

DPV-11

DPV-11 DCLT  
CVCLHCO

AH-F584C-MC  
FICHE 1 OF 2

JUL 1982  
COPYRIGHT © 80-82  
MADE IN USA



The main body of the document is a large grid of approximately 15 columns and 15 rows of small, dense tables. Each cell in the grid contains a small table with multiple columns and rows of data, likely representing a detailed technical or financial record. The text within these tables is too small to be legible, but the overall structure is a complex, multi-layered data matrix.



DPV-11

DPV-11 DCLT  
CVCLHCO

AH-F584C-MC  
FICHE 2 OF 2

JUL 1982  
COPYRIGHT © 80-82  
MADE IN USA





CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 2

1

.TITLE CVCLHC DPV-11 DATA COMM. LINK TEST

.REM 8

IDENTIFICATION

PRODUCT CODE: AC-F582C-MC  
PRODUCT NAME: CVCLHCO DPV-11 DATA COMM. LINK TEST  
PRODUCT DATE: MARCH 82  
MAINTAINER: MERRIMACK DIAGNOSTIC ENGINEERING  
AUTHOR: BRUCE RIBOLINI-BRUCE LIJHRS

THE INFORMATION IN THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE AND SHOULD NOT BE CONSTRUED AS A COMMITMENT BY DIGITAL EQUIPMENT CORPORATION. DIGITAL EQUIPMENT CORPORATION ASSUMES NO RESPONSIBILITY FOR ANY ERRORS THAT MAY APPEAR IN THIS DOCUMENT.

NO RESPONSIBILITY IS ASSUMED FOR THE USE OR RELIABILITY OF SOFTWARE ON EQUIPMENT THAT IS NOT SUPPLIED BY DIGITAL OR ITS AFFILIATED COMPANIES.

COPYRIGHT (C) 1980,1982 BY DIGITAL EQUIPMENT CORPORATION

THE FOLLOWING ARE TRADEMARKS OF DIGITAL EQUIPMENT CORPORATION:

DIGITAL	PDP	UNIBUS	MASSBUS
DEC	DECUS	DECTAPE	

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 3

## REVISION HISTORY:

<u>REV</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>REASON</u>
A	20-AUG-80	BRUCE RIBOLINI BRUCE LUHRS	ORIGINAL ISSUE, DCLT FOR THE DPV-11
B	21-SEPT-81	ERNIE COOPER	ADD "SET EXPECT=TRANSMIT COMMAND ADD "EXIT" COMMAND ADD "RPT>" LEVEL ADD CHECK TO INSURE TRANSMIT LIST TOTAL = EXPECT LIST TOTAL UPDATE DOCUMENTATION
C	JUNE-82	ERNIE COOPER	ADD ^C ABORT MESSAGE TO EVENT LOG ADD DDCMP PROTOCOL LAYER



## TABLE OF CONTENTS

- 1.0 GENERAL INFORMATION
  - 1.1 PROGRAM ABSTRACT
  - 1.2 SYSTEM REQUIREMENTS
  - 1.3 RELATED DOCUMENTS AND STANDARDS
  - 1.4 DIAGNOSTIC HIERARCHY PREREQUISITES
  - 1.5 ASSUMPTIONS - RESTRICTIONS
- 2.0 OPERATING INSTRUCTIONS
  - 2.1 COMMANDS
  - 2.2 SWITCHES
  - 2.3 FLAGS
  - 2.4 HARDWARE QUESTIONS
  - 2.5 DATA COMM. LINK TEST COMMANDS
    - 2.5.1 MESSAGE COMMANDS
    - 2.5.2 STATISTICAL COMMANDS
    - 2.5.3 RUN COMMANDS
    - 2.5.4 DEFAULTS
    - 2.5.5 PRINT COMMANDS
    - 2.5.6 MISC COMMANDS
  - 2.6 QUICK STARTUP PROCEDURE
- 3.0 ERROR INFORMATION
  - 3.1 TYPES OF ERROR MESSAGES
  - 3.2 SPECIFIC ERROR MESSAGES
    - 3.2.1 COMMAND LINE INTERPRETER ERRORS
    - 3.2.2 DCLT ERRORS
    - 3.2.3 DEVICE ERRORS
- 4.0 PERFORMANCE AND PROGRESS REPORTS
  - 4.1 PRINTING EVENT LOG
  - 4.2 OPERATOR STATUS MESSAGES
  - 4.3 PRINTING DDCMP STATISTICAL AND ERROR LOG
- 5.0 DEVICE INFORMATION TABLES



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 5

## 6.0 MODE AND MESSAGE DESCRIPTIONS

### 6.1 MODE DESCRIPTIONS

- 6.1.1 TRANSMIT MODE
- 6.1.2 RECEIVE MODE
- 6.1.3 PASSIVE MODE
- 6.1.4 ACTIVE MODE
- 6.1.5 DOWN-LINE LOAD MODE
- 6.1.6 TALK MODE
- 6.1.7 LISTEN MODE
- 6.1.8 MAINTENANCE MODE

### 6.2 MESSAGE DESCRIPTIONS

## 7.0 OTHER INFORMATION

- 7.1 INTERFACING TO AN "ITEP" NODE
- 7.2 TROUBLESHOOTING HINTS

- 7.2.1 INTERNAL LOOP AT EACH NODE
- 7.2.2 TRANSMIT ON ONE NODE-RECEIVE ON THE OTHER
- 7.2.3 ONE NODE ACTIVE-THE OTHER NODE PASSIVE
- 7.2.4 BOTH NODES ACTIVE
- 7.2.5 TALK AND LISTEN NODES FOR COMMUNICATIONS

### 7.3 EXAMPLE OF COMMANDS

- 7.3.1 MESSAGES COMMANDS
- 7.3.2 STATISTICAL COMMANDS
- 7.3.3 RUN COMMANDS
- 7.3.4 PRINT COMMANDS
- 7.3.5 EXIT COMMAND

### 7.4 THINGS TO WATCH OUT FOR



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 6

## 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 DPV-11 COMMUNICATION LINKS. THIS PROGRAM ALLOWS THE DPV-11 TO COMMUNICATE WITH OTHER SYNCHRONOUS (INCLUDING DDCMP) DEVICES ON POINT TO POINT OR MULTIPOINT NETWORKS. 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 DPV DCLT PROGRAM, THE FOLLOWING MINIMUM HARDWARE IS REQUIRED:

- A LSI-11 CPU
- MINIMUM OF 24K WORDS OF MEMORY
- A WORKING CLOCK
- A CONSOLE TERMINAL
- ANY XXDP+ SUPPORTED LOAD MEDIA
- ONE OF THESE DPV-11 CONFIGURATIONS:

DPV11-DB  
DPV11-DA

### 1.3 RELATED DOCUMENTS AND STANDARDS

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



CVCLHC DPV-11 DATA COMM. LINK TEST MACY11 30A(1052) 23-MAR-82 16:43 PAGE 7  
CVCLHC.P11 22-MAR-82 11:09

#### 1.4 DIAGNOSTIC HIERARCY 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 DVP-11'S AT EACH END OF THE LINK HAVE ALREADY BEEN TESTED.

