI      DVIN1      ;IF YES GO TO 1 ELSE...
6220      043452      BREAK
6221      043452 104422      TRAP      CSBRK
6222      043454 005737 007542      TST      TIMER1      ;SEE IF TIME HAS EXPIRED
6223      043460 001371      BNE      DVIN2      ;IF NOT GO BACK AND CHECK
6224      :                ;AGAIN ELSE...PRINT ERROR
6225      043462 012737 024424 007432      MOV      #DVEM3,TEMP2
6226      043470 017737 146670 007434      MOV      @SELO,TEMP3
6227      043476 017737 146666 007436      MOV      @SEL2,TEMP4
6228      043504 004737 026434      JSR      PC,LGDVE      ;LOAD UP ERRM. AND REG OUTPUTS
6229      043510 005237 007400      INC      ERRCNT      ;LOG TIME OUT WAITING FOR RUN
6230      043514      ER,SOFT 11,DVEM3,ERR13

```

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
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DEVICE INIT SUBROUTINE

TRAP CSERSOF 1
.WORD 11
.WORD DVEM3
.WORD ERR13

```

6231 043514 104457
6232 043516 000013
6233 043520 024424
6234 043522 026110
6235
6236 043524 000717
6237
6238 043526
6239
6240
6241
6242 043526 042737 000003 007502
6243 043534 112777 000143 146622
6244 043542 004737 045012
6245 043546 012777 017370 146620
6246
6247 043554 012777 000000 146616
6248 043562 023727 012412 000006
6249 043570 002403
6250 043572 012777 000522 146600
6251 043600 052777 000100 146562
6252 043606 042777 004000 146550
6253 043614 022737 000001 007472
6254 043622 001003
6255 043624 052777 004000 146532
6256 043632 004737 044704
6257
6258
6259
6260 043636 023727 012412 000006
6261 043644 002437
6262 043646 112777 000145 146510
6263 043654 004737 045012
6264 043660 042777 000014 146512
6265 043666 022737 000004 007472
6266 043674 001003
6267 043676 052777 000004 146474
6268 043704 022737 000003 007472
6269 043712 001003
6270 043714 052777 000010 146456
6271 043722 004737 044704
6272
6273
6274
6275
6276 043726 112777 000146 146430
6277 043734 004737 045012
6278 043740 004737 044704
6279
6280
6281
6282 043744 112777 000141 146412
6283 043752 004737 045012
6284 043756 005077 146416
6285 043762 022737 000004 007470
6286 043770 001004

```

BR DVINIT ;GO BACK AND TRY MSTR CLR AGAIN IF ERROR

DVIN1: ; DO BASE IN COMMAND

BIC #3,FLAG ;CLEAR INPUT AND OUTPUT INT FLAGS
 MOV #143,@BSEL0 ;SET UP BASE IN INT EN
 JSR PC,TOORIO ;GO WAIT FOR INTERRUPT OR TIME OUT
 MOV #BASE,@SEL4

MOV #0,@SEL6 ;SET UP SEL 6
 CMP OPTYP,#6 ;IS THIS DMR MODE
 BLT DVIN7 ;IF NOT GO TO 7
 MOV #522,@SEL6 ;SET DMR MODE
 BIS #IEO,@SEL2 ;SET IEO
 BIC #LULOOP,@SEL0 ;CLEAR LU LOUP
 CMP #TTL,MLTYP ;IS TTL SELECTED
 BNE DVIN3 ; IF NOT GO TO 3
 BIS #LULOOP,@SEL0 ;ELSE SET LU LOOP
 JSR PC,CLRAW

DVIN7: ; DO WRITE MODEM IF DMR MODE

CMP OPTYP,#6 ;IS THIS DMR MODE
 BLT DVIN8 ;IF NOT GO TO 8
 MOV #145,@BSEL0 ;SET UP WRITE MODEM
 JSR PC,TOORIO ;GO TO WAIT FOR INT
 BIC #BIT2+BIT3,@SEL6 ;CLEAR BSEL6 AND 7
 CMP #MODREM,MLTYP ;IS THIS REMOTE LOOP
 BNE DVIN9 ;IF NOT GO TO 9
 BIS #BIT2,@BSEL6 ;SET THE BIT
 CMP #MODLOC,MLTYP ;IS IT MODEM LOCAL
 BNE DVIN10 ;IF NOT EXIT
 BIS #BIT3,@BSEL6 ;SET MODEM LOCAL
 JSR PC,CLRAW ;CLEAR RDI AND WAIT

DVIN9: ; ENABLE EXTENDED ERROR IF DMR MODE

MOV #146,@BSEL0 ;SET UP FOR ENABLE
 JSR PC,TOORIO
 JSR PC,CLRAW ;CLEAR RDI AND WAIT

DVIN10: ; DO CONTROL IN COMMAND

MOV #141,@BSEL0 ;SET UP CONTROL IN
 JSR PC,TOORIO ;WAIT FOR INT OR TIME OUT
 CLR @SEL6 ;CLEAR HALF/DUP
 CMP #DOW,MODTYP ;IS THIS DOWN LINE LOAD?
 BNE DVIN5 ; BR IF NOT

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DEVICE INIT SUBROUTINE

6287	043772	052777	002400	146400	BIS	#MAINTB+HALFDB,@SEL6	;IF SO SET MAINT MODE BIT
6288	044000	000406			BR	DVIN4	; AND FORCE HALF DUPLEX
6289							
6290	044002	005737	007474		DVIN5: TST	FHDPLX	;IS THIS A HALF/DUP
6291	044006	001003			BNE	DVIN4	;IF NOT GO TO 4
6292	044010	052777	002000	146362	BIS	#HALFDB,@SEL6	;ELSE SET HALF/DUP
6293							
6294	044016	017737	146356	007444	DVIN4: MOV	@SEL6,CONTIN	;SET UP CONTROL IN FOR MODS
6295	044024	004737	044704		JSR	PC,CLRAW	;GO CLEAR RQI AND WAIT
6296							;FOR RDI TO GO AWAY.
6297	044030	023727	012412	000006	CMP	OPTYP,#6	;IS THIS DMR ?
6298	044036	002403			BLT	DVINEX	;NO,EXIT
6299	044040	052737	001000	007502	BIS	#DMRRUN,FLAG	;SET DMRRUN OUTPUT EXPECTED BIT
6300	044046	000207			DVINEX: RTS	PC	;RETURN TO CALLER
6301							
6302							
6303							
6304							
6305							

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
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DEVICE GET MODEM STATUS SUBROUTINE

.SBTTL

DEVICE GET MODEM STATUS SUBROUTINE

```

:++
: FUNCTIONAL DESCRIPTION:
:   'DVMODS' GET MODEM STATUS
:
: IMPLICIT INPUTS:
:   THE BIT POSITION AND AVAILABILITY OF THE MODEM SIGNALS CTS,DSR,...RI,,
:   IN THE DEPENDENT PORTION OF THE GLOBAL EQUATES SECTION.
:
: OUTPUTS:
:   CURRENT MODEM SIGNAL VALUES IN 'MODS'
:
: SUBORDINATE ROUTINES USED:
:
:   'TOORIO' - TIME OUT OR INPUT INTERRUPT OR OUTPUT INTERRUPT
:   'CLRAW' - CLEAR RQI AND WAIT FOR RDI TO CLEAR
:
: CALLING SEQUENCE:
:   JSR PC,DVMODS
:--

```

6330						
6331	044050	112777	000141	146306	DVMODS: MOVB	#141,@BSEL0 ;SET UP CONTORL IN
6332	044056	004737	045012		JSR	PC,TOORIO ;GO TIME OUT CHECK
6333	044062	017737	146306	010456	MOV	@SEL4,MODS ;SET UP MODEM STATUS
6334	044070	013777	007444	146302	MOV	CONTIN,@SEL6 ;SET UP OLD CONTORL IN
6335	044076	004737	044704		JSR	PC,CLRAW
6336	044102	000207			RTS	PC ;RETURN TO CALLER
6337						
6338						

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
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DEVICE QUEUE RECEIVE SPACE SUBROUTINE

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.SBTTL                                DEVICE QUEUE RECEIVE SPACE SUBROUTINE

:++
: FUNCTIONAL DESCRIPTION:
:   DVRXQ - THIS SUB ROUTINE QUES THE REC BUFFER SPACE TO THE
:           DEVICE, THEN CLEARS THE QRX BIT OF THE FLAG WORD.
:
: INPUTS:
:   DVRXA = ADDRESS OF RX BUFFER SPACE
:   DVRCC = BYTE CHAR COUNT OF RX BUFFER
:   QRX FLAG BIT = SET BY CALLING ROUTINE
:
: OUTPUTS:
:   QRX FLAG BIT = CLEARED BY ROUTINE
:
: SUBORDINATE ROUTINES USED:
:   'TOORIO' - TIME OUT OR OUTPUT INTERRUPT OR INPUT INTERRUPT
:   'CLRAW'  - CLEAR RQI AND WAIT FOR RDI TO CLEAR
:
: CALLING SEQUENCE:
:   JSR      PC,DVRXQ
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044104				
044104	032737	000004	007502	
044112	001423			
044114	042737	000004	007502	
044122	112777	000144	146234	
044130	004737	045012		
044134	017737	146234	010456	
044142	013777	007362	146224	
044150	013777	007364	146222	
044156	004737	044704		
044162	000207			