IF A WORKING CLOCK IS NOT 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 DPV-11'S, BUT TO TEST THE COMMUNICATION LINK TO WHICH THEY ARE CONNECTED.

SOME OF THE DIAGNOSTICS THAT COULD BE RUN IF EITHER OF THE DPV-11'S LOOK BAD:

CVDPVXX DPV-11 FCTNL DIAG  
CXDPVXX DPV-11 DECX MODULE  
XX= LATEST REVISION

#### 1.5 ASSUMPTIONS - RESTRICTIONS

IT IS ASSUMED THAT THE COMMUNICATIONS DEVICE (A DPV-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.

THIS DIAGNOSTIC DOES NOT RUN THE DPV IN BIT STUFF MODE  
IT IS ASSUMED THAT IF THE LINK WORKS IN CHAR MODE THE LINK WILL WORK IN BIT STUFF MODE.

THE DPV11 IS NOT A DMA DEVICE AND THUS MUST RELY ON THE SOFTWARE FOR SERVICE. THEREFORE THIS DCLT WILL NOT RUN WITH THE DPV AT ITS HIGH CLOCK SPEED OF 50KHZ. WITH DDCMP PROTOCOL ENABLED THE HIGHEST SPEED TO BE EXPECTED (LIMITED BY CPU) IS 9.6KB.



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 8

## 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 'DDDD'.

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



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 9

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					



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 10

### 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 STATISTICAL REPORTING)
IDR	INHIBIT PROGRAM DROPPING OF UNITS
ADR	EXECUTE AUTODROP CODE
LOT	LOOP ON TEST
EVL	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



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 11

## 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 XDP+ USER'S MANUAL). WHEN YOU ANSWER THIS QUESTION WITH A 'Y', THE RUNTIME SERVICES WILL ASK FOR THE NUMBER OF UNITS (IN DECIMAL).

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

# UNITS (D) ? 1<CR>

UNIT 0  
FULL DUPLEX OPERATION : (L) Y ?  
DPV CSR ADDRESS : (D) 160170 ?  
INTERRUPT VECTOR ADDRESS: (D) 300 ?  
REMOTE NODE "ITEP" : (L) N ?  
IS THIS A MULTIPOINT NETWORK: (L) N ?

THE FULL DUPLEX QUESTION SHOULD BE ANSWERED 'Y' WHEN USING FULL DUPLEX MODEMS, OR NULL MODEM, OR MODEM ELIMINATORS. ANSWER 'N' FOR HALF DUPLEX MODEMS.

REMOTE NODE ITEP SHOULD BE ANSWERED 'Y' IF OTHER NODE IS RUNNING SOFTWARE THAT IS USING "ITEP" FORMATS (I.E. PDP-11 RUNNING INTERPROCESSOR TEST PROGRAM (ITEP)) IF OTHER NODE IS ITEP THEN THE ABOVE "MULTIPOINT NETWORK" QUESTION WILL NOT APPEAR.

IF TO THE "MULTIPOINT NETWORK" QUESTION YOU RESPOND WITH "YES" THEN

ADDRESS THIS STATION: (D) A ?

WILL BE DISPLAYED. INPUT THE DECIMAL TRIBUTARY NUMBER (1-255) OF THIS DPV-11.

C. CLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 12

## 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 (OO'S) AND THEN PUTS DEFAULT ITEP MSG IN SO NOT REALLY EMPTY
CLEAR TRANSMITLIST	FILLS TRANSMITLIST (OOO'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	
=:ALT	
=OALT	
=ITEP	
=CCITT	
=ALPHA	
= 'A-Z,0-9,SPACES OR TABS IN QUOTES'	
WHERE THE OPTIONAL 'QUAL' IS:	



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 13

/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	TRANSMITMSG=TYPE/QUAL	DEFINE A MESSAGE TO BE PUT ON THE TRANSMIT LIST (SEE DESCRIPT FOR SET EXP)
SET	EXPECT=TRANSMIT	MAKES A COPY OF THE TRANSMIT LIST IN THE EXPECT LIST.
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 'RPT>'. FROM  
HERE YOU CAN EXAMINE THE  
EVENT LOG.

DUMP SSSSSS-EEEEEE/B

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

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.

CVCLHC [PV-11 DATA COMM LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 14

IS PRINTED IN WORD FORMAT.

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

### 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	(DOWN-LINE-LOADING IS NOT SUPPORTED FOR DPV-11 TO DPV-11 LINKS).

(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.
/LOOP=LTYPE	SPECIFIES WHICH, IF ANY, TYPE OF MAINTENANCE LOOPBACK IS BEING USED.



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 15

(IGNORED IN MODES OTHER THAN ACTIVE)  
MUST BE SPECIFIED EACH TIME ELSE NO  
LOOP IS USED.

'LTYPE' IS:

=INTERNALTTL LOOPS DATA INTERNAL TO USYNRT

=CABLE USE THIS FOR TESTING WITH H3260  
OR H3259 TURNAROUND CONNECTOR

NOTE: THIS SKIPS OVER THE CHECK  
FOR MODEM READY WHEN DTR IS SET.

=LOCALMODEM NOT USED BY DPV,,  
=REMODEM

/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.

/PROTOCOL ENABLES SUBSET OF DDCMP PROTOCOL - THE DPV CAN  
NOW COMMUNICATE WITH "INTELLIGENT" SYNCHRONOUS  
DEVICES THAT SUPPORT DDCMP PROTOCOL IN THEIR  
MICROCODE. (DMR,DMC,DMV OR DMP)

/NOPROTOCOL DISABLES DDCMP PROTOCOL - THE DPV NOW RUNS IN  
NON-PROTOCOL MODE. COMMUNICATION POSSIBLE ONLY  
BETWEEN DPV'S OR DUP TO DPV LINKS RUNNING DCLT.  
WHEN COMMUNICATING WITH AN ITEP PROGRAM ALWAYS  
SELECT NON-PROTOCOL MODE.

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

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 16

#### 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  
ZEROS - /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/NOMODEM/PASS=1/NOPROTOCOL

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/NOECHO/NOMODEM/CHECK  
/PASS=1/NOPROTOCOL

#### OTHER NOTES:

-----

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



CVCLHC DPV-11 DATA COMM. LINK TEST MACY11 30A(1052) 23-MAR-82 16:43 PAGE 17  
 CVCLHC.P11 22-MAR-82 11:09

### 2.5.5 PRINT COMMAND

THE PRINT COMMAND TAKES YOU TO THE REPORT LEVEL 'RPT>'.  
 THE COMMANDS AVAILABLE IN RPT> ARE ...

<u>COMMAND</u>	<u>DESCRIPTION</u>
HELP OR ?	PRINTS HELP INFORMATION FOR RPT>
EXIT	RETURNS YOU TO THE LEVEL THAT YOU ENTERED FROM. (DCLT> OR DR>)
LOG	PRINTS THE DCLT EVENT LOG
COUNTERS/FULL	PRINTS THE ENTIRE DDCMP STATISTICAL AND ERROR LOG. SEE SECTION 4.3
COUNTERS/ERRORS	PRINTS ONLY THE DDCMP ERROR LOCATIONS OF THE LOG.
COUNTERS/OFFSET=NN	PRINTS A SINGLE LOCATION OF THE LOG AS SPECIFIED BY THE OCTAL WORD OFFSET VALUE(NN).