```
DVRXQ:  BIT      #QRX,FLAG
        BEQ      DVREX      ;IF NOT RX THEN EXIT
                                ;ELSE QUE RX
                                ;CLEAR FLAG FOR RX
        BIC      #QRX,FLAG
        MOVB     #144,@BSEL0
        JSR      PC,TOORIO   ;GO CHECK FOR IN OR OUT
        MOV      @SEL4,MODS   ;SET UP NEW MOD STATUS
        MOV      DVRXA,@SEL4
        MOV      DVRCC,@SEL6
        JSR      PC,CLRAW     ;LOAD CL AND ADDR
                                ;CLEAR AND WAIT
DVREX:  RTS      PC          ;RETURN TO CALLER
```

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
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DEVICE TRANSMIT AND RECEIVE SUBROUTINE

.SBTTL

DEVICE TRANSMIT AND RECEIVE SUBROUTINE

;;

FUNCTIONAL DESCRIPTION:

DVTXRX-DEVICE TRANSMIT AND RECEIVE ROUTINE

THIS CODE QUES THE TRANSMIT BUFFER TO THE DEVICE

IF NEEDED. THE CODE THEN WAITS FOR A TX COMPLE,

RX COMPLETE OR BOTH. THE CODE REPORTS A TIME OUT

ERROR IF NO BACC OUTPUT INTERRUPT IS RECIEVED BEFORE

60 SECONDS. AFTER REPORTING ERROR TIMER IS RE STARTED

AND DEVICE WILL CONTINUE TO WAIT FOR INTERRUPT. CODE

ALSO REPORTS ERROR IF INPUT INTERRUPT OCCURS WHEN

EXPECTING OUTPUT INTERRUPT;WHEN RX BACC OCCURS WHEN

EXPECTING TX,AND WHEN TX INT. OCCURS WHEN EXPECTING

RECIEVE.

INPUTS:

'DVTXA' = ADDRESS OF TRANSMIT MSG.

'DVTCC' = BYTE COUNT OF TRANSMIT MSG.

'QTX' BIT = SET IF TRANSMIT REQUESTED

'ETX' BIT = SET IF TRNASMIT EXPECTED

'ERX' BIT = SET IF RECIEVE EXPECTED

OUTPUTS:

'DVTXA' = ADDRESS OF TX MSG. COMPLETED

'DVTCC' = BYTE COUNT OF TX MSG. COMPLETED

'QTX' = SET IF TX COMPLETED

'DVRXA' = ADDRESS OF RX MSG. COMPLETED

'DVRCC' = BYTE COUNT OF RX MSG. COMPLETED

'QRX' = SET IF RX COMPLETED

SUBORDINATE ROUTINES USED:

'TOORIO' - TIME OUT OR OUTPUT INTERRUPT OR INPUT INTERRUPT

'CLRAW' - CLEAR RQI AND WAIT FOR RDI TO CLEAR

'LGDVE' - LOG DEVICE ERROR TO EVENT LOG

'OUTHDL' - OUTPUT INTERRUPT HANDLER CODE

CALLING SEQUENCE:

JSR PC,DVTXRX

--

6422	044164	032737	000010	007502	DVTXRX: BIT	#QTX,FLAG	;ANY TX TO QUE
6423	044172	001423			BEQ	DVTR3	;IF NOT GO WAIT FOR OUPUT
6424	044174	042737	000010	007502	BIC	#QTX,FLAG	;CLEAR FLAG
6425	044202	112777	000140	146154	MOVB	#140,@BSEL0	
6426	044210	004737	045012		JSR	PC,TOORIO	;GO CHECK FOR IN OR OUT
6427	044214	017737	146154	010456	MOV	@SEL4,MODS	;PUT IN NEW MOD STAT
6428	044222	013777	007346	146144	MOV	DVTXA,@SEL4	
6429	044230	013777	007350	146142	MOV	DVTCC,@SEL6	
6430	044236	004737	044104		JSR	PC,CLRAW	;CLEAR RQI ANDWAIT
6431	044242				DVTR3:		
6432	044242	012737	000074	007546	MOV	#60.,TIMERS	;SET TIMER FOR 60 SECS
6433	044250	032737	000060	007502	TOINOT: BIT	#CRX+#CTX,FLAG	;IS IT TX OR RX COMP ALREADY?

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DEVICE TRANSMIT AND RECEIVE SUBROUTINE

6434	044256	001071			BNE	DVTR4	:IS SO EXIT		
6435									
6436	044260	005737	007546		TST	TIMERS	:IS TIMER EXPIRED		
6437	044264	001022			BNE	TOIN1			
6438	044266	012737	024510	007432	MOV	#DVEM4,TEMP2			
6439	044274	017737	146064	007434	MOV	@SEL0,TEMP3			
6440	044302	017737	146062	007436	MOV	@SEL2,TEMP4			
6441	044310	004737	026434		JSR	PC,LGDVE			
6442	044314	005237	007400		INC	ERRCNT			
6443	044320				ERRSOFT	12,DVEM4,ERR13			
6444	044320	104457						TRAP	C\$ERSOFT
6445	044322	000014						.WORD	12
6446	044324	024510						.WORD	DVEM4
6447	044326	026110						.WORD	ERR13
6448	044330	000744			BR	DVTR3	:RETURN TO CHECK TIMER		
6449									
6450									
6451	044332				TOIN1: BREAK				
6452	044332	104422						TRAP	C\$BRK
6453	044334	032737	000001	007502	BIT	#ININT,FLAG	:IS IT INPUT INTERRUPT		
6454	044342	001425			BEQ	TOIN2	:IF SO LOG ERROR		
6455									
6456	044344	012737	024602	007432	MOV	#DVEM5,TEMP2			
6457	044352	017737	146006	007434	MOV	@SEL0,TEMP3			
6458	044360	017737	146004	007436	MOV	@SEL2,TEMP4			
6459	044366	004737	026434		JSR	PC,LGDVE			
6460	044372	042737	000001	007502	BIC	#ININT,FLAG	:CLEAR BIT		
6461	044400	005237	007400		INC	ERRCNT			
6462	044404				ERRSOFT	13,DVEM5,ERR13			
6463	044404	104457						TRAP	C\$ERSOFT
6464	044406	000015						.WORD	13
6465	044410	024602						.WORD	DVEM5
6466	044412	026110						.WORD	ERR13
6467	044414	000715			BR	TOINOT			
6468									
6469	044416	032737	000002	007502	TOIN2: BIT	#OTINT,FLAG			
6470	044424	001711			BEQ	TOINOT	:IF NOT OUTPUT GO BACK AND		
6471							:CHECK TIMER AGAIN		
6472	044426	004737	045134		JSR	PC,OUTHDL	:ELSE HANDLE OUTPUT AND RETURN		
6473	044432	032737	000060	007502	BIT	#CTX+CRX,FLAG	:IS IT TX OR RX		
6474	044440	001703			BEQ	TOINOT	:IF NOT GO BACK AND TRY AGAIN		
6475	044442	032737	000020	007502	DVTR4: BIT	#CTX,FLAG	:IS IT TX		
6476	044450	001440			BEQ	DVTR5	:IF NOT TRY RX		
6477	044452	032737	000200	007502	BIT	#ETX,FLAG	:IF SO SHOULD IT BE		
6478	044460	001020			BNE	DVTR4A	:IF IT SHOULD GO TO 4A		
6479	044462	012737	025125	007432	MOV	#DVEM9,TEMP2	:ELSE LOG ERROR		
6480	044470	013737	045762	007434	MOV	TSEL4,TEMP3			
6481	044476	013737	045764	007436	MOV	TSEL6,TEMP4			
6482	044504	004737	026434		JSR	PC,LGDVE			
6483	044510				ERRSOFT	14,DVEM9,ERR13	:REPORT ERROR		
6484	044510	104457						TRAP	C\$ERSOFT
6485	044512	000016						.WORD	14
6486	044514	025125						.WORD	DVEM9
6487	044516	026110						.WORD	ERR13
6488									
6489	044520	000411			BR	DVTR4B	:THEN CLEAR COMPL.FLAG		

027LKCO DMR,DMC-11 DATA COMM. LINK TEST
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 DEVICE TRANSMIT AND RECEIVE SUBROUTINE

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6490 044522 013737 045762 007346 DVTR4A: MOV TSEL4,DVTXA
6491 044530 013737 045764 007350      MOV TSEL6,DVTCC
6492 044536 052737 000010 007502      BIS #QT,FLAG ;AND SET TX COMPL FLAG
6493 044544 042737 000020 007502 DVTR4B: BIC #CTX,FLAG ;ELSE CLEAR FLAG
6494 044552 032737 000040 007502 DVTR5: BIT #CRX,FLAG ;IS IT RX TOO?
6495 044560 001440      BEQ DVTREX ;IF NOT THEN EXIT.
6496 044562 032737 000100 007502      BIT #ERX,FLAG ;TEST IS THIS SUPPOSED TO BE RX
6497 044570 001020      BNE DVTR5A ;IF YES PROCESS AS SUCH
6498 044572 012737 025036 007432      MOV #DVEM8,TEMP2
6499 044600 013737 045766 007434      MOV RSEL4,TEMP3
6500 044606 013737 045770 007436      MOV RSEL6,TEMP4 ;ELSE
6501 044614 004737 026434      JSR PC,LGDVE ;LOG ERROR
6502 044620      ERRSOFT 15,DVEM8,ERR13
6503 044620 104457
6504 044622 000017
6505 044624 025036
6506 044626 026110
6507
6508 044630 000411
6509 044632 013737 045766 007362 DVTR5A: BR DVTRX1 ;AND EXIT
6510 044640 013737 045770 007364      MOV RSEL4,DVRXA
6511 044646 052737 000004 007502      MOV RSEL6,DVRCC
6512 044654 042737 000040 007502 DVTRX1: BIS #QRX,FLAG
6513 044662 000207      DVTRX1: BIC #CRX,FLAG ;CLEAR FLAG FOR RX DONE
6514      DVTRX1: RTS PC ;AND EXIT

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TRAP      CSERSOFT
.WORD     15
.WORD     DVEM8
.WORD     ERR13

```

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
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DEVICE TRANSMIT AND RECEIVE SUBROUTINE

; DEVICE DEPENDENT SUBROUTINES

.SBTTL DEVICE INTERRUPT SERVICE ROUTINES

6515									
6516									
6517									
6518									
6519									
6520									
6521	044664					BGNSRV	DVINS		
6522	044664							DVINS::	
6523	044664	052737	000001	007502		BIS	#ININT,FLAG		
6524	044672					ENDSRV			
6525	044672							L10021:	
6526	044672	000002							RTI
6527									
6528	044674					BGNSRV	DVOUTS		
6529	044674							DVOUTS::	
6530	044674	052737	000002	007502		BIS	#OTINT,FLAG		
6531	044702					ENDSRV			
6532	044702							L10022:	
6533	044702	000002							RTI
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FUNCTIONAL DESCRIPTION:
CLRAW - CLEAR RQI AND WAIT FOR RDI TO GO AWAY
THIS CODE CLEARS THE INPUT REQUEST BIT(RQI) SETS A
TIMER UP TO TIME 50(OCTAL) TICKS AND MAKES SURE
RDI CLEARS BEFORE TIMER EXPIRES. IF TIMER EXPIRES
CODE REPORTS ERROR AND SETS UP TIMER AND WAITS AGAIN.

SUBORDINATE ROUTINES USED:

'LGDVE' - LOG DEVICE ERROR (TIME OUT)

CALLING SEQUENCE:

JSR PC,CLRAW

6555	044704	011637	007462		CLRAW:	MOV	(SP),PCADD	;SAVE PC OF CALLING ROUTINE	
6556	044710	042777	000040	145446		BIC	#RQI,@SELO		
6557	044716	012737	000050	007542	CLRA3:	MOV	#50,TIMER1	;SET UP TIMER FOR 50(OCTAL) TICKS	
6558	044724	005737	007542		CLRA1:	TST	TIMER1		
6559	044730	001406				BEQ	CLRA2	;IF TIMER EXPIRED ERROR	
6560	044732					BREAK			
6561	044732	104422							TRAP C\$BRK
6562	044734	032777	000200	145422		BIT	#RDI,@SELO	;IS RDI CLEAR	
6563	044742	001370				BNE	CLRA1	;IF NOT GO CHECK TIMER	
6564								; ELSE	
6565	044744	000207				RTS	PC	;RETURN TO CALLER	
6566	044746	012737	024252	007432	CLRA2:	MOV	#DVEMO,TEMP2		
6567	044754	017737	145404	007434		MOV	@SELO,TEMP3		
6568	044762	017737	145402	007436		MOV	@SEL2,TEMP4		
6569	044770	004737	026434			JSR	PC,LGDVE	;LOG DEVEICE EVENT 0	
6570	044774	005237	007400			INC	ERRCNT		

CZCLKC0 DMR,DMC-11 DATA COMM. LINK TEST
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DEVICE INTERRUPT SERVICE ROUTINES

ERRSOF 16,DVEMO.ERR9 ;WHILE WAITING FOR RDI

TRAP CSERSOFT
.WORD 16
.WORD DVEMO
.WORD ERR9

6571 045000
6572 045000 104457
6573 045002 000020
6574 045004 024252
6575 045006 026032
6576 045010 000742

BR CLRA3 ;RESET TIMER AND CONTINUE

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
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TIME OUT OR INPUT INT. OR OUTPUT INT.

.SBTTL TIME OUT OR INPUT INT. OR OUTPUT INT.

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FUNCTIONAL DESCRIPTION:
TOORIO - TIME OUT OR INPUT INTERRUPT OR OUTPUT INTERRUPT
THIS ROUTINE SETS UP A TIMER FOR 100 (OCTAL) TICKS
THEN CHECKS FOR TIME OUT, OR INPUT INTERRUPT, OR OUTPUT
INTERRUPT. IF TIME OUT OCCURS IT REPORTS ERROR AND
RESTARTS TIMER. IF INPUT INTERRUPT OCCURS RETURN TO CALLER
IF OUTPUT INTERRUPT OCCURS LOG IT AND CONTINUE WAITING FOR
INPUT INTERRUPT.

USE OF FLAGS:

'OTINT' - SET BY OUTPUT INT ROUTINE
'ININT' - SET BY INPUT INT. ROUTINE
CLEARED BY THIS ROUTINE.

SUBORDINATE ROUTINES USED:

'OUTHDL' - OUTPUT INTERRUPT HANDLER

CALLING SEQUENCE:

JSR PC,TOORIO

TOORIO: MOV (SP),PCADD ;SAVE ADDR. OF CALLING ROUTINE
MOV #100,TIMER1 ;SET UP TIMER
TOOR3: TST TIMER1 ;IS TIME EXPIRED
BNE TOOR1 ;IF NOT CONTINUE
;IF YES ERROR
MOV #DVEM1,TEMP2
MOV @SEL2,TEMP4
MOV @SELO,TEMP3
JSR PC,LGDVE
INC ERRCNT
ERRSOFT 17,DVEM1,ERR9

TRAP CSERSOFT
.WORD 17
.WORD DVEM1
.WORD EPR9

BR TOORIO

TOOR1: BREAK

TRAP CSBRK

BIT #OTINT,FLAG ;IS THERE AN OUTPUT
;PENDING
BEQ TOOR2 ;IF NOT GO TO 2
;ELSE GO HANDL IT

TOOR2: JSR PC,OUTHDL
BIT #ININT,FLAG ;IS THERE AN INPUT PENDING
BEQ TOOR3 ;IF NOT GO BACK TO TIMER CK.
BIC #ININT,FLAG ;ELSE CLEAR THE INPUT PEND FLAG
RTS PC ;AND RETURN TO CALLER

CZCLKCO DMR,DMC-11 DATA COMM. INK TEST
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OUTPUT INTERRUPT HANDLER

.SBTTL OUTPUT INTERRUPT HANDLER

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FUNCTIONAL DESCRIPTION:
OUTHDL - OUTPUT INTERRUPT HANDLER
THIS ROUTINE IS CALLED WHEN AN OUTPUT INTERRUPT HAS SET
THE 'OTINT' BIT IN THE 'FLAG' WORD. IT CHECKS FOR
AN RDO SIGNAL IF NO RDO THEN REPORT ILLEGAL INTERRUPT.
THEN IT CHECKS FOR BACC OUT IF NOT BACC OUT REPORT THE
TYPE OF OUTPUT ERROR. IF BACC OUT FIND IF RX OR TX
IF RX SET CRX BIT AND MOVE ADDR AND BYTE COUNT TO RSEL4
AND RSEL6. IF TX SET CTX BIT AND MOVE ADDR AND BYTE COUNT
TO TSEL4 AND TSEL6. CLEAR OTINT FLAG AND RETURN TO CALLER.

USE OF FLAGS:
'OTINT' - SET BY OUPUT ROUTINE
 CLEARED BY THIS ROUTINE
'DMRRUN' - SET BY DVINIT ROUTINE IF THIS IS DMR
 CHECKED AND CLEARED BY THIS ROUTINE.
'CTX' - SET IF TRANSMIT COMPLETED
'CRX' - SET IF RECIEVE COMPLETED

SUBORDINATE ROUTINES USED:
'LGDVE' -LOG DEVICE ERRORS TO EVENT LOG

CALLING SEQUENCE
JSR PC,OUTHDL

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045134	011637	007462	
045140	042737	000002	007502
045146	032777	000200	145214
045154	001023		
045156	012737	024674	007432
045164	017737	145200	007434
045172	017737	145202	007436
045200	004737	026434	
045204	005237	007400	
045210			
045210	104457		
045212	000022		
045214	024674		
045216	026032		
045220			
045220	104410		
045222	000712		
045224	032777	000001	145136
045232	001002		
045234	000137	045660	

OUTHDL: MOV (SP),PCADD ;SAVE ADDR. OF CALLING ROUTINE
BIC #OTINT,FLAG
BIT #RDO,@SEL2 ;CLEAR PEND FLAG AND CHK FOR RDO
BNE OUTH1 ;IF RDO OK ...ELSE LOG ERROR
MOV #DVEM6,TEMP2
MOV @SEL2,TEMP3
MOV @SEL6,TEMP4
JSR PC,LGDVE ;GO LOG ERROR
INC ERRCNT
ERRSOFT 18,DVEM6,ERR9

TRAP CSERSOFT
.WORD 18
.WORD DVEM6
.WORD ERR9

:EXIT TEST IF ERROR

ESCAPE TST

TRAP C\$ESCAPE
.WORD L10020-

OUTH1: BIT #BACC,@SEL2 ;IS THE OUTPUT BACC
BNE 1\$;BR IF NO
JMP OUTH2 ;IF SO GO TO 2

C7CLK0 DMR,DMC-11 DATA COMM. LINK TEST
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OUTPUT INTERRUPT HANDLER

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6688                                     :ELSE LOG ERROR AND PRINT IT
6689 045240 017737 145134 007436 1$: MOV    @SEL6,TEMP4
6690                                     ; IF NO BUFFER OUTPUT JUST COUNT THEM
6691
6692 045246 032737 000004 007436      BIT    #BIT2,TEMP4
6693 045254 001404                      BEQ    OUTH6                                     :IF NO BUFF INC COUNT AND EXIT
6694                                     :ELSE GO TO 6
6695 045256 005237 007374      INC    NOBUF
6696 045262 000137 045752      JMP    OUTHEX
6697
6698 045266 023727 012412 000006 OUTH6: CMP    OPTYP,#6                                     :DMR ?
6699 045274 002426                      BLT    51$                                     :IF NOT DMR MODE SKIP TO 51
6700 045276 032737 002000 007502      BIT    #BTUP,FLAG                               :HERE BECAUSE OF BASE TABLE UPDATE REQ ? REV B BY EC
6701 045304 001402                      BEQ    50$                                     :NO,BRANCH REV B BY EC
6702 045306 000137 045752      JMP    OUTHEX                                     :EXIT
6703 045312 032737 000040 007436 50$: BIT    #BIT5,TEMP4                               :IS IT RUN STATE
6704 045320 001414                      BEQ    51$                                     :IF NOT BRANCH
6705 045322 032737 001000 007502      BIT    #DMRRUN,FLAG                           :IS RUN EXPECTED
6706 045330 001405                      BEQ    52$                                     :IF NOT BRANCH
6707 045332 042737 001000 007502      BIC    #DMRRUN,FLAG                           :IF SO THEN CLEAR EXPECTED
6708 045340 000137 045752      JMP    OUTHEX                                     :AND EXIT
6709 045344 012737 025437 007442 52$: MOV    #RUNSBM,CONOTM
6710 045352 012737 024751 007432 51$: MOV    #DVEM7,TEMP2
6711 045360 017737 145004 007434      MOV    @SEL2,TEMP3
6712
6713 045366 004737 026434      JSR    PC,LGDVE
6714 045372 012737 014641 007442      MOV    #LPO,CONOTM                               :LOAD 'NULL STRING' TO INIT CONOTM
6715 045400 032737 000001 007436      BIT    #BIT0,TEMP4                               :IS THIS DATA CHECK
6716 045406 001403                      BEQ    1$
6717 045410 012737 025424 007442      MOV    #DATCKM,CONOTM
6718 045416 032737 000002 007436 1$: BIT    #BIT1,TEMP4                               :IS THIS TIMEOUT
6719 045424 001403                      BEQ    2$
6720 045426 012737 025413 007442      MOV    #TIMOM,CONOTM
6721 045434 032737 000010 007436 2$: BIT    #BIT3,TEMP4                               :IS THIS DDCMP MAINT RECVD
6722 045442 001403                      BEQ    4$
6723 045444 012737 025373 007442      MOV    #DDCMRM,CONOTM
6724 045452 032737 000020 007436 4$: BIT    #BIT4,TEMP4                               :IS THIS LOST DATA
6725 045460 001403                      BEQ    5$
6726 045462 012737 025361 007442      MOV    #LOSDAM,CONOTM
6727 045470 032737 000100 007436 5$: BIT    #BIT6,TEMP4                               :IS THIS DISCONNECT
6728 045476 001403                      BEQ    6$
6729 045500 012737 025346 007442      MOV    #DISCOM,CONOTM
6730 045506 032737 000200 007436 6$: BIT    #BIT7,TEMP4                               :IS THIS DDCMP START RECVD
6731 045514 001403                      BEQ    7$
6732 045516 012737 025326 007442      MOV    #DDCSRMM,CONOTM
6733 045524 032737 000400 007436 7$: BIT    #BIT8,TEMP4                               :IS THIS NON-EXSISTENT MEMORY
6734 045532 001403                      BEQ    8$
6735 045534 012737 025310 007442      MOV    #NXMM,CONOTM
6736 045542 032737 001000 007436 8$: BIT    #BIT9,TEMP4                               :IS THIS PROCEDURE ERROR
6737 045550 001403                      BEQ    9$
6738 045552 012737 025270 007442      MOV    #PROEM,CONOTM
6739 045560 023727 012412 000006 9$: CMP    OPTYP,#6                                     :IS THIS DMR MODE
6740 045566 002416                      BLT    11$                                     :IF NOT BRANCH
6741 045570 032737 002000 007436      BIT    #BIT10,TEMP4                           :IS THIS A RX IDLE
6742 045576 001403                      BEQ    10$                                    :IF NOT BRANCH
6743 045600 012737 025461 007442      MOV    #RXIDM,CONOTM                           :IF SO SET UP MESSAGE

```

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
CZCLKC.P11 19-MAR-82 18:32

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OUTPUT INTERRUPT HANDLER

```

6744 045606 032737 004000 007436 10$: BIT    #BIT11,TEMP4    ;IS THIS CTS FAILED
6745 045614 001403          BEQ     11$          ;IF NOT BRANCH
6746 045616 012737 025505 007442      MOV     #CTSFM,CONOTM    ;IF SO SET UP MESSAGE
6747 045624 032737 010000 007436 11$: BIT    #BIT12,TEMP4    ;IS THIS CD GLITCHED
6748 045632 001403          BEQ     12$          ;BR IF NO
6749 045634 012737 025471 007442      MOV     #CDGLM,CONOTM    ;IF SO SET UP MESSAGE
6750
6751 045642 005237 007400          12$: INC     ERRCNT          ;
6752 045646          ERRSOFT 19,DVEM7,ERR8
6753 045646 104457
6754 045650 000023
6755 045652 024751
6756 045654 025750
6757 045656 000435          BR      OUTHEX          ;CLEAR RDO AND RETURN TO CALLER
6758
6759 045660          OUTH2:
6760 045660 032777 000004 144502      BIT     #RXBIT,@SEL2    ;IS THIS RX BACC OUT
6761 045666 001012          BNE     OUTH3          ;IF NOT THEN IT MUST BE TX.
6762 045670 052737 000020 007502      BIS     #CTX,FLAG
6763 045676 017737 144472 045762      MOV     @SEL4,TSEL4
6764 045704 017737 144470 045764      MOV     @SEL6,TSEL6
6765 045712 000417          BR      OUTHEX
6766
6767 045714 052737 000040 007502      BIS     #CRX,FLAG    ;SET RX COMPL
6768 045722 017737 144446 045766      MOV     @SEL4,RSEL4    ;THEN MOVE TO TEMP
6769 045730 017737 144444 045770      MOV     @SEL6,RSEL6    ;AND SEL6 TO TEMP
6770 045736 005737 012412          TST     OPTYP          ;DMC ?
6771 045742 001003          BNE     OUTHEX          ;NO,BRANCH
6772 045744 042737 140000 045770      BIC     #BIT15:BIT14,RSEL6 ;CLEAR Q SYNC & SELECT BITS
6773 045752 042777 000200 144410      OUTH3: BIC     #RDO,@SEL2    ;CLEAR RDO
6774 045760 000207          RTS     PC          ;RETURN TO CALLER
6775 045762 000000          TSEL4: .WORD    0
6776 045764 000000          TSEL6: .WORD    0
6777 045766 000000          RSEL4: .WORD    0
6778 045770 000000          RSEL6: .WORD    0
6779
6780 045772 000207          RTS     PC
6781
6782

```

TRAP
.WORD
.WORD
.WORD
C\$ERSOFT
19
DVEM7
ERR8

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
CZCLKC.P11 19-MAR-82 18:32

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OUTPUT INTERRUPT HANDLER

.EVEN

.SBTTL REQUEST BASE TABLE UPDATE
THIS ROUTINE ADDED FOR REV B BY EC

++
FUNCTIONAL DESCRIPTION:
DVBTP - THIS ROUTINE IS CALLED AT END OF PASS TO UPDATE THE DMR
BASE TABLE IN LOCAL MEMORY BY ISSUING AN UPDATE BASE TABLE
REQUEST TO THE DMR.

USE OF FLAGS:
FLAG - BITS IN THIS WORD ARE SET BY THE DEVICE INTERRUPT ROUTINE.
WHEN SET TO A 1, THE FOLLOWING BITS MEAN
ININT = BIT 1 = DEVICE INPUT READY
OTINT = BIT 2 = DEVICE OUT READY

INPUTS: NONE REQUIRED.

SUBORDINATE ROUTINES USED:

CLRAW - CLEAR RQI AND WAIT FOR DEVICE TO CLEAR RDI.
OUTHDL - THE DEVICE OUTPUT SERVICE ROUTINE.
LGDVE - LOG A DEVICE ERROR TO EVENT LOG.

CALLING SEQUENCE:

JSR PC,DVBTP

--

;DEVICE BASE TABLE UPDATE ROUTINE

DVBTP:

CMP	OPTYP,#6	;DMR IN DMR MODE ?
BLT	40\$	;NO,BRANCH
MOVB	#151,@BSEL0	;REQUEST BASE TABLE UPDATE
BIS	#IEO,@SEL2	;ENABLE INTERRUPT ON OUTPUT READY
JSR	PC,TOORIO	;WAIT FOR RDI
JSR	PC,CLRAW	;CLEAR RQI AND WAIT FOR RDI TO CLEAR
MOV	#200,TIMER1	;WAIT FOR INTERRUPT
10\$:	BREAK	
		TRAP C\$BRK
BIS	#OTINT,FLAG	;OUTPUT READY ?
BNE	30\$	;YES,BRANCH
TST	TIMER1	;TIME OUT ?
BNE	10\$	;NO,BRANCH
MOV	#DVEM3,TEMP2	;DEVICE ERROR
MOV	@SEL0,TEMP3	;SAVE REGISTER
MOV	@SEL2,TEMP4	;SAVE REGISTER
JSR	PC,LGDVE	;GO LOG DEVICE ERROR
INC	ERRCNT	;BUMP ERROR COUNT
BR	40\$	;RETURN
30\$:	BIS	#BTUP,FLAG
	JSR	PC,OUTHDL
	BIC	#BTUP,FLAG
40\$:	RTS	PC
		;RETURN

6783				
6784				
6785				
6786				
6787				
6788				
6789				
6790				
6791				
6792				
6793				
6794				
6795				
6796				
6797				
6798				
6799				
6800				
6801				
6802				
6803				
6804				
6805				
6806				
6807				
6808				
6809				
6810				
6811				
6812				
6813				
6814	045774			
6815	045774	023727	012412	000006
6816	046002	002457		
6817	046004	112777	000151	144352
6818	046012	052777	000100	144350
6819	046020	004737	045012	
6820	046024	004737	044704	
6821	046030	012737	000200	007542
6822	046036			
6823	046036	104422		
6824	046040	032737	000002	007502
6825	046046	001021		
6826	046050	005737	007542	
6827	046054	001370		
6828	046056	012737	024424	007432
6829	046064	017737	144274	007434
6830	046072	017737	144272	007436
6831	046100	004737	026434	
6832	046104	005237	007400	
6833	046110	000410		
6834	046112	052737	002000	007502
6835	046120	004737	045134	
6836	046124	042737	002000	007502
6837	046132	000207		
6838				

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
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REQUEST BASE TABLE UPDATE

6839 046134
6840 046134
6841 046134 104401
6842
6843
6844

ENDTST

L10020:
TRAP CSETST

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
CZCLKC.P11 19-MAR-82 18:32

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HARDWARE PARAMETER CODING SECTION

.SBTTL HARDWARE PARAMETER CODING SECTION

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:++
: 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.
:--