NOTE:: THE DDCMP COUNTERS WILL BE DISPLAYED ONLY WITH PROTOCOL ENABLED(/PROTOCOL).

### 2.5.6 MISC COMMANDS

<u>COMMANDS</u>	<u>DESCRIPTION</u>
EXIT	FROM THE DCLT> LEVEL RETURNS YOU TO DR>
HELP OR ?	PRINTS HELP INFORMATION

CVCLHC DPV-11 DATA COMM. LINK TEST MACY11 30A(1052) 23-MAR-82 16:43 PAGE 18  
CVCLHC.P11 22-MAR-82 11:09

## 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 MODE=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.



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 19

### 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 CML-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.

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 20

- ? '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 THE TRANSMIT LIST AND EXPECT LIST MUST BE EQUAL. IF THEY ARE NOT THIS ERROR WILL BE DISPLAYED. USE 'SE E=T' COMMAND.

### 3.2.2 DCLT OR DEVICE ERRCR MESSAGES:

CLOCK NOT FOUND

THIS MEANS THAT NO CLOCK WAS FOUND ON THE SYSTEM THE DIAGNOSTIC WILL STILL RUN BUT NONE OF THE TIME OUT CONDITIONS WILL OCCUR

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

THIS MEANS THAT THE CLOCK FOUND ON THE SYSTEM 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

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 21

BUFFER IS FULL. NO MORE MESSAGES CAN BE  
ADDED TO THAT BUFFER.

BUFFER FULL - MSG. NOT BUILT !!

THIS MEANS THAT THE LAST MESSAGE YOU  
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 MESSAGE

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

RECVD=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



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 22

COMPARE COUNT= XXX RECEIVE COUNT= ZZZ

XXX= NUMBER OF BYTES IN THE COMPARE  
MESSAGE

ZZZ= NUMBER OF BYTES IN THE RECEIVED  
MESSAGE

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

MODEM STATUS CHANGES FOR THIS PASS WERE..

HARD CHANGES=XXXXX G' ITCHES=XXXXX

WHERE XXXXX IS A 5 DIGIT DECIMAL NUMBER  
THIS MSG IS ONLY PRINTED IF NUMBER OF  
EITHER HARD CHANGES OR GLITCHES IS  
GREATER THAN 0. A HARD CHANGE IS ONE  
WHERE THE DPV WAS ABLE TO LATCH UP A  
DIFFERENCE IN THE MODEM STATUS. A  
GLITCH IS WHEN A MODEM STATUS INTERRUPT  
OCCURS BUT THE DPV CANNOT FIND A  
DIFFERENCE IN STATUS BIT.

\*\*\*\*\*

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

MASTER RESET DID NOT WORK

RXCSR TXCSR  
XXXXXX XXXXXXXX

THIS MEANS THAT AFTER A MASTER  
RESET WAS ISSUED TO DPV THE  
RXCSR REGISTER WAS NON ZERO.

NO CLEAR TO SEND FROM MODEM

RXCSR TXCSR  
XXXXXX XXXXXXXX

WHEN REQUEST TO SEND SIGNAL  
IS SET MODEM DOES NOT RESPOND  
WITH CLEAR TO SEND

TIME OUT WAITING FOR RX OR TX TO COMPLETE

RXCSR TXCSR  
XXXXXX XXXXXXXX

THIS USUALLY MEANS AN OPEN  
COMMUNICATION LINK.

MODEM DID NOT RETURN MODEM READY

RXCSR TXCSR  
XXXXXX XXXXXXXX

MODEM DID NOT RESPOND WITH  
MODEM READY(MR).

CRC IN ERROR

RDSR RXCSR  
XXXXXX XXXXXXXX

CRC ERROR DETECTED BY HARDWARE  
IN INCOMING MESSAGE.

RECEIVER OVERRUN

RDSR RXCSR  
XXXXXX XXXXXXXX

RECEIVER WASN'T SERVICED FAST  
ENOUGH(SOFTWARE) TO PREVENT  
A CHARACTER FROM BEING LOST.

TIMED OUT IN START,STACK ACK SEQ

THIS USUALLY MEANS THAT THE DPV

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 23

RDATA  
XXXXXXX

SDATA  
XXXXXXX

IS UNABLE TO ESTABLISH A  
CONNECTION WITH THE OTHER  
DEVICE BEING TESTED. SEE DDCMP  
SPEC. FOR EXPLANATION OF  
STARTUP SEQUENCE.

#### 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  
INPUT THE 'LOG' COMMAND. THE EVENTS ARE PRINTED IN A 'LAST-IN  
FIRST-OUT' ORDER.

EVENT TIME IS TYPED OUT AS MM:SS:TT (LIKE 254:36:07) WHERE MM,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 AVAILIABLE 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.

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 24

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  
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,  
AND THE 'STRT-TO'(COUNT OF START TIME OUTS).

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 25

#### 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

NOTE:: BECAUSE THE DPV IS AN INTERRUPT DRIVEN DEVICE, IT IS BEST TO DISABLE STATUS TO PREVENT OVERRUN ERRORS.(AT HIGH SPEEDS)



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 26

#### 4.3 PRINTING DDCMP STATISTICAL AND ERROR LOG

IF YOU ARE RUNNING THIS PROGRAM WITH DDCMP PROTOCOL ENABLED, YOU CAN EXAMINE (VIA 'RPT>' COMMAND) DDCMP STATISTICAL AND ERROR COUNTERS TO GET A BETTER UNDERSTANDING OF WHAT IS HAPPENING ON THE LINK. FOR A FULL DESCRIPTION OF THESE COUNTERS SEE (DIGITAL DATA COMMUNICATION MESSAGE PROTOCOL) SPECIFICATION VERSION 4.1.

BELOW IS A BRIEF DESCRIPTION OF EACH COUNTER. THE MOST IMPORTANT OF THESE ARE DATA MESSAGES SENT/RECEIVED AND DATA ERRORS IN/OUT.

<u>OCTAL #</u>	<u>MESSAGE</u>	<u>MEANING</u>
000000	STATUS FLAGS	USED ONLY IN SOFTWARE DEVELOPMENT.
000000	DATA MSGS TX	# MESSAGES TX'ED DURING THE TEST. RESET TO ZERO AT START OR RESTART. LATCHES AT -1.
000000	DATA MSGS RX	# MESSAGES RX'ED DURING THE TEST. RESET TO ZERO AT START OR RESTART. LATCHES AT -1.
000	HIGHEST MSG TX	MODULO 255 COUNTER. HIGHEST MESSAGE # SENT AND ACK'ED BY REMOTE STATION.
000	HIGHEST MSG ACK	MODULO 255 COUNTER. HIGHEST MESSAGE # RX'D BY REMOTE NODE. (WITH NO ERRORS)
000	NEXT MSG # TO TX	MODULO 255 COUNTER. ALWAYS 1 GREATER THEN CURRENT MESSAGE NUMBER BEING SENT.
000	LAST MSG # TX'ED	MODULO 255 COUNTER. ALWAYS SAME AS HIGHEST # SENT.
000	HIGHEST MSG# RX	NUMBER OF LAST MESSAGE RX'ED AND ACK'ED.
000	TRIB ADDR	IF MULTIPOINT THEN ADDRESS THIS STATION.
000	REMOTE TIME OUTS	MODULO 255 COUNTER. REPLY RECEIVED AND ACK'ED.
000	GLOBAL CRC ERRORS	IF MULTIPOINT NETWORK-CRC ERRORS DETECTED.
000	NAK REASON	REASON FOR SENDING LAST NAK.
000	SEL THRESH ERRS	HALF/DUPLEX ONLY. SELECT TIME OUTS.
000	RX THRESH ERRS	INCREMENTED WHEN ERROR DETECTED IN INCOMING MESSAGE. (MODULO 8 COUNTER) RESET WHEN GOOD MESSAGE RECEIVED.
000	TX THRESH ERRS	INCREMENTED WHEN NAK RECEIVED. RESET WHEN ACK RECEIVED. (MODULO 8 COUNTER)

CVCLHC DPV-11 DATA COMM. INK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 27

000	DATA ERRORS OUT	NAKS RECEIVED BECAUSE OF HEADER CRC ERROR OR DATA CRC ERRORS OR MESSAGE NOT RECEIVED AT ALL(REP). INDICATES NOISE ON TRANSMIT LINE.
000	DATA ERRORS IN	NAKS SENT BECAUSE HEADER CRC ERROR OR DATA CRC ERROR DETECTED IN INCOMING MESSAGE. MESSAGE TAKING NOISE HITS.
000	LOCAL BUFFER ERRS	EITHER NO BUFFER WAS AVAILABLE FOR INCOMING MESSAGE OR BUFFER THAT WAS AVAILABLE WAS TOO SMALL FOR INCOMING MESSAGE. USUALLY A SOFTWARE SPEED PROBLEM.
000	REMOTE BUFFER ERRS	SAME AS LOCAL BUT BUFFER PROBLEMS AT REMOTE STATION.
000	REMOTE STA ERRS	RX OVERRUN ERRORS(RX WASN'T SERVICED FAST ENOUGH) OR IF FORMAT ERROR A CRC EXISTED AND WASN'T DETECTED BY HARDWARE.
000	LOCAL STA ERRS	SAME AS REMOTE STATION ERRORS.
000	TX / RX THRESH ERR	OVERFLOW FROM RX OR TX THRESHOLD COUNTERS. INDICATES A PERSISTENT LINK PROBLEM THAT ISN'T CORRECTED AFTER 7 RETRIES.

CVCLHC DPV-11 DATA COMM. LINK TEST MACY11 30A(1052) 23-MAR-82 16:43 PAGE 28  
 CVCLHC.P11 22-MAR-82 11:09

## 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] SPARE
.WORD	0	:[10] PT-PT =0 MULTIPOINT = 1
.WORD	1	:[12] TRIB ADDRESS THIS STATION
.WORD	0	:[14] REMOTE NODE 'ITEP'

## 6.0 MODE AND MESSAGE DESCRIPTIONS

### 6.1 MODE DESCRIPTIONS

THE FOLLOWING MODE DESCRIPTIONS REFER TO MESSAGE LISTS BEING TRANSMITTED AND RECEIVED. BE AWARE THAT OTHER DATA IS ALSO SENT WITH THE MESSAGE. ALL MESSAGES ARE PRECEDED BY SYNC CHARACTERS(ITEP = 026)(PROTOCOL = 226). ITEP MESSAGES CONTAIN NO CRC CHARACTERS. NON-ITEP MESSAGES ARE ENCLOSED IN A DDCMP ENVELOPE. WITH PROTOCOL ENABLED CONTROL MESSAGES(ACK,NAK,...) ALSO APPEAR ON THE LINK.

#### 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.

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 29

### 6.1.3 PASSIVE MODE

THEN 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

DOWN-LINE-LOADING IS NOT SUPPORTED FOR DPV-11 TO DPV-11 LINKS.

### 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                      LOOPS DATA INTERNAL TO THE USYNRT

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):

HALF DUPLEX START	STATION A 'HOST' NODE	"/LOOP" ALLOWED?	STATION B 'REMOTE' NODE	DUPLEX
B	TALK	NO	LISTEN*, RECEIVE	HALF OR FULL
A	LISTEN	NO	TALK*, TRANSMIT	HALF OR FULL
B	TRANSMIT	NO	RECEIVE*, LISTEN	HALF OR FULL
A	RECEIVE	NO	TRANSMIT*, TALK	HALF OR FULL
A	PASSIVE	NO	ACTIVE*	HALF OR FULL
-NA-	ACTIVE	YES	ACTIVE*	FULL
B	ACTIVE	YES	PASSIVE*	HALF OR FULL
-NA-	DOWNLINELOAD	** DOWN-LINE-LOADING IS NOT SUPPORTED FOR DPV-11 TO DPV-11 LINKS.		

\*= MOST LIKELY TO BE IN THAT MODE

NOTE: H/D START COLUMN INDICATES WHICH NODE TO START FIRST ON A HALF DUPLEX LINK

IF PROTOCOL IS SELECTED THE HALF DUPLEX START COLUMN CAN BE IGNORED.

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 31

## 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 / [ \ ] ^ _ ` )
OPERATOR-SPECIFIED	"A-Z, 0-9, SPACES, TABS" THESE ARE THAT THE CHARACTERS THAT CAN BE TYPED BETWEEN QUOTATION MARKS ("..") TO SPECIFY A UNIQUE MESSAGE.

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 32

7.0 OTHER INFORMATION

7.1 INTERFACING TO AN "ITEP" NODE

THESE ARE THE RULES WHEN USING ITEP/WITH A DUP TO TALK TO A DPV USING DCLT.

ITEP NODE	DCLT NODE
-----------	-----------

ANSWER ALL QUESTION TO THE SET SWITCHES PROMPT.

ANSWER ALL QUESTIONS TO THE DCLT> PROMPT.

\*\*\*\*\*

FOR ONE WAY OUT.  
SET SWITCHES TO 1221

CLEAR EXPECTED  
SET E=ITEP/S=56  
RUN MODE=REC/STATUS/CHECK/NPR

NOTE: DUP ITEP SENDS ONLY 56 CHARS

\*\*\*\*\*

FOR ONE WAY IN.....

SET SWITCHES TO ....1222

RUN MODE=TRA/STATUS/NPR

\*\*\*\*\*

FOR EXTERNAL LOOPBACK....

SET SWITCHES.....1224

CLEAR EXPECTED  
SET EXP=ITEP/S=56  
RUN MODE=ACTIVE/STATUS/CHECK/NPR

\*\*\*\*\*

FOR INTERNAL LOOPBACK.....