```

BGNHRD

.WORD L10023-L\$HARD/2
L\$HARD::

.SBTTL DEVICE INDEPENDENT SECTION

GPRML DPLX,0,1,YES

.WORD T\$CODE
.WORD DPLX
.WORD 1

.SBTTL DEVICE DEPENDENT SECTION

GPRMA CSRADR,2,0,160000,177776,YES

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

GPRMA VECTOR,4,0,300,776,YES

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

GPRMD PRIOR,6,0,340,4,7,YES

.WORD T\$CODE
.WORD PRIOR
.WORD 340
.WORD T\$LOLIM
.WORD T\$HILIM

: GPRMD DEVPRM,10,D,17,0,15.,YES

GPRMD OPTN,12,0,7,0,7,YES

.WORD T\$CODE
.WORD OPTN
.WORD 7
.WORD T\$LOLIM
.WORD T\$HILIM

: GPRMD BAUD,14,0,7,0,7,YES
: GPRMD LININ,16,0,7,0,7,YES

6845
6846
6847
6848
6849
6850
6851
6852
6853
6854
6855
6856
6857 046136
6858 046136 000025
6859 046140
6860
6861
6862
6863
6864 046140
6865 046140 000130
6866 046142 046212
6867 046144 000001
6868
6869
6870
6871
6872
6873
6874 046146
6875 046146 001031
6876 046150 046243
6877 046152 160000
6878 046154 177776
6879 046156
6880 046156 002031
6881 046160 046271
6882 046162 000300
6883 046164 000776
6884 046166
6885 046166 003032
6886 046170 046324
6887 046172 000340
6888 046174 000004
6889 046176 000007
6890
6891
6892 046200
6893 046200 005032
6894 046202 046352
6895 046204 000007
6896 046206 000000
6897 046210 000007
6898
6899
6900

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
CZCLKC.P11 19-MAR-82 18:32

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DEVICE DEPENDENT SECTION

ENDHRD

L10023: .EVEN

6901 046212
6902
6903 046212
6904
6905

.NLIST BEX

;DEVICE INDEPENDENT QUESTIONS

046212 052506 046114 042040 DPLX: .ASCIIZ /FULL DUPLEX OPERATION : /

;DEVICE DEPENDENT QUESTION

046243 104 053105 041511 CSRADR: .ASCIIZ /DEVICE CSR ADDRESS : /
046271 111 052116 051105 VECTOR: .ASCIIZ /INTERRUPT VECTOR ADDRESS: /
046324 047111 042524 051122 PRIOR: .ASCIIZ /INTERRUPT PRIORITY : /
046352 042504 044526 042503 OPTN: .ASCIIZ /DEVICE OPTION TYPE : (0=DMC,5=DMR-DMC MODE ,7=DMR)/

.LIST BEX
.EVEN

6906 046436
6907
6908

MACY11 30A(1052) 23-MAR-82 16:45 PAGE 169
DEVICE DEPENDENT SECTION

```

;..SBTTL SOFTWARE PARAMETER CODING SECTION

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:++
: 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

; ENDSFT

```

.....
; TEMPORARY PATCH AREA - FOR DEBUG PURPOSES
.....

```

SPATCH: .BLKW 30

LASTAD

```
LSLAST::
ENDMOD
```

.END

```

.EVEN
.WORD      0
.WORD      0

```

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
CZCLKC.P11 19-MAR-82 18:32

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CROSS REFERENCE TABLE -- USER SYMBOLS

ABO = 000026	2301#	4818					
ACT = 000003	2253#	4944	5399	5479	5723		
ACTATV 037754	5165	5399#					
ACTBCR 037560	5183	5360#					
ACTCHK 040170	5145	5445#					
ACTCLB 037102	5249	5263#					
ACTCLP 040302	5179	5473#					
ACTCLR 036536	5143	5196#					
ACTCOP 037400	5153	5323#					
ACTCRC 040204	5174	5451#					
ACTCSE 036672	5148	5225#					
ACTCST 037020	5149	5251#					
ACTDLL 040022	5169	5413#					
ACTDME 037326	5185	5304	5307#				
ACTDMQ 037320	5186	5306#					
ACTDMS 037276	5184	5301#					
ACTDMX 037334	5308#						
ACTECH 040100	5173	5429#					
ACTEQO 037522	5157	5349#					
ACTEXT 036622	5189	5214#					
ACTHLP 036556	5147	5202#					
ACTLIS 040012	5168	5410#					
ACTLLP 040312	5180	5475#					
ACTLPX 040330	5470	5472	5474	5476	5479#		
ACTLXX 040372	5443	5464	5467	5480	5489#		
ACTMEX 037746	5342	5358	5380	5385	5391	5394	5396#
ACTME1 037702	5369	5371	5373	5375	5377	5384#	
ACTMOP 040262	5177	5469#					
ACTMOS 040212	5188	5454#					
ACTMSO 037602	5158	5368#					
ACTMS1 037610	5159	5370#					
ACTMS2 037620	5160	5372#					
ACTMS3 037630	5161	5374#					
ACTMS4 037640	5162	5376#					
ACTMS5 037650	5163	5378#					
ACTMS6 037666	5164	5381#					
ACTM2X 040050	5400	5408	5411	5414	5417	5421#	
ACTNO 040070	5172	5426#					
ACTNUF 036526	5182	5193#					
ACTNUL 036534	5142	5194#					
ACTNUM 037410	5154	5326#					
ACTOPM 037502	5155	5344#					
ACTPAS 037764	5166	5402#					
ACTPRO 040220	5175	5457#					
ACTPRT 036632	5187	5216#					
ACTQFG 040224	5446	5449	5452	5455	5459#		
ACTREC 040004	5167	5407#					
ACTREX 027576	3634	3660#					
ACTRHL 027532	3633	3646#					
ACTRLG 027606	3635	3664#					
ACTRLP 040322	5181	5477#					
ACTRNF 027522	3639	3642#					
ACTRNL 027530	3632	3643#					
ACTRPS 040252	5176	5466#					
ACTRUN 036646	5146	5220#					
ACTSEX 037712	5190	5388#					

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
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CROSS REFERENCE TABLE -- USER SYMBOLS

[illegible]

CZCLKC DMR,DMC-11 DATA COMM. LINK TEST
CZCLKC.P11 19-MAR-82 18:32

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CROSS REFERENCE TABLE -- USER SYMBOLS

[illegible]

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CROSS REFERENCE TABLE -- USER SYMBOLS

[illegible]

CZCLKCC DMR,DMC-11 DATA COMM. LINK TEST
CZCLKC.P11 19-MAR-82 18:32

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CROSS REFERENCE TABLE -- USER SYMBOLS

CRCB = 000020	2277#	5451													
CRX = 000040	2310#	6433	6473	6494	6512	6767									
CSHXP= 000006	2338#	2980													
CSHTRN= 000007	2339#	2982													
CSRADR 046243	6876	6905#													
CTCTCC 007342	2721#	4213*	4221	4223	4224*	4229*	4918*	5080	5091	5121*	5238*				
CTS = 000004	2395#	2829													
CTSFM 025505	3163#	6746													
CTX = 000020	2309#	6433	6473	6475	6493	6762									
CURADJ 007420	2750#	4115	4120	4122	4132*	4933*	4939*	5069*	5074	5115*	5120	5264*	5536*		
	5948*	5954*	5989	5990											
CURCC 007412	2747#	4067	4079	4082*	4083	4116	4121	4132	4929*	4941*	5266*	5338*	5351*		
	5379*	5382*	5384*	5535*	5949*	5955*	5991	5992							
C\$AU = 000052	1996#	4875													
C\$AUTO= 000061	1996#	4799													
C\$BRK = 000022	1996#	6221	6452	6561	6621	6823									
C\$BSEG= 000004	1996#														
C\$BSUB= 000002	1996#														
C\$CEFG= 000045	1996#														
C\$CLCK= 000062	1996#	4649	4659												
C\$CLEA= 000012	1996#	4832													
C\$CLOS= 000035	1996#														
C\$CLP1= 000006	1996#														
C\$CVEC= 000036	1996#														
C\$DCLN= 000044	1996#	4617													
C\$DODU= 000051	1996#														
C\$DRPT= 000024	1996#														
C\$DU = 000053	1996#	4853													
C\$EDIT= 000003	1996#	2058													
C\$ERDF= 000055	1996#														
C\$ERHR= 000056	1996#	5971													
C\$ERRO= 000060	1996#														
C\$ERSF= 000054	1996#														
C\$ERSO= 000057	1996#	5834	5852	5865	6231	6444	6463	6484	6503	6572	6614	6674	6753		
C\$ESCA= 000010	1996#	6682													
C\$ESG= 000005	1996#														
C\$ESUB= 000003	1996#														
C\$ETST= 000001	1996#	6841													
C\$EXIT= 000032	1996#	4775	4824	4968	5031										
C\$GETB= 000026	1996#														
C\$GETW= 000027	1996#														
C\$GMAN= 000043	1996#	3562	4678	4978	5933	6081									
C\$GPHR= 000042	1996#	4713													
C\$GPLQ= 000030	1996#														
C\$GPRI= 000040	1996#														
C\$INIT= 000011	1996#	4783													
C\$INLP= 000020	1996#														
C\$MANI= 000050	1996#	4962													
C\$MEM = 000031	1996#														
C\$MSG = 000023	1996#	3180	3193	3207	3229	3250	3264	3279							
C\$OPEN= 000034	1996#														
C\$PNTB= 000014	1996#	3176	3189	3203	3218	3225	3239	3246	3260	3275					
C\$PNTF= 000017	1996#	3503	3511	3554	3582	3592	3652	3720	3770	3788	4014	4025	4033		
	4077	4452	4495	4693	4908	4953	4998	5007	5047	5062	5088	5108	5208		
	5289	5334	5364	5438	5487	5504	5965	6049	6142	6165					
C\$PNTS= 000016	1996#	3809	3832	3846	3859	3872	3880	3906	3922	3937	3955	3975	4276		

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CROSS REFERENCE TABLE -- USER SYMBOLS

[illegible]

CZCLKC0 DMR,DMC-11 DATA COMM. LINK TEST
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CROSS REFERENCE TABLE -- USER SYMBOLS

DLM	020225	2868	3163#		
DLTXRX	042306	5950	5957	59804	
DLVM	020251	2874	3163#		
DMC =	000000	2282#			
DMCEND	003462	2669#	3673	3693	3730
DMCIND	003432	2657#	3671	3692	3728
DMCM	020242	2872	3163#		
DMC002	023604	2659	3163#		
DMC003	023625	2660	3163#		
DMC004	023662	2651	3163#		
DMC005	023723	2662	3163#		
DMC006	023756	2663	3163#		
DMC007	024013	2664	3163#		
DMC010	024050	2665	3163#		
DMC011	024103	2666	3163#		
DMC012	024125	2667	3163#		
DMC013	024147	2668	3163#		
DMC377	024206	2669	3163#		
DMFMT	030547	3785	3796#		
DMPE	000053	2375#	2999		
DMPM	020255	2875	3163#		
DMPQ =	000054	2376#	3001		
DMP5 =	000052	2374#	2997	5022	5303
DMRC6 =	000004	2283#	6211		
DMRC7 =	000005	2284#			
DMREND	003430	2654#	3681	3699	3738
DMRIND	003250	2598#	3679	3698	3736
DMRRUN=	001000	2314#	6299	6705	6707
DMR000	020342	2598	3163#		
DMR001	020402	2599	3163#		
DMR002	020432	2600	3163#		
DMR003	020467	2601	3163#		
DMR004	020532	2602	3163#		
DMR005	020566	2603	3163#		
DMR006	020620	2604	3163#		
DMR007	020663	2605	3163#		
DMR010	020717	2606	3163#		
DMR011	020751	2607	3163#		
DMR012	021003	2608	3163#		
DMR013	021035	2609	3163#		
DMR014	021065	2610	3163#		
DMR015	021114	2611	3163#		
DMR016	021146	2612	3163#		
DMR017	021176	2613	3163#		
DMR020	021226	2614	3163#		
DMR021	021255	2615	3163#		
DMR022	021307	2616	3163#		
DMR023	021333	2617	3163#		
DMR024	021365	2618	3163#		
DMR025	021410	2619	3163#		
DMR026	021463	2620	3163#		
DMR027	021513	2621	3163#		
DMR030	021544	2622	3163#		
DMR031	021627	2623	3163#		
DMR032	021664	2624	3163#		
DMR033	021721	2625	3163#		

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DMR034	021756	2626	3163#	
DMR035	022042	2627	3163#	
DMR036	022107	2628	3163#	
DMR037	022154	2629	3163#	
DMR040	022212	2630	3163#	
DMR041	022245	2631	3163#	
DMR042	022303	2632	3163#	
DMR043	022351	2633	3163#	
DMR044	022405	2634	3163#	
DMR045	022441	2635	3163#	
DMR046	022472	2636	3163#	
DMR047	022540	2637	3163#	
DMR050	022602	2638	3163#	
DMR051	022630	2639	3163#	
DMR052	022664	2640	3163#	
DMR053	022711	2641	3163#	
DMR054	022744	2642	3163#	
DMR055	022766	2643	3163#	
DMR056	023041	2644	3163#	
DMR057	023114	2645	3163#	
DMR060	023136	2646	3163#	
DMR061	023170	2647	3163#	
DMR062	023222	2648	3163#	
DMR063	023272	2649	3163#	
DMR064	023342	2650	3163#	
DMR065	023376	2651	3163#	
DMR066	023432	2652	3163#	
DMR067	023475	2653	3163#	
DMR177	023540	2654	3163#	
DMR6 =	000006	2285#	6214	
DMR7 =	000007	2286#		
DMSGAD	002176	2442#	4124	
DMSGCT	002150	2427#	4123	
DMUNKN	020322	2657	2658	3163#
DMVM	020316	2883	3163#	
DNM	020246	2873	3163#	
DOW	000604	2254#	5413	6285
DPLX	046212	6866	6905#	
DPM	020217	2866	3163#	
DQM	020230	2869	3163#	
DSR =	000010	2396#	2830	
DTEM	020261	2876	3163#	
DUM	020222	2867	3163#	
DUMEX	031710	4036	4042#	
DUMPSR	031554	4007#	5024	
DUM1	031646	4017	4028#	
DUM2	031670	4027	4035#	
DUM3	031604	4016#	4040	
DUM4	031560	4008#	4039	
DUPM	020236	2871	3163#	
DVBTUP	045774	4810	5902	6814#
DVEM0	024252	3163#	6566	6574
DVEM1	024340	3163#	6608	6616
DVEM3	024424	3163#	6225	6233
DVEM4	024510	3163#	6438	6446
DVEM5	024602	3163#	6456	6465

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[illegible]

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CROSS REFERENCE TABLE -- USER SYMBOLS

[illegible]

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LSAUT	002070	G	2072#		
LSAUTO	034646	G	2089	4794#	
LSCCP	002106	G	2086#		
LSCLEA	034650	G	2087	4808#	
LSCC	002032	G	2042#		
LSDEPO	002011	G	2024#		
LSDESC	012430	G	2079	3148#	
LSDESP	002076	G	2078#		
LSDEVP	002060	G	2064#		
LSDISP	002124	G	2049	2109#	
LSDLY	002116	G	2094#		
LSDTP	002040	G	2048#		
LSDTYP	002034	G	2044#		
LSDU	034740	G	2075	4841#	
LSDUT	002072	G	2074#		
LSDVTY	012414	G	2065	3137#	
LSEF	002052	G	2059#		
LEENVI	002044	G	2052#		
LEETP	002102	G	2082#		
LEEXP1	002046	G	2054#		
LEEXP4	002064	G	2068#		
LEEXP5	002066	G	2070#		
LSHARD	046140	G	2031	6858	6859#
LSHIME	002120	G	2096#		
LSHPCP	002016	G	2030#		
LSHPTP	002022	G	2034#		
LSHW	002130	G	2035	2122	2123#
LSICP	002104	G	2084#		
LSINIT	033746	G	2085	4610#	
LSLADP	002026	G	2038#		
LSLAST	046522	G	2039	6940#	
LSLOAD	002100	G	2080#		
LSLUN	002074	G	2076#		
LSMREV	002050	G	2056#		
LSNAME	002000	G	2013#		
LSPRIO	002042	G	2050#		
LSPROT	033740	G	2091	4594#	
LSPRT	002112	G	2090#		
LSREPP	002062	G	2066#		
LSREV	002010	G	2022#		
LSRPT	033732	G	2067	4574#	
LSSPC	002056	G	2062#		
LSSPCP	002020	G	2032#		
LSSTPT	002024	G	2036#		
LSSTA	002030	G	2040#		
LSTEST	002114	G	2092#		
LSIML	002014	G	2028#		
LSUNIT	002012	G	2026#	4708	
L10000	002150		2122	2153#	
L10001	025670		3179#		
L10002	025716		3192#		
L10003	025746		3206#		
L10004	026030		3228#		
L10005	026106		3249#		
L10006	026140		3263#		
L10007	026176		3278#	3283	

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[illegible]

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MSGR	002646	2436	2451	2515#		
MSGBC	002170	2436#				
NEW	034302	4640	4705#	4709		
NO	= 000036	2362#	3007	5426	5429	5460
NOBUF	C07374	2737#	4819	5527*	5893	6695*
NOCCLK	015106	3163#	4690	4905		
NODO	010664	2934#				
NOD1	010670	2935#				
NOD10	010746	2942#				
NOD100	011564	3017#				
NOD101	011570	3018#				
NOD102	011604	3019#				
NOD103	011610	3022#				
NOD104	011624	3023#				
NOD105	011630	3024#				
NOD106	011644	3025#				
NOD107	011650	3027#				
NOD11	010750	2943#				
NOD110	011664	3028#				
NOD111	01170	3031#				
NOD112	011674	3034#				
NOD113	011710	3035#				
NOD114	011714	3036#				
NOD115	011732	3037#				