SET SWITCHES.....1260

CLEAR EXPECTED  
SET EXP=ITEP/S=56  
RUN MODE=ACTIVE/STATUS/CHECK/NPR

\*\*\*\*\*

NOTE: DO NOT USE SWITCH 8 WITH ITEP GOING TO DCLT  
THE ONLY MESSG. DCLT SUPPORTS IS MSG 1.  
DCLT IGNORES CRC ERRORS WHEN REC DATA FROM ITEP  
BECAUSE ITPE SENDS NO CRC.  
REMEMBER WHEN YOU ARE COMMUNICATING WITH AN "ITEP" NODE  
ALWAYS DISABLE('/NOPROTOCOL').

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 33

## 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.

EVEN IF YOU ARE CHECKING OUT DPV TO DPV LINKS, IT IS A GOOD IDEA TO ENABLE PROTOCOL. BY EXAMINING THE DDCMP STATISTICAL AND ERROR LOG, YOU CAN GET A BETTER PICTURE OF WHAT IS HAPPENING ON THE LINK.

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.

### 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
```



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 34

DCLT> (A) ? /STATUS/NOHECK/NOECHO/NOMODEM/NOPROTUCOL

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 MESS. GES WILL HAVE ALL ONES FOR DATA AND BE 20 BYTES EACH IN LENGTH. 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 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/LOOP=INTERNAL/PASS=00000
/STATUS/CHECK/NOECHO/NOMODEM/NOPROTOCOL
```

IF A CABLE TURNAROUND CONNECTOR IS AVAILABLE, PUT IT ON THE END OF THE CABLE JUST BEFORE THE MODEM OR IF A H3260(RS-423) ON BOARD CONNECTOR IS AVAILABLE INSTALL IT AND RUN IN ACTIVE MODE WITH THE '/LOOP=CABLE' SWITCH.  
POSSIBLE COMMAND SEQUENCE IS:

```
R M=A/L=C/CH/PAS=3
```

WHAT THIS SEQUENCE MEANS:

THIS SEQUENCE HAS THE '/LO=C'. THIS INFORMS THE SOFTWARE NOT TO CHECK FOR DATA SET READY SIGNAL FROM THE MODEM.

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 35

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/LOOP=CABLE/PASS=00000
/STATUS/CHECK/NOECHO/NOMODEM/NOPROTOCOL
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	NODE B
-----	-----
C E	C E
C T	C T
SE T=1ALT/S=250	R M=R/NOCH/PAS=3
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/NOPROTOCOL
DCLT> (A) ?
```

FOR NODE B:

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

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 36

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=0000
/STATUS/CHECK/NOECHO/NODEM/NOPROTOCOL
DCLT> (A)?

```

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 ONE 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
-----
C E
C T
SE T=CCITT/S=10/C=2
R M=ACT/NOCH/PAS=3

NODE B
-----
C E
C T
SE T=1ALT/S=20/C=2
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 A.D 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

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 37

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 RXQ TXQ TXC RXQ
TXQ TXC EOP RXQ TXQ TXC RXQ TXQ
TXC RXQ TXQ TXC EOP RXQ TXQ TXC
RXQ TXQ TXC RXQ TXQ TXC EOP
MODE=ACTIVE/PASS=00000
/STATUS/NOCHECK/NOECHO/NOMODEM/NOPROTOCOL
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
RXQ TXQ TXC EOP
MODE=PASSIVE/PASS=00000
/STATUS/NOCHECK/NOECH 'NOMODEM/NOPROTOCOL
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=OALT/S=10	SE E=OALT/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



CVCLHC DPV-11 DATA COMM. LINK TEST MACY11 30A(1052) 23-MAR-82 16:43 PAGE 38  
 CVCLHC.P11 22-MAR-82 11:09

R M=A/CH/NOST/PAS=3 R M=A/CH/NOST/PAS=3

#### WHAT THIS SEQUENCE MEANS:

NODE A SETS UP IS 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/NOPROTOCOL

DCLT> (A) ?

A GOOD VARIATION THAT COULD BE TRIED IS TO LOAD THE TRANSMIT LIST AND EXPECT LIST WITH A LARGE MESSAGE(512 CHARACTERS),ENABLE PROTOCOL AND RUN MANY PASSES. SET BOTH ENDS THE SAME.

DCLT> (A) ? CL T  
 DCLT> (A) ? CL E  
 DCLT> (A) ? SE T=CCITT/size=512  
 DCLT> (A) ? SE E=T  
 DCLT> (A) ? R M=A/PA=255/PR/CH/NST

#### 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

CVCLHC DPV-11 DATA COMM. LINK TEST MACY11 30A(1052) 23-MAR-82 16:43 PAGE 39  
 CVCLHC.P11 22-MAR-82 11:09

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

SUCH AS THE SHOW EXPECT LIST. WHAT YOU WOULD SEE IS

SH E  
 MSG: TYPE=ITEP/SIZE=58  
 MODE=ACTIVE/PASS=00001  
 /NOSTATUS/CHECK/NOECHO/NOMODEM/NOPROTOCOL

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/NOPROTOCOL

DCLT> (A) ?

### 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,1ALT,0ALT,ITEP,CCITT,ALPHA

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

RUN MODE=MTYP/LOOP=LTP/CHECK,PROTOCOL,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

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.F11 22-MAR-82 11:09

MACY.1 30A(1052) 23-MAR-82 16:43 PAGE 40

```
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=0000  
/NOSTATUS/CHECK/NOECHO/NOMODEM/NOPROTOCOL

```
DCLT> (A) ?
IF YOU WERE TO EXECUTE THE RUN COMMAND
C
E
C
T
R M=A/LO-I/ST/CH/PAS=3/PIR
WHAT YOU WOULD SEE (IF USING DEFAULT TRANSMIT AND EXPECT
MESSAGES) IS
INI RXQ TXQ TXC CMP EOP RXQ IXQ
TXC CMP EOP RXQ TXQ TXC CMP EOP
MODE=ACTIVE/LOOP=INTERNAL/PASS=0000
/STATUS/CHECK/NOECHO/NOMODEM/PROTOCOL
```

DCLT> (A) ?

IF YOU USE THE EXIT COMMAND  
EXIT  
WHAT YOU WOULD SEE IS  
CVCLH EOP  
0 CUMULATIVE ERRORS

DR>

### 7.3.4 EXAMPLES PRINT COMMANDS

THE PRINT COMMAND CAN BE USED FROM THE SUPERVISOR (DR>) LEVEL OR THE DCLT (DCLT>) LEVEL ONCE YOU ARE AT THE REPORT LEVEL YOU WILL KNOW IT BY THE PROMPT 'RPT>'. AFTER TYPING PRI FOR EITHER THE DCLT> OR DR> THE FOLLOWING IS DISPLAYED.