NOD116	011736	3038#				
NOD117	011752	3039#				
NOD12	010762	2944#				
NOD120	011756	3040#				
NOD121	011772	3041#				
NOD122	011776	3042#				
NOD123	012012	3043#				
NOD124	012016	3044#				
NOD125	012032	3045#				
NOD126	012036	3046#				
NOD127	012052	3047#				
NOD13	010766	2945#				
NOD130	C12056	3048#				
NOD131	012076	3049#				
NOD132	012102	3052#				
NOD133	012106	3053#				
NOD134	012112	3054#				
NOD135	012116	3055#				
NOD136	012122	3056#				
NOD137	012126	3057#				
NOD14	011002	2946#				
NOD140	012132	3058#				
NOD141	012134	3061#				
NOD142	012140	3062#				
NOD143	012144	3063#				
NOD144	012160	3064#				
NOD145	012164	3065#				
NOD146	012200	3066#				
NOD147	012204	3069#				
NOD15	011006	2947#				
NOD150	012210	3070#				
NOD151	012214	3071#				

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NOD152	012220	3074#
NOD153	012224	3077#
NOD154	012246	3078#
NOD155	012252	3079#
NOD156	012266	3080#
NOD157	012272	3081#
NOD16	011022	2948#
NOD160	012314	3082#
NOD161	012320	3083#
NOD162	012342	3084#
NOD163	012346	3087#
NOD164	012352	3088#
NOD165	012356	3089#
NOD166	012362	3094#
NOD167	027266	3605#
NOD17	011026	2949#
NOD170	027272	3606#
NOD171	027276	3607#
NOD172	027300	3608#
NOD173	027314	3609#
NOD174	027316	3610#
NOD175	027332	3611#
NOD176	027334	3612#
NOD177	027346	3613#
NOD2	010674	2936#
NOD20	011032	2950#
NOD200	027350	3614#
NOD201	027364	3615#
NOD202	027370	3616#
NOD203	027374	3617#
NOD204	027410	3618#
NOD205	027412	3619#
NOD206	027426	3620#
NOD207	027430	3621#
NOD21	011044	2951#
NOD210	027446	3622#
NOD211	027452	3623#
NOD212	027456	3624#
NOD213	027460	3625#
NOD214	027462	3626#
NOD22	011050	2952#
NOD23	011062	2953#
NOD24	011066	2954#
NOD25	011070	2958#
NOD26	011074	2959#
NOD27	011110	2960#
NOD3	010676	2937#
NOD30	011114	2961#
NOD31	011132	2962#
NOD32	011136	2963#
NOD33	011154	2964#
NOD34	011160	2965#
NOD35	011176	2966#
NOD36	011202	2967#
NOD37	011220	2968#
NOD4	010712	2938#

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CROSS REFERENCE TABLE -- USER SYMBOLS

[illegible]

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CROSS REFERENCE TABLE -- USER SYMBOLS

[illegible]

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CROSS REFERENCE TABLE -- USER SYMBOLS

[illegible]

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CROSS REFERENCE TABLE -- USER SYMBOLS

[illegible]

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CROSS REFERENCE TABLE -- USER SYMBOLS

[illegible]

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CROSS REFERENCE TABLE -- USER SYMBOLS

3163#	3475											
2380#	3048	5012	5393									
2340#	2989	5037	5313	5388								
2341#	2991	5316										
3163#	4273											
3163#	4303											
3163#	5286											
2334#	2950	5035	5199	5235	5254							
2678#	5274	5280										
2681#	5277											
2671	3163#											
2671	3163#											
2671	3163#											
2671	3163#											
2671	3163#											
2671	3163#											
2671	3163#											
2671	3163#											
2671#	5285											
3891	4257#	4959	5298									
2342#	3063	5320	5326									
3163#												
2400#	2834											
3163#	3441											
2740#	4007	5301*										
4624	4643#											
2273#	3491	4281	5448									
2346#	3016											
3163#	3436											
3163#	3431											
1996#	2013	2022	2024	2026	2028	2030	2032	2034	2036	2038	2040	2042
2044	2046	2048	2050	2052	2054	2056	2059	2062	2064	2066	2068	2070
2072	2074	2076	2078	2080	2082	2084	2086	2088	2090	2092	2094	2096
2109	2123	2124	3137	3148	3166	3183	3196	3210	3232	3253	3267	3366
4574	4594	4610	4794	4808	4841	4863	6522	6529	6859	6940#	6941	
1996#	2014	2015	2016	2017	2018	2019	2020	2021	2023	2025	2027	2029
2031	2033	2035	2037	2039	2041	2043	2045	2047	2049	2051	2053	2055
2057	2058	2060	2061	2063	2065	2067	2069	2071	2073	2075	2077	2079
2081	2083	2085	2087	2089	2091	2093	2095	2097	2108	2110	2122	3138
3140	3149	3156	3168	3169	3170	3171	3172	3173	3174	3175	3176	3177
3180	3185	3186	3187	3188	3189	3190	3193	3198	3199	3200	3201	3202
3203	3204	3207	3212	3213	3214	3215	3216	3217	3218	3219	3221	3222
3223	3224	3225	3226	3229	3234	3235	3236	3237	3238	3239	3240	3242
3243	3244	3245	3246	3247	3250	3255	3256	3257	3258	3259	3260	3261
3264	3269	3270	3271	3272	3273	3274	3275	3276	3279	3282	3283	3392
3500	3501	3502	3503	3504	3508	3509	3510	3511	3512	3551	3552	3553
3554	3555	3562	3563	3564	3565	3566						

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	4025	4026	4029	4030	4031	4032	4033	4034	4074	4075	4076	4077	4078
	4269	4270	4271	4272	4273	4274	4275	4276	4277	4299	4300	4301	4302
	4303	4304	4305	4306	4307	4449	4450	4451	4452	4453	4492	4493	4494
	4495	4496	4585	4617	4621	4622	4624	4626	4627	4629	4631	4632	4634
	4637	4638	4640	4648	4649	4650	4652	4658	4659	4660	4662	4671	4673
	4678	4679	4680	4681	4682	4683	4684	4685	4690	4691	4692	4693	4694
	4712	4713	4714	4716	4747	4748	4749	4750	4751	4752	4757	4758	4759
	4760	4761	4762	4764	4765	4766	4767	4768	4769	4772	4773	4775	4776
	4783	4799	4813	4814	4824	4825	4832	4845	4846	4853	4867	4868	4875
	4905	4906	4907	4908	4909	4950	4951	4952	4953	4954	4962	4964	4968
	4969	4978	4979	4980	4981	4982	4983	4984	4985	4995	4996	4997	4998
	4999	5004	5005	5006	5007	5008	5031	5032	5043	5044	5045	5046	5047
	5048	5058	5059	5060	5061	5062	5063	5084	5085	5086	5087	5088	5089
	5104	5105	5106	5107	5108	5109	5204	5205	5206	5207	5208	5209	5284
	5285	5286	5287	5288	5289	5290	5331	5332	5333	5334	5335	5361	5362
	5363	5364	5365	5435	5436	5437	5438	5439	5484	5485	5486	5487	5488
	5501	5502	5503	5504	5505	5834	5835	5836	5837	5852	5853	5854	5855
	5865	5866	5867	5868	5933	5934	5935	5936	5937	5938	5939	5940	5962
	5963	5964	5965	5966	5971	5972	5973	5974	6044	6045	6046	6047	6048
	6049	6050	6081	6082	6083	6084	6085	6086	6087	6088	6139	6140	6141
	6142	6143	6162	6163	6164	6165	6166	6221	6231	6232	6233	6234	6444
	6445	6446	6447	6452	6463	6464	6465	6466	6484	6485	6486	6487	6503
	6504	6505	6506	6526	6533	6561	6572	6573	6574	6575	6614	6615	6616
	6617	6621	6674	6675	6676	6677	6682	6683	6753	6754	6755	6756	6823
	6841	6858	6865	6866	6867	6875	6876	6877	6878	6880	6881	6882	6883
	6885	6886	6887	6888	6889	6893	6894	6895	6896	6897	6902	6937	6938
	6939												
SVC SUB= 000001	1996#												
SVCTAG= 000001	1996#	2153	3179	3192	3206	3228	3249	3263	3278	3391	3570	4584	4686
	4782	4798	4831	4852	4874	4986	5941	6089	6525	6532	6840	6903	
SVCTST= 000001	1996#	4890											
SLSYM= 010000	1996#	2154#	3180#	3193#	3207#	3229#	3250#	3264#	3279#	3392#	3563	3570	3571#
	4585#	4679	4686	4687#	4783#	4799#	4832#	4853#	4875#	4979	4986	4987#	5934
	5941	5942#	6082	6089	6090#	6526#	6533#	6841#	6904#				
S1 034030	4634	4636#											
S2 034104	4652	4657#											
S3 034154	4662	4670#											
S4 034222	4673	4689#											
TABEX 015167	3163#	5058	5104										
TAL = 000005	2255#	5419	6171										
TALCK 042734	2799	6074#	6111	6113									
TALMOD= 000035	2361#	2974											
TC IRAD 007360	2729#	4930*	4933	5069	5074*	5261*							
TEMP 007426	2753#	3432*	3437*	3442*	3476*	3450*	3455*	3464*	3468*	3472*	3476*	3489	3515
	3516*	3517*	3518	4018*	4011	4080*	4081*	4082	4120*	4121*	4127	4259*	4272
	4280*	4283*	4302	4818*	5282*	5284	5345*	5346*	5350	5353	5728*	5729*	5733
	6035*	6041*	6045										
TEMP1 007430	2754#	3431*	3436*	3441*	3449*	3454*	3463*	3467*	3471*	3475*	3508	3775*	3783
	4266*	4270	4284*	4287*	4301								
TEMP2 007432	2755#	3456*	3457*	3521	3779*	3781	4123*	4125*	4129	4267*	4269	4288*	4291*
	4300	4820*	5690*	5700*	5711*	5717	5731*	5732	5750*	5818*	5894*	5983*	5990*
	6004*	6008*	6020*	6098*	6107*	6145*	6156*	6225*	6438*	6456*	6479*	6498*	6566*
	6608*	6668*	6710*	6828*									
TEMP3 007434	2756#	3198	3214	3235	3256	3271	3458*	3522	3774*	3784	4262*	4265*	4271
	4821*	5692*	5702*	5712*	5718	5729	5730	5731	5751*	5820*	5830	5895*	5935
	5942	5943	5944	5945	5985*	5992*	6002*	6009*	6021*	6099*	6108*	6147*	6157*

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TEMP4	007436	6226*	6439*	6457*	6480*	6499*	6567*	6610*	6659*	6711*	6829*	5827*	5840*	5945*
		2757#	3185	3213	3234	3255	3270	3459*	3486*	3523	4819*	5827*	5840*	5945*
		5846	5861	5893*	6003*	6227*	6440*	6458*	6481*	6500*	6568*	6609*	6670*	6689*
		6692	6703	6715	6718	6721	6724	6727	6730	6733	6736	6741	6744	6747
		6830*												
TEMP5	007440	2758#	4292*	4295*	4299									
TIMERS	007546	2816#	3384	3388*	6432*	6436								
TIMER1	007542	2814#	3378	3380*	4899*	4900	6206*	6222	6557*	6558	6604*	6605	6821*	6826
TIMER2	007544	2815#	3381	3383*										
TIMMIN	007534	2810#	3375*	3520	4696*									
TIMOM	025413	3163#	6720											
TIMSEC	007536	2811#	3372*	3373	3376*	3519	4697*							
TIMTCK	007540	2812#	3369*	3371*	3386	3517	4698*							
TM	= 001000	2401#	2835											
TOINOT	044250	6433#	6467	6470	6474									
TOIN1	044332	6437	6451#											
TOIN2	044416	6454	6469#											
TOOR10	045012	6244	6263	6277	6283	6332	6371	6426	6603#	6618	6819			
TOOR1	045076	6606	6620#											
TOOR2	045114	6624	6621#											
TOOP3	045024	6605#	6628											
TOTCC	007422	2751#	4067*	4068	4079*	4081	4083*	4916*	5039*	5040	5073	5080*	5081	5121
TRA	= 000001	2251#	5416											
TRAMOD	= 000034	2360#	2972											
TRVACT	032762	4362	4373#	4389	4394	4399	4402	4422	4488	4511	4532	4556		
TRVALN	033554	4351	4515#											
TRVALP	033510	4350	4501#											
TRVBIF	033066	4347	4402#											
TRVBR	033056	4346	4399#											
TRVBRC	033002	4360	4380#	4400	4405	4424	4498	4513	4534	4560				
TRVDEC	033162	4353	4427#											
TRVERR	033020	4344	4389#											
TRVEXI	033040	4345	4394#											
TRVNMA	033202	4428	4431#											
TRVNOB	033012	4385#	4406	4423	4489	4512	4533							
TRVNUM	033174	4349	4430#											
TRVOCT	033174	4352	4429#											
TRVSPA	033110	4348	4408#											
TRVSTR	033642	4354	4538#											
TSEL4	045762	6480	6490	6763*	6775#									
TSEL6	045764	6481	6491	6764*	6776#									
TTL	= 000001	2259#	4970	6253										
TILLOP	= 000044	2368#	3077											
TTOTCC	007356	2728#	4229	4917*	5039	5050	5073*	5257*						
TXBUF	003562	2711#	4197	4930	5260	6003								
TXC	= 000002	2291#	3437											
TXMTOT	007354	2727#	4217	4936*	5052*	5054	5075*	5252	5256*	5498	5585	5608	5633	
TXNC	025521	3163#	6001											
TXONLY	040670	2795	5583#											
TXON2	040676	5584#												
TXPTR	007334	2718#	4210*	4212*	4213	4222*	4224	4920*	4934	5053*	5067*	5068	5072*	5258*
		5259	5510*	5584	5609	5634								
		2290#	3432											
TXQ	= 000000	2014#	2015#	2016#	2017#	2018#	2019#	3168#	3177	3185#	3190	3198#	3204	3212#
TSARGC	= 000001	3219	3221#	3226	3234#	3240	3242#	3247	3255#	3261	3269#	3276	3500#	3504
		3508#	3512	3551#	3555	3579#	3583	3589#	3593	3648#	3653	3716#	3721	3767#

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CROSS REFERENCE TABLE -- USED SYMBOLS

	3771#	3781#	3789	3806#	3810	3829#	3833	3839#	3847	3854#	3860	3868#	3873
	3875#	3881	3900#	3907	3916#	3923	3931#	3938	3952#	3956	3972#	3976	4010#
	4015	4020#	4026	4029#	4034	4074#	4078	4269#	4277	4299#	4307	4443#	4453
	4492#	4496	4690#	4694	4905#	4909	4950#	4954	4995#	4999	5004#	5008	5043#
	5048	5058#	5063	5084#	5089	5104#	5109	5204#	5209	5284#	5290	5331#	5335
	5361#	5365	5435#	5439	5484#	5488	5501#	5505	5962#	5966	6044#	6050	6139#
	6143	6162#	6166										
TSCODE= 005032	3565#	4681#	4981#	5936#	6084#	6865#	6875#	6880#	6885#	6893#			
TSEARN= 000023	1996#	5835#	5853#	5866#	5972#	6232#	6445#	6464#	6485#	6504#	6573#	6615#	6675#
	6754#												
TSEXCP= 000000	3565#	3570	4681#	4686	4981#	4986	5936#	5941	6084#	6089	6875#	6879	6880#
	6884	6885#	6890	6893#	6898								
TFLAG= 000040	3282#	3284	4775#	4824#	4845#	4847	4867#	486^	4968#	5031#	6682#		
TSGMAN= 000000	1996#	3562#	3565	3571#	4678#	4687#	4978#	4981	4987#	5933#	5942#	6081#	6084
	6090#												
TSHILI= C00007	3565#	3569	4681#	4685	4981#	4985	5936#	5940	6084#	6088	6875#	6878	6880#
	6883	6885#	6889	6893#	6897								
TSLAST= 000001	1996#	6938#											
TLOLI= 000000	3565#	3568	4681#	4684	4981#	4984	5936#	5939	6084#	6087	6875#	6877	6880#
	6882	6885#	6888	6893#	6896								
TLSYM= 010000	1996#	2154	3180	3193	3207	3229	3250	3264	3279	3392	4585	4783	4799
	4832	4853	4875	6526	6533	6841	6904						
TSLTNO= C00J01	6941#												
T\$NEST= 177777	1996#	1998#	2122#	2153#	3166#	3179#	3183#	3192#	3196#	3206#	3210#	3228#	3232#
	3249#	3253#	3263#	3267#	3278#	3366#	3391#	4574#	4584#	4594#	4601#	4610#	4782#
	4794#	4798#	4808#	4831#	4841#	4852#	4863#	4874#	4891#	6522#	6525#	6529#	6532#
	6840#	6858#	6902#	6942#									
TNSO = 000000	1998#	6942											
TNSG1 = 000004	2122#	2153	3166#	3179	3183#	3192	3196#	3206	3210#	3228	3232#	3249	3253#
	3263	3267#	3278	3366#	3391	4574#	4584	4594#	4601	4610#	4782	4794#	4798
	4808#	4831	4841#	4852	4863#	4874	4891#	6840	6858#	6902			
	6522#	6525	6529#	6532									
TNS2 - 000010	1996#												
TSPNU= 000000	1996#												
TSSAVL= 177777	1996#												
T\$SEGL= 177777	1996#												
TSSUBN= 000000	1996#	4890#											

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CROSS REFERENCE TABLE -- USER SYMBOLS

TSSCLE= 010015	4808#	4824	4831											
TSSDU = 010016	4841#	4845	4852											
TSSHAR= 010023	6858#	6903												
TSSHW = 010000	2122#	2153												
TSSINI= 010013	4610#	4775	4782											
TSSMSG= 010007	3166#	3179	3183#	3192	3196#	3206	3210#	3228	3232#	3249	3253#	3263	3267#	
	3278	3282												
TSSPRO= 010012	4594#													
TSSRPT= 010011	4574#	4584												
TSSRV= 010022	3366#	3391	6522#	6525	6529#	6532								
TSTES= 010020	4891#	4968	5031	6682	6840									
T1 = 034754	2110	4890#												
UAM = 000200	2229#													
UNKM = 020273	2879	3163#	6035											
UPTABL 041176	5714#													
UPTA1 041264	5720	5727#												
UPTA3 041262	5724	5726#												
UPTA4 041222	5715	5719#												
UPTEX 041334	5726	5736#												
VECTOR 046271	6881	6905#												
XS = 000215	1999#	2934#	2935#	2936#	2937#	2938#	2939#	2940#	2941#	2942#	2943#	2944#	2945#	
	2946#	2947#	2948#	2949#	2950#	2951#	2952#	2953#	2954#	2958#	2959#	2960#	2961#	
	2962#	2963#	2964#	2965#	2966#	2967#	2968#	2969#	2970#	2971#	2972#	2973#	2974#	
	2975#	2979#	2980#	2981#	2982#	2983#	2988#	2989#	2990#	2991#	2992#	2995#	2996#	
	2997#	2998#	2999#	3000#	3001#	3002#	3005#	3006#	3007#	3008#	3009#	3010#	3016#	
	3017#	3018#	3019#	3022#	3023#	3024#	3025#	3027#	3028#	3031#	3034#	3035#	3036#	
	3037#	3038#	3039#	3040#	3041#	3042#	3043#	3044#	3045#	3046#	3047#	3048#	3049#	
	3052#	3053#	3054#	3055#	3056#	3057#	3058#	3061#	3062#	3063#	3064#	3065#	3066#	
	3069#	3070#	3071#	3074#	3077#	3078#	3079#	3080#	3081#	3082#	3083#	3084#	3087#	
	3088#	3089#	3094#	3605#	3606#	3607#	3608#	3609#	3610#	3611#	3612#	3613#	3614#	
	3615#	3616#	3617#	3618#	3619#	3620#	3621#	3622#	3623#	3624#	3625#	3626#		
	1996#													
XSALWA= 000000	1996#													
XSFALS= 000040	1996#													
X\$OFFS= 000400	1996#													
X\$TRUE= 000020	1996#													
\$PATCH 046436	6932#													
= 046522	1996#	2503#	2509#	2541	2548	2574#	2682#	2711#	2712#	2713#	2714#	2820#	2821#	
	2937#	2941#	2945#	2952#	2959#	2961#	2967#	2969#	2980#	2982#	2989#	2991#	3007#	
	3009#	3016#	3018#	3022#	3024#	3034#	3036#	3038#	3040#	3042#	3048#	3063#	3065#	
	3081#	3140#	3156#	3163#	3283	3608#	3610#	3614#	3619#	3621#	3796#	4776	4825	
	4846	4868	4969	5032	6683	6906#	6907#							

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[illegible]

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CROSS REFERENCE TABLE -- MACRO NAMES

ENDMOD	1#	1996#	6941																
ENDMSG	1#	1996#	3178	3191	3205	3227	3248	3262	3277										
ENDPRO	1#	1996#	4600																
ENDPTA	1#	1996#																	
ENDRPT	1#	1996#	4583																
ENDSEG	1#	1996#																	
ENDSET	1#	1996#																	
ENDSFT	1#	1996#																	
ENDSRV	1#	1996#	3390	6524	6531														
ENDSUB	1#	1996#																	
ENDSW	1#	1996#																	
ENDTST	1#	1996#	6839																
EQUALS	1#	1996#	2169																
ERRDF	1#	1996#																	
ERRHRD	1#	1996#	5970																
ERROR	1#	1996#																	
ERRSF	1#	1996#																	
ERRSOF	1#	1996#	5833	5851	5864	6230	6443	6462	6483	6502	6571	6613	6673	6752					
ERRTBL	1#	1996#																	
ESCAPE	1#	1996#	6681																
EXIT	1#	1996#	3281	4774	4823	4844	4866	4967	5030										
FEQUAL	1#	1996#																	
GETBYT	1#	1996#																	
GETPRI	1#	1996#																	
GETWOR	1#	1996#																	
GMANIA	1#	1996#																	
GMANID	1#	1996#	3561	4677	4977	5932	6080												
GMANIL	1#	1996#																	
GPHARD	1#	1996#	4711																
GPRMA	1#	1996#	6874	6879															
GPRMD	1#	1996#	3562#	3565	4678#	4681	4978#	4981	5933#	5936	6081#	6084	6884	6892					
GPRML	1#	1996#	6864																
HEADER	1#	1996#	2012																
INLOOP	1#	1996#																	
IOSETU	1#	1996#																	
IOSTAR	1#	1996#																	
KT11	1#	1996#																	
LASTAD	1#	1996#	6936																
MANUAL	1#	1996#	4961																
MEMORY	1#	1996#																	
MSBYTE	1#	1996#	2013#	2019	2020	2021													
MSCHEC	1#	1996#	3282#	4775#	4824#	4845#	4867#	4968#	5031#										
MSCNTO	1#	1996#	3565#	4681#	4981#	5936#	6084#	6865#	6875#	6880#	6885#	6893#							
MSCOUN	1#	1996#	3168#	3185#	3198#	3212#	3221#	3234#	3242#	3255#	3269#	3500#	3508#	3551#	3579#				
	3589#	3648#	3716#	3767#	3781#	3806#	3829#	3839#	3854#	3868#	3875#	3900#	3916#	3931#	3952#				
	3972#	4010#	4020#	4029#	4074#	4269#	4299#	4449#	4492#	4690#	4905#	4950#	4995#	5004#	5043#				
	5058#	5084#	5104#	5204#	5284#	5331#	5361#	5435#	5484#	5501#	5962#	6044#	6139#	6162#					
MSDATA	1#	1996#	2013#	2022	2024	2026	2028	2030	2032	2034	2036	2038	2040	2042	2044				
	2046	2048	2050	2052#	2054	2056	2059	2062	2064	2066	2068	2070	2072	2074	2076				
	2078	2080	2082	2084	2086	2088	2090	2092	2094	2096	3137#	3148#							
MSDECR	1#	1996#	2153#	3179#	3192#	3206#	3228#	3249#	3263#	3278#	3391#	4584#	4601#	4782#	4798#				
	4831#	4852#	4874#	6525#	6532#	6840#	6902#	6942#											
MSDEFA	1#	1996#	3565#	4681#	4981#	5936#	6084#	6865#	6875#	6880#	6885#	6893#							
MSENDE	1#	1996#	2153#	3179#	3192#	3206#	3228#	3249#	3263#	3278#	3391#	4584#	4782#	4798#	4831#				
	4852#	4874#	6525#	6532#	6840#	6902#	6942#												
MSERRI	1#	1996#	5834#	5852#	5865#	5971#	6231#	6444#	6463#	6484#	6503#	6572#	6614#	6674#	6753#				

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CROSS REFERENCE TABLE -- MACRO NAMES

MSESCA	1#	1996#	6682#	6683													
MSESCS	1#	1996#	6682#														
MSEXCP	1#	1996#	3565#	4681#	4981#	5936#	6084#	6875#	6880#	6885#	6893#						
MSEXIT	1#	1996#	3282#	4775#	4776	4824#	4825	4845#	4867#	4968#	4969	5031#	5032				
MSEXSE	1#	1996#	3282#	4775#	4824#	4845#	4867#	4968#	5031#								
MSEXTJ	1#	1996#	3282#	3283	4775#	4824#	4845#	4846	4867#	4868	4968#	5031#					
MSGEN	1#	1996#	2013#	2022#	2024#	2026#	2028#	2030#	2032#	2034#	2036#	2038#	2040#	2042#	2044#		
	2046#	2048#	2050#	2052#	2054#	2056#	2059#	2062#	2064#	2066#	2068#	2070#	2072#	2074#	2076#		
	2078#	2080#	2082#	2084#	2086#	2088#	2090#	2092#	2094#	2096#	2109#	2123#	2124#	2153#	3137#		
	3148#	3166#	3179#	3183#	3192#	3196#	3206#	3210#	3228#	3232#	3249#	3253#	3263#	3267#	3278#		
	3366#	3391#	3570#	4574#	4584#	4594#	4610#	4686#	4782#	4794#	4798#	4808#	4831#	4841#	4852#		
	4863#	4874#	4890#	4986#	5941#	6089#	6522#	6525#	6529#	6532#	6840#	6859#	6903#	6940#			
MSGENB	1#	1996#	3562#	3563	4678#	4679	4978#	4979	5933#	5934	6081#	6082					
MSGETS	1#	1996#	2153#	3179#	3192#	3206#	3228#	3249#	3263#	3278#	3391#	4584#	4601#	4782#	4798#		
	4831#	4852#	4874#	6525#	6532#	6840#	6902#	6942#									
MSGETT	1#	1996#	3282#	4775#	4824#	4845#	4867#	4968#	5031#	6682#							
MSGNGB	1#	1996#	1998#	2013#	2022#	2024#	2026#	2028#	2030#	2032#	2034#	2036#	2038#	2040#	2042#		
	2044#	2046#	2048#	2050#	2052#	2054#	2056#	2059#	2062#	2064#	2066#	2068#	2070#	2072#	2074#		
	2076#	2078#	2080#	2082#	2084#	2086#	2088#	2090#	2092#	2094#	2096#	2108#	2109	2122#	2123		
	2124	3137#	3148#	3166#	3183#	3196#	3210#	3232#	3253#	3267#	3366#	4574#	4594#	4610#	4794#		
	4808#	4841#	4863#	6522#	6529#	6858#	6859	6937#	6940								
MSGNIN	1#	1996#	2013#	2014	2015	2016	2017	2018	2019#	2020#	2021#	2022#	2023	2024#	2025		
	2026#	2027	2028#	2029	2030#	2031	2032#	2033	2034#	2035	2036#	2037	2038#	2039	2040#		
	2041	2042#	2043	2044#	2045	2046#	2047	2048#	2049	2050#	2051	2052#	2053	2054#	2055		
	2056#	2057	2058	2059#	2060	2061#	2062#	2063	2064#	2065	2066#	2067	2068#	2069	2070#		
	2071	2072#	2073	2074#	2075	2076#	2077	2078#	2079	2080#	2081	2082#	2083	2084#	2085		
	2086#	2087	2088#	2089	2090#	2091	2092#	2093	2094#	2095	2096#	2097	2108#	2110#	2122#		
	3137#	3138	3140	3148#	3149	3156	3168#	3169	3170#	3171	3172#	3173#	3174#	3175	3176#		
	3177	3180#	3185#	3186#	3187#	3188	3189#	3190	3193#	3198#	3199#	3200#	3201#	3202	3203#		
	3204	3207#	3212#	3213#	3214#	3215#	3216#	3217	3218#	3219	3221#	3222#	3223#	3224	3225#		
	3226	3229#	3234#	3235#	3236#	3237#	3238	3239#	3240	3242#	3243#	3244#	3245	3246#	3247		
	3250#	3255#	3256#	3257#	3258#	3259	3260#	3261	3264#	3269#	3270#	3271#	3272#	3273#	3274		
	3275#	3276	3279#	3282#	3283#	3391#	3392	3500#	3501#	3502	3503#	3504	3508#	3509#	3510		
	3511#	3512	3551#	3552#	3553	3554#	3555	3562#	3563#	3564#	3565#	3566	3567	3568	3569		
	3579#	3580#	3581	3582#	3583	3589#	3590#	3591	3592#	3593	3648#	3649#	3650#	3651	3652#		
	3653	3716#	3717#	3718#	3719	3720#	3721	3767#	3768#	3769	3770#	3771	3781#	3782#	3783		
	3784#	3785#	3786#	3787	3788#	3789	3806#	3807#	3808	3809#	3810	3829#	3830#	3831	3832#		
	3833	3839#	3840#	3841#	3842#	3843#	3844#	3845	3846#	3847	3854#	3855#	3856#	3857#	3858		
	3859#	3860	3868#	3869#	3870#	3871	3872#	3873	3875#	3876#	3877#	3878#	3879	3880#	3881		
	3900#	3901#	3902#	3903#	3904#	3905	3906#	3907	3916#	3917#	3918#	3919#	3920#	3921	3922#		
	3923	3931#	3932#	3933#	3934#	3935#	3936	3937#	3938	3952#	3953#	3954	3955#	3956	3972#		
	3973#	3974	3975#	3976	4010#	4011#	4012#	4013	4014#	4015	4020#	4021	4022#	4023#	4024		
	4025#	4026	4029#	4030#	4031#	4032	4033#	4034	4074#	4075#	4076	4077#	4078	4269#	4270#		