```
TYPE 'M' OR '?' FOR HELP!
RPT> (A) ?
```

HERE ARE SOME EXAMPLES OF RPT> LEVEL COMMANDS:



CVCLHC DPV-11 DATA COMM. LINK TEST MACY11 30A(1052) 23-MAR-82 16:43 PAGE 42  
CVCLHC.P11 22-MAR-82 11:09

EXIT  
WILL RETURN YOU TO THE DCLT LEVEL.  
DCLT>

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 43

#### 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. ALSO DISABLE DATACHECKING('/NOCHECK').

BEWARE THAT THIS DCLT WILL NOT RUN THE DPV11 AT ITS HIGH CLOCK SPEED OF 50KHZ SINCE THE SOFTWARE IS NOT ABLE TO KEEP UP WITH THIS SPEED.

IF YOU ARE RUNNING HALF-DUPLEX IT IS BEST TO USE THE '/NOMODEM' SWITCH BECAUSE EVERY TIME THE LINE IS TURNED-AROUND A MODEM CHANGE WILL BE REPORTED.

IF YOU ARE RUNNING WITH PROTOCOL SELECTED THE MODEM STATUS AS REPORTED IN THE EVENT LOG MAY NOT INDICATE THE TRUE CONDITION OF THE MODEM SIGNALS. THIS IS BECAUSE THE EVENT IS LOGGED BEFORE THE MESSAGE IS PASSED TO THE DDCMP PROTOCOL LAYER WHERE THE RX,TX AND MODEM SIGNALS ARE MANIPULATED.



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 44

1940		
1941		
1942		
1943		
1944		
1945		
1946	002000	
1947		
1948		
1949		
1950		
1951		
1952		
1953		
1954		
1955		
1956		
1957	002000	
1958		
1959		
1960		
1961		
1962		
1963	002000	
1964	002000	
1965	002000	103
1966	002001	126
1967	002002	103
1968	002003	114
1969	002004	110
1970	002005	000
1971	002006	000
1972	002007	000
1973	002010	
1974	002010	103
1975	002011	
1976	002011	060
1977	002012	
1978	002012	000000
1979	002014	
1980	002014	003410
1981	002016	
1982	002016	046250
1983	002020	
1984	002020	000000
1985	002022	
1986	002022	002130
1987	002024	
1988	002024	000000
1989	002026	
1990	002026	046636
1991	002030	
1992	002030	000000
1993	002032	
1994	002032	000000
1995	002034	

.SBTTL PROGRAM HEADER  
BGNMOD

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

POINTER BGNRPT,BGNAU,BGNDU

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

LSNAME::  
  .ASCII /C/  
  .ASCII /V/  
  .ASCII /C/  
  .ASCII /L/  
  .ASCII /H/  
  .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

LSSTA::  
  .WORD 0

LSCO:  
  .WORD 0

LSDTYP::  
  .WORD 0

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 45  
PROGRAM HEADER

1996	002034	000000
1997	002036	
1998	002036	000000
1999	002040	
2000	002040	002124
2001	002042	
2002	002042	000340
2003	002044	
2004	002044	000000
2005	002046	
2006	002046	000000
2007	002050	
2008	002050	003
2009	002051	003
2010	002052	
2011	002052	000000
2012	002054	000000
2013	002056	
2014	002056	000000
2015	002060	
2016	002060	011526
2017	002062	
2018	002062	025334
2019	002064	
2020	002064	000000
2021	002066	
2022	002066	000000
2023	002070	
2024	002070	026332
2025	002072	
2026	002072	026324
2027	002074	
2028	002074	000000
2029	002076	
2030	002076	011536
2031	002100	
2032	002100	104035
2033	002102	
2034	002102	000000
2035	002104	
2036	002104	025350
2037	002106	
2038	002106	026236
2039	002110	
2040	002110	026234
2041	002112	
2042	002112	025342
2043	002114	
2044	002114	000000
2045	002116	
2046	002116	000000
2047	002120	
2048	002120	000000
2049		

LSAPT::	.WORD	0
LSDTP::	.WORD	0
LSPRIO::	.WORD	LSDISPATCH
LSENV1::	.WORD	#PRI07
LSEXP1::	.WORD	0
LSMREV::	.WORD	0
	.BYTE	CSREVISION
	.BYTE	CSREDIT
LSEF::	.WORD	0
	.WORD	0
LSSPC::	.WORD	0
LSDEVP::	.WORD	0
LSREPP::	.WORD	LSDVTYP
LSEXP4::	.WORD	LSRPT
LSEXP5::	.WORD	0
LSAUT::	.WORD	0
LSAUT::	.WORD	LSAU
LSDUT::	.WORD	LSDU
LSLUN::	.WORD	0
LSDESP::	.WORD	0
LSLOAD::	.WORD	LSDESC
LSETP::	EMT	ESLOAD
LSICP::	.WORD	0
LSCCP::	.WORD	LSINIT
LSACP::	.WORD	LSCLEAN
LSAPT::	.WORD	LSAUTO
LSPT::	.WORD	LSPROT
LSTEST::	.WORD	0
LSDLY::	.WORD	0
LSHIME::	.WORD	0
	.WORD	0

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 46  
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.  
:--

2050		
2051		
2052		
2053		
2054		
2055		
2056		
2057	002122	
2058	002122	000001
2059	002124	
2060	002124	026340
2061		

DISPATCH 1

	.WORD	1
LSDISPATCH::		
	.WORD	T1

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 47  
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.  
:--

2062  
2063  
2064  
2065  
2066  
2067  
2068  
2069  
2070  
2071 002126  
2072 002126 000010  
2073 002130  
2074 002130  
2075  
2076  
2077  
2078  
2079  
2080  
2081  
2082 002130 000001  
2083  
2084  
2085  
2086  
2087  
2088  
2089  
2090 002132 160170  
2091 002134 000300  
2092 002136 000240  
2093 002140 000000  
2094 002142 000001  
2095 002144 000000  
2096 002146 000000  
2097  
2098  
2099 002150  
2100 002150

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] SPARE  
.WORD 0 ;[10] PT-PT = 0 MULTIPPOINT = 1  
.WORD 1 ;[12] TRIB ADDRESS THIS STATION  
.WORD 0 ;[14] OTHER NODE "ITEP"  
.WORD 0 ;[16] SPARE

ENDHW

L10000:

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 48  
DEFAULT HARDWARE P-TABLE

2101  
2102  
2103  
2104  
2105  
2106  
2107  
2108  
2109  
2110  
2111  
2112  
2113  
2114  
2115  
2116  
2117  
2118  
2119  
2120  
2121  
2122  
2123  
2124  
2125  
2126  
2127  
2128  
2129  
2130  
2131  
2132  
2133  
2134  
2135  
2136  
2137  
2138  
2139  
2140  
2141  
2142  
2143  
2144  
2145  
2146  
2147  
2148  
2149  
2150  
2151  
2152  
2153  
2154  
2155  
2156

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

CVCLHC DPV-11 DAT: COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 49  
GLOBAL EQUATES SECTION