	4271#	4272#	4273#	4274#	4275	4276#	4277	4299#	4300#	4301#	4302#	4303#	4304#	4305	4306#		
	4307	4449#	4450#	4451	4452#	4453	4492#	4493#	4494	4495#	4496	4585#	4617#	4621#	4622#		
	4624#	4626#	4627#	4629#	4631#	4632#	4634#	4637#	4638#	4640#	4648#	4649#	4650#	4652#	4658#		
	4659#	4660#	4662#	4671#	4673#	4678#	4679#	4680#	4681#	4682	4683	4684	4685	4690#	4691#		
	4692	4693#	4694	4712#	4713#	4714#	4716#	4747#	4748#	4749#	4750#	4751#	4752	4757#	4758#		
	4759#	4760#	4761#	4762	4764#	4765#	4766#	4767#	4768#	4769	4772#	4773#	4775#	4776#	4783#		
	4799#	4813#	4814#	4824#	4825#	4832#	4845#	4846#	4853#	4867#	4868#	4875#	4905#	4906#	4907		
	4908#	4909	4950#	4951#	4952	4953#	4954	4962#	4964#	4968#	4969#	4978#	4979#	4980#	4981#		
	4982	4983	4984	4985	4995#	4996#	4997	4998#	4999	5004#	5005#	5006	5007#	5008	5031#		
	5032#	5043#	5044#	5045#	5046	5047#	5048	5058#	5059#	5060#	5061	5062#	5063	5084#	5085#		
	5086#	5087	5088#	5089	5104#	5105#	5106#	5107	5108#	5109	5204#	5205#	5206#	5207	5208#		
	5209	5284#	5285#	5286#	5287#	5288	5289#	5290	5331#	5332#	5333	5334#	5335	5361#	5362#		
	5363	5364#	5365	5435#	5436#	5437	5438#	5439	5484#	5485#	5486	5487#	5488	5501#	5502#		

CZCLKCO DMR,DMC-11 DATA COMM. LINK TEST
CZCLKC.P11 19-MAR-82 18:32MACY11 30A(1052) 23-MAR-82 16:45 PAGE 202
CROSS REFERENCE TABLE -- MACRO NAMES

	5503	5504#	5505	5834#	5835#	5836#	5837#	5852#	5853#	5854#	5855#	5865#	5866#	5867#	5868#
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	5973#	5974#	6044#	6045#	6046#	6047#	6048	6049#	6050	6081#	6082#	6083#	6084#	6085	6086
	6087	6088	6139#	6140#	6141	6142#	6143	6162#	6163#	6164	6165#	6166	6221#	6231#	6232#
	6233#	6234#	6444#	6445#	6446#	6447#	6452#	6463#	6464#	6465#	6466#	6484#	6485#	6486#	6487#
	6503#	6504#	6505#	6506#	6525#	6526	6532#	6533	6561#	6572#	6573#	6574#	6575#	6614#	6615#
	6616#	6617#	6621#	6674#	6675#	6676#	6677#	6682#	6683#	6753#	6754#	6755#	6756#	6823#	6841#
	6858#	6865#	6866	6867	6875#	6876	6877	6878	6880#	6881	6882	6883	6885#	6886	6887
	6888	6889	6893#	6894	6895	6896	6897	6902#	6937#	6938#	6939#				
MSGNLS	1#	1996#	3562#	3570	4678#	4686	4978#	4986	5933#	5941	6081#	6089			
MSGNSU	1#	1996#													
MSGNTA	1#	1996#	2153#	3179#	3192#	3206#	3228#	3249#	3263#	3278#	3391#	4584#	4782#	4798#	4831#
	4852#	4874#	6525#	6532#	6840#	6902#	6903								
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MSHNAP	1#	1996#	2013#	2052											
MSINCR	1#	1996#	1998#	2122#	3166#	3176#	3180#	3183#	3189#	3193#	3196#	3203#	3207#	3210#	3218#
	3225#	3229#	3232#	3239#	3246#	3250#	3253#	3260#	3264#	3267#	3275#	3279#	3366#	3503#	3511#
	3554#	3562#	3571	3582#	3592#	3652#	3720#	3770#	3788#	3809#	3832#	3846#	3859#	3872#	3880#
	3906#	3922#	3937#	3955#	3975#	4014#	4025#	4033#	4077#	4276#	4306#	4452#	4495#	4574#	4585#
	4594#	4610#	4617#	4622#	4627#	4632#	4638#	4649#	4659#	4671#	4678#	4687	4693#	4713#	4751#
	4761#	4768#	4773#	4775#	4783#	4794#	4799#	4808#	4814#	4824#	4832#	4841#	4853#	4863#	4875#
	4890#	4891#	4908#	4953#	4962#	4968#	4978#	4987	4998#	5007#	5031#	5047#	5062#	5088#	5108#
	5208#	5289#	5334#	5364#	5438#	5487#	5504#	5834#	5852#	5865#	5933#	5942	5965#	5971#	6049#
	6081#	6090	6142#	6165#	6221#	6231#	6444#	6452#	6463#	6484#	6503#	6522#	6529#	6561#	6572#
	6614#	6621#	6674#	6682#	6753#	6823#	6841#	6858#							
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MSLDRO	1#	1996#	4621#	4626#	4631#	4637#	4648#	4658#	4712#	4772#	4813#				
MSMASK	1#	1996#													
MSMCHI	1#	1996#													
MSMCLO	1#	1996#													
MSMSK1	1#	1996#													
MSPOP	1#	1996#	2153#	3179#	3192#	3206#	3228#	3249#	3263#	3278#	3391#	4584#	4601#	4782#	4798#
	4831#	4852#	4874#	6525#	6532#	6840#	6902#	6942#							
MSPRIN	1#	1996#	3168#	3185#	3198#	3212#	3221#	3234#	3242#	3255#	3269#	3500#	3508#	3551#	3579#
	3589#	3648#	3716#	3767#	3781#	3806#	3829#	3839#	3854#	3868#	3875#	3900#	3916#	3931#	3952#
	3972#	4010#	4020#	4029#	4074#	4269#	4299#	4449#	4492#	4690#	4905#	4950#	4995#	5004#	5043#
	5058#	5084#	5104#	5204#	5284#	5331#	5361#	5435#	5484#	5501#	5962#	6044#	6139#	6162#	
MSPLSH	1#	1996#	1998#	2122#	3166#	3183#	3196#	3210#	3232#	3253#	3267#	3366#	4574#	4594#	4610#
	4794#	4808#	4841#	4863#	4890#	4891	6522#	6529#	6858#						
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	3589#	3648#	3716#	3767#	3781#	3806#	3829#	3839#	3854#	3868#	3875#	3900#	3916#	3931#	3952#
	3972#	4010#	4020#	4029#	4074#	4269#	4299#	4449#	4492#	4690#	4747#	4757#	4764#	4905#	4950#
	4995#	5004#	5043#	5058#	5084#	5104#	5204#	5284#	5331#	5361#	5435#	5484#	5501#	5962#	6044#
	6139#	6162#													
MSPUT1	1#	1996#	3168#	3170	3172	3173	3174	3185#	3186	3187	3198#	3199	3200	3201	3212#
	3213	3214	3215	3216	3221#	3222	3223	3234#	3235	3236	3237	3242#	3243	3244	3255#
	3256	3257	3258	3269#	3270	3271	3272	3273	3500#	3501	3508#	3509	3551#	3552	3579#
	3580	3589#	3590	3648#	3649	3650	3716#	3717	3718	3767#	3768	3781#	3782	3784	3785
	3786	3806#	3807	3829#	3830	3839#	3840	3841	3842	3843	3844	3854#	3855	3856	3857
	3868#	3869	3870	3875#	3876	3877	3878	3900#	3901	3902	3903	3904	3916#	3917	3918
	3919	3920	3931#	3932	3933	3934	3935	3952#	3953	3972#	3973	4010#	4011	4012	4020#
	4022	4023	4029#	4030	4031	4074#	4075	4269#	4270	4271	4272	4273	4274	4299#	4300
	4301	4302	4303	4304	4449#	4450	4492#	4493	4690#	4691	4747#	4748	4749	4750	4757#
	4758	4759	4760	4764#	4765	4766	4767	4905#	4906	4950#	4951	4995#	4996	5004#	5005
	5043#	5044	5045	5058#	5059	5060	5084#	5085	5086	5104#	5105	5106	5204#	5205	5206

CZCLKC DMR,DPC-11 DATA COMM. LINK TEST
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CROSS REFERENCE TABLE -- MACRO NAMES

	5284#	5285	5286	5287	5331#	5332	5361#	5362	5435#	5436	5484#	5485	5501#	5502	5962#
	5963	6044#	6045	6046	6047	6139#	6140	6162#	6163						
MSHADJ	1#	1996#	3565#	4681#	4981#	5936#	6084#	6865#	6875#	6880#	6885#	6893#			
MSRBRO	1#	1996#													
MSRNRO	1#	1996#	4648#	4650	4658#	4660	4712#	4714							
MSSETS	1#	1996#	1998#	2122#	3166#	3163#	3196#	3210#	3232#	3253#	3267#	3366#	4574#	4594#	4610#
	4794#	4808#	4841#	4863#	4891#	6522#	6529#	6858#							
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MSVC	1#	1996#	3168#	3176	3179#	3180	3185#	3189	3192#	3193	3198#	3203	3206#	3207	3212#
	3218	3221#	3225	3228#	3229	3234#	3239	3242#	3246	3249#	3250	3255#	3260	3263#	3264
	3269#	3275	3278#	3279	3282#	3500#	3503	3508#	3511	3551#	3554	3562#	3579#	3582	3589#
	3592	3648#	3652	3716#	3720	3767#	3770	3781#	3788	3806#	3809	3829#	3832	3839#	3846
	3854#	3859	3868#	3872	3875#	3880	3900#	3906	3916#	3922	3931#	3937	3952#	3955	3972#
	3975	4010#	4014	4020#	4025	4029#	4033	4074#	4077	4269#	4276	4299#	4306	4449#	4452
	4492#	4495	4584#	4585	4617#	4621#	4622	4626#	4627	4631#	4632	4637#	4638	4648#	4649
	4658#	4659	4671#	4672#	4690#	4693	4712#	4713	4747#	4751	4757#	4761	4764#	4768	4772#
	4773	4775#	4782#	4783	4798#	4799	4813#	4814	4824#	4831#	4832	4845#	4852#	4853	4867#
	4874#	4875	4905#	4908	4950#	4953	4962#	4968#	4978#	4995#	4998	5004#	5007	5031#	5043#
	5047	5058#	5062	5084#	5088	5104#	5108	5204#	5208	5284#	5289	5331#	5334	5361#	5364
	5435#	5438	5484#	5487	5501#	5504	5834	5852	5865	5933#	5962#	5965	5971	6044#	6049
	6081#	6139#	6142	6162#	6165	6221#	6231	6444	6452#	6463	6484	6503	6561#	6572	6614
	6621#	6674	6682#	6753	6823#	6840#	6841								
MSLAB	1#	1996#	3176#	3180#	3189#	3193#	3203#	3207#	3218#	3225#	3229#	3239#	3246#	3250#	3260#
	3264#	3275#	3279#	3503#	3511#	3554#	3562#	3582#	3592#	3652#	3720#	3770#	3788#	3809#	3832#
	3846#	3859#	3872#	3880#	3906#	3922#	3937#	3955#	3975#	4014#	4025#	4033#	4077#	4276#	4306#
	4452#	4495#	4585#	4617#	4622#	4627#	4632#	4638#	4649#	4659#	4671#	4678#	4693#	4713#	4751#
	4761#	4768#	4773#	4775#	4783#	4799#	4814#	4824#	4832#	4853#	4875#	4908#	4953#	4962#	4968#
	4978#	4998#	5007#	5031#	5047#	5062#	5088#	5108#	5208#	5289#	5334#	5364#	5438#	5487#	5504#
	5834#	5852#	5865#	5933#	5965#	5971#	6049#	6081#	6142#	6165#	6221#	6231#	6444#	6452#	6463#
	6484#	6503#	6561#	6572#	6614#	6621#	6674#	6682#	6753#	6823#	6841#				
MSSTL	1#	1996#	3176#	3180#	3189#	3193#	3203#	3207#	3218#	3225#	3229#	3239#	3246#	3250#	3260#
	3264#	3275#	3279#	3503#	3511#	3554#	3562#	3582#	3592#	3652#	3720#	3770#	3788#	3809#	3832#
	3846#	3859#	3872#	3880#	3906#	3922#	3937#	3955#	3975#	4014#	4025#	4033#	4077#	4276#	4306#
	4452#	4495#	4585#	4617#	4622#	4627#	4632#	4638#	4649#	4659#	4671#	4678#	4693#	4713#	4751#
	4761#	4768#	4773#	4775#	4783#	4799#	4814#	4824#	4832#	4853#	4875#	4908#	4953#	4962#	4968#
	4978#	4998#	5007#	5031#	5047#	5062#	5088#	5108#	5208#	5289#	5334#	5364#	5438#	5487#	5504#
	5834#	5852#	5865#	5933#	5965#	5971#	6049#	6081#	6142#	6165#	6221#	6231#	6444#	6452#	6463#
	6484#	6503#	6561#	6572#	6614#	6621#	6674#	6682#	6753#	6823#	6841#				
MSWORD	1#	1996#	2052#	2061	2108#	2110	3282#	3562#	3564	3565#	4678#	4680	4681#	4775#	4824#
	4845#	4867#	4968#	4978#	4980	4981#	5031#	5834#	5835	5836	5837	5852#	5853	5854	5855
	5865#	5866	5867	5868	5933#	5935	5936#	5971#	5972	5973	5974	6081#	6083	6084#	6231#
	6232	6233	6234	6444#	6445	6446	6447	6463#	6464	6465	6466	6484#	6485	6486	6487
	6503#	6504	6505	6506	6572#	6573	6574	6575	6614#	6615	6616	6617	6674#	6675	6676
	6677	6753#	6754	6755	6756	6865#	6875#	6880#	6885#	6893#	6938	6939			
MSXFER	1#	1996#													
NODCL	2002#	2934	2935	2936	2937	2938	2939	2940	2941	2942	2943	2944	2945	2946	2947
	2948	2949	2950	2951	2952	2953	2954	2958	2959	2960	2961	2962	2963	2964	2965
	2966	2967	2968	2969	2970	2971	2972	2973	2974	2975	2979	2980	2981	2982	2983
	2988	2989	2990	2991	2992	2995	2996	2997	2998	2999	3000	3001	3002	3005	3006
	3007	3008	3009	3010	3016	3017	3018	3019	3022	3023	3024	3025	3027	3028	3031
	3034	3035	3036	3037	3038	3039	3040	3041	3042	3043	3044	3045	3046	3047	3048
	3049	3052	3053	3054	3055	3056	3057	3058	3061	3062	3063	3064	3065	3066	3069
	3070	3071	3074	3077	3078	3079	3080	3081	3082	3083	3084	3087	3088	3089	3094
	3605	3606	3607	3608	3609	3610	3611	3612	3613	3614	3615	3616	3617	3618	3619
	3620	3621	3622	3623	3624	3625	3626								
OPEN	1#	1996#													

CZCLKC DMR,DMC-11 DATA COMM. LINK TEST MACY11 30A(1052) 23-MAR-82 16:45 PAGE 204
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POINTE	1#	1996#	2008												
PRINTB	1#	1996#	3167	3184	3197	3211	3220	3233	3241	3254	3268				
PRINTF	1#	1996#	3499	3507	3550	3578	3588	3647	3715	3766	3780	4009	4019	4028	4073
	4448	4491	4689	4904	4949	4994	5003	5042	5057	5083	5103	5203	5283	5330	5360
	5434	5483	5500	5961	6043	6138	6161								
PRINTS	1#	1996#	3805	3828	3838	3853	3867	3874	3899	3915	3930	3951	3971	4268	4298
PRINTX	1#	1996#													
READBU	1#	1996#	4670												
READEB	1#	1996#	4620	4625	4630	4636									
RFLAGS	1#	1996#													
SETPRI	1#	1996#	4771	4812											
SETVEC	1#	1996#	4746	4756	4763										
SLASH	1#	1996#													
STARS	1#	1996#													
SVC	1#	1996#													
XFER	1#	1996#	3282#	4775#	4824#	4845#	4867#	4968#	5031#						
XFERF	1#	1996#													
XFERT	1#	1996#													

. ABS. 046522 000

ERRORS DETECTED: 0

CZCLKC,CZCLKC.LST/CRF/SOL=SVC34R.MLB,CZCLKC.P11

RUN-TIME: 26 32 4 SECONDS

RUN-TIME RATIO: 93/62=1.4

CORE USED: 22K (43 PAGES)