```

2157
2158          :
2159          : PRIORITY LEVEL DEFINITIONS
2160          :
2161          : PRI07== 340
2162          : PRI06== 300
2163          : PRI05== 240
2164          : PRI04== 200
2165          : PRI03== 140
2166          : PRI02== 100
2167          : PRI01== 40
2168          : PRI00== 0
2169          :
2170          : OPERATOR FLAG BITS
2171          :
2172          : LVL ==      4
2173          : LOT ==     10
2174          : ADR ==     20
2175          : IDU ==     40
2176          : ISR ==    100
2177          : UAM ==    200
2178          : BOE ==    400
2179          : PNT ==   1000
2180          : PRI ==   2000
2181          : IXE ==   4000
2182          : IBE ==  10000
2183          : IER ==  20000
2184          : LOE ==  40000
2185          : HOE == 100000

```



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 50  
GLOBAL EQUATES SECTION

```

2186
2187
2188          001000
2189
2190          000017
2191
2192
2193
2194
2195
2196
2197          000000
2198          000001
2199          000002
2200          000003
2201          000004
2202          000005
2203          000006
2204
2205          000000
2206          000001
2207          000002
2208          000003
2209          000004
2210          000005
2211
2212
2213
2214          000100
2215          000111
2216          001600
2217
2218
2219
2220          000001
2221          000002
2222          000004
2223          000010
2224          000020
2225          000040
2226          000100
2227          000200
2228
2229
2230
2231
2232          000000
2233
2234
2235
2236          000000
2237          000002
2238          000004
2239          000006
2240          000010
2241          000012

:***** INDEPENDENT EQUATES
          BUFLIM=512.
          MSGLIM=15.

:MODE OF OPERATION EQUATES
          REC=0
          TRA=1
          PAS=2
          ACT=3
          DOW=4
          TAL=5
          LIS=6
:MAINT LOOP TYPE EQUATES
          NONE= 0
          TTL= 1
          CABLE= 2
          MODLOC= 3
          MODREM= 4
          MOP= 5

:CLOCK ENABLE VALUES TO BE LOADED IN CLK'S CSR
          LCLKEN= 100
          PCLKEN= 111
          PCLKCT= 1600

:PARAM WORD EQUATES
          STATB= BIT0
          DATCKB= BIT1
          ECHOB= BIT2
          MOCHK= BIT3
          CRCB= BIT4
          PROTOB= BIT5
          PRORUN= BIT6
          ABORT= BIT7

:OPTION TYPE EQUATES
          DPV= 0 ;CODE FOR DPV CHAR MODE

:EVENT LOG MESSAGE TYPES (USED TO LOCATE EVENT DESCRIPTION IN EVENT TABLE
: AND DISPATCHING TO SEPERATE SECTIONS OF THE EVENT REPORTING SECTION)
          TXQ= 0 ;TRANSMIT MESSAGE QUEUED
          TXC= 2 ;TRANSMIT COMPLETE
          RXQ= 4 ;RECEIVE BUFFER QUEUED
          RXC= 6 ;RECEIVE COMPLETE
          DER= 10 ;DEVICE INFORMATION
          DVI= 12 ;DEVICE ABOUT TO INIT

:MAX BUFFER SIZE IN BYTES
: APPLIES TO TX,RX AND CMP BUFFS
:MAX NO. OF MESSAGES PER BUFFER
: (FOR EACH INCREMENT (+1) TO MSGLIM,
: ADD 6 WORDS TO THE POINTER TABLE
: (PTRTAB:) SINCE THIS MEANS 2 MORE
: 'POINTER' WORDS PER BUFFER.

:RECEIVE MODE
:TRANSMIT MODE
:PASSIVE MODE
:ACTIVE MODE
:DOWN-LINE-LOAD MODE
:TALK MODE
:LISTEN MODE

:NO LOOP
:INTERNAL TTL
:CABLE LOOP
:MODEM LOCAL
:MODEM REMOTE
:MOP

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 51  
GLOBAL EQUATES SECTION

```

2242      000014      DCK=      14      ;DATA COMPARISON RESULTS
2243      000016      MSC=      16      ;MODEM STATUS CHANGE
2244      000020      DLE=      20      ;DATA COMPARISON LENGH ERROR
2245      000022      DDE=      22      ;DATA COMPARISON DATA ERROR
2246      000024      EOP=      24      ;END OF PASS
2247      000026      ABO=      26      ;^C ABORT
2248
2249      ;EQUATES FOR FLAG WORD
2250
2251      000001      ININT=     BIT0      ;INPUT INT. REC.
2252      000002      OTINT=     BIT1      ;OUTPUT INT REC
2253      000004      QRX=      BIT2      ;RX QUED /COMPL
2254      000010      QTX=      BIT3      ;TX QUED/COMPL
2255      000100      ERX=      BIT6      ;EXPECT TO GET A RX COMPLETED
2256      000200      ETX=      BIT7      ;EXPECT TO GET A TX COMPLETED
2257
2258
2259      000020      TXM=      BIT4      ;INDICATES TO TX INTERRUPT ROUTINE
2260      ;THAT IT IS TIME TO TRANSMIT BODY OF MSG.
2261      000040      RXM=      BIT5      ;INDICATES TO RX INTERUPPT ROUTINE
2262      ;THAT IT IS TIME TO REC MSG BODY
2263      000400      BCC=      BIT8      ;TIME FOR CRC CHECK.
2264
2265      001000      PAD=      BIT9      ;INDICATES THAT PAD MUST BE SENT
2266
2267      002000      INOVR=    BIT10     ;INIT OVER
2268
2269      004000      FIRST=    BIT11     ;FIRST TIME FOR CTS
2270
2271      ; SPECIAL CLI CODES FOR "CHAR" ARGUMENT IN CLI CALLS
2272      ; (COMMAND LINE INTERPRETER DEFINITIONS)
2273      000000      CLIERR= 0
2274      000001      CLIEXI= 1
2275      000002      CLIBR= 2
2276      000003      CLIBIF= 3
2277      000004      CLISPA= 4
2278      000005      CLINUM= 5
2279      000006      CLIALP= 6
2280      000007      CLIALN= 7
2281      000010      CLIOCT= 8.
2282      000011      CLIDEC= 9.
2283      000012      CLISTR= 10.
2284
2285      ; DEFS FOR COMMAND LINE INTERPRETATION ACTION VALUES
2286      000000      NULL=0
2287      000001      CLEAR=1
2288      000002      SHOW=2
2289      000003      CHECK=3
2290      000004      RUN=4
2291      000005      HLP=5
2292      000006      CSHEXP=6
2293      000007      CSHTRN=7
2294      000010      SETEXP=10
2295      000011      SETTRN=11
2296      000012      SIZE=12
2297      000013      QCOPY=13

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 52  
GLOBAL EQUATES SECTION

2298 000014  
2299 000015  
2300 000016  
2301 000017  
2302 000020  
2303 000021  
2304 000022  
2305 000023  
2306 000024  
2307 000025  
2308 000026  
2309 000027  
2310 000030  
2311 000031  
2312 000032  
2313 000033  
2314 000034  
2315 000035  
2316 000036  
2317 000037  
2318 000040  
2319 000041  
2320 000042  
2321 000043  
2322 000044  
2323 000045  
2324 000046  
2325 000047  
2326 000050  
2327 000051  
2328 000052  
2329 000053  
2330 000054  
2331 000055  
2332 000056  
2333 000057  
2334 000060  
2335  
2336 000001  
2337 000002  
2338 000003  
2339 000004  
2340 000005  
2341 000006  
2342 000007  
2343  
2344  
2345  
2346  
2347  
2348  
2349  
2350 020000  
2351 001000  
2352 010000  
2353 000004

NUM=14  
OPRMSG=15  
STATUS=16  
ENDQ0=17  
CMG0=20  
CMG1=21  
CMG2=22  
CMG3=23  
CMG4=24  
CMG5=25  
CMG6=26  
ATVMOD=27  
PASM0D=30  
RECM0D=31  
LISM0D=32  
DLLM0D=33  
TRAM0D=34  
TALM0D=35  
NO=36  
ECHO=37  
CRC=40  
PROTO=41  
PASC=42  
MOP=43  
TTLLOP=44  
CBLLOP=45  
LMDLOP=46  
RMDLOP=47  
NOTNUF=50  
BADCPA=51  
DMP3=52  
DMP4=53  
D4PQ=54  
RNT=55  
MOSC=56  
EXIT=57  
SETET=60  
RPHLP=1  
RPEXT=2  
RPLOG=3  
RPERR=4  
RPFUL=5  
RNOTNF=6  
RPSWO=7

:REV B BY EC  
:REV B BY EC  
:REV B BY EC  
: 'COUNTER/ERROR'  
: 'COUNTER/FULL'  
: MORE COMMAND NEEDED  
: VALIDATE OFFSET

: FOLLOWING EQUATES USED IN REPORT CLI ; REV B EC

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

: CLEAR TO SEND (CIRCUIT CB)  
: DATA SET READY (CIRCUIT CC)  
: DATA CARRIER DETECT (CIRCUIT CF)  
: REQUEST TO SEND (CIRCUIT CA)

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 53  
GLOBAL EQUATES SECTION

2354	040000	RI=	BIT14	:RING INDICATOR (CIRCUIT CE)
2355	000040	SQD=	BIT5	:SIGNAL QUALITY DETECT (CIRCUIT CG)
2356	000040	TM=	BIT5	:MODEM IN TEST MODE (RS 449 ONLY CIRCUIT TM)
2357				
2358				
2359				
2360				
2361	000002	: DEVICE SIGNALS		:DATA TERMINAL READY
2362	000020	DTR=	BIT1	:RECEIVER ENABLE
2363	000040	RXENA=	BIT4	:DATA SET CHANGE ENABLE
2364	000100	DSITEN=	BIT5	:REC INT. ENABLE
2365	000200	RINTEN=	BIT6	:REC DATA READY
2366	002000	RDATRY=	BIT7	:REC STATUS READY
2367	004000	RSTARY=	BIT10	:REC ACTIVE
2368	000001	RXACT=	BIT11	:MASTER RESET
2369	000002	RESET=	BIT0	:TX ACTIVE
2370	000004	TXACT=	BIT1	:TX BUFFER EMPTY
2371	000010	TBMT=	BIT2	:TTL LOOP BIT
2372	000020	ITLL=	BIT3	:TX ENABLE
2373	000100	TXENA=	BIT4	:TX INT ENABLE
2374	000400	TINTEN=	BIT6	:TX START OF MSG.
2375	001000	TSOM=	BIT8	:TX END OF MSG.
2376	100000	TEOM=	BIT9	:TX ERROR
2377	100000	TERR=	BIT15	:REC OVER RUN
2378	000226	RERR=	BIT15	:SYNC WORD
2379	100000	SYN=	226	:CRC CHECKED GOOD
2380	004000	CRCOK=	BIT15	:RECEIVER OVERRUN ERROR
2381		RXOVER=	BIT11	

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 54  
GLOBAL DATA SECTION

2382  
2383  
2384  
2385  
2386  
2387  
2388  
2389  
2390  
2391  
2392  
2393  
2394  
2395  
2396  
2397  
2398  
2399  
2400  
2401  
2402  
2403  
2404  
2405  
2406  
2407  
2408  
2409  
2410  
2411  
2412  
2413  
2414  
2415  
2416  
2417  
2418  
2419  
2420  
2421  
2422  
2423  
2424  
2425  
2426  
2427  
2428  
2429  
2430  
2431  
2432  
2433  
2434  
2435  
2436  
2437

002150  
002150 000001  
002152 000001  
002154 000001  
002156 000001  
002160 000100  
002162 000072  
002164 000101  
002166 000000  
002170 000001  
  
002172  
002172 002214  
002174 002215  
002176 002216  
002200 002217  
002202 002220  
002204 002320  
002206 002412  
002210 002520  
002212 002642  
  
002214 000  
002215 377  
002216 252  
002217 125  
  
002220 177603 157427 031011  
002226 047321 163715 105221  
002234 143325 142304  
002240 040041 014116 052606  
002246 172334 105025 123754  
002254 111337 111523  
002260 030030 145064 137642  
002266 143531 063617 135075  
002274 066730 026575  
002300 052012 053627 070071  
002306 151172 165044 031605  
002314 166632 016741  
002320

```
.SBTTL GLOBAL DATA SECTION
.SBTTL DEFAULT MESSAGE DEFINITIONS AND TABLES

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

:MESSAGE BYTE COUNT TABLE

DMSGCT:
MSG0C: .WORD EMSG0-MSG0 ;BYTE COUNT OF MESSAGE #0
MSG1C: .WORD EMSG1-MSG1 ;BYTE COUNT OF MESSAGE #1
MSG2C: .WORD EMSG2-MSG2 ;BYTE COUNT OF MESSAGE #2
MSG3C: .WORD EMSG3-MSG3 ;BYTE COUNT OF MESSAGE #3
MSG4C: .WORD EMSG4-MSG4 ;BYTE COUNT OF MESSAGE #4
MSG5C: .WORD EMSG5-MSG5 ;BYTE COUNT OF MESSAGE #5
MSG6C: .WORD EMSG6-MSG6 ;BYTE COUNT OF MESSAGE #6
OPCNT: .WORD 0 ;BYTE COUNT FOR OPERATOR SPEC'D MSG.
MSG8C: .WORD EMSG8-MSG8 ;BYTE COUNT OF RECEIVE BUFFER FILL PATTERN

:MESSAGE ADDRESS TABLE

DMSGAD:
MSG0 ;ADDRESS OF MESSAGE #0
MSG1 ;ADDRESS OF MESSAGE #1
MSG2 ;ADDRESS OF MESSAGE #2
MSG3 ;ADDRESS OF MESSAGE #3
MSG4 ;ADDRESS OF MESSAGE #4
MSG5 ;ADDRESS OF MESSAGE #5
MSG6 ;ADDRESS OF MESSAGE #6
OPBUF ;ADDRESS OF OPERATOR SPEC'D MSG.
MSG8 ;ADDRESS OF RECEIVE BUFFER FILL PATTERN

MSG0: .BYTE 000 ;MESSAGE OF ALL 0'S
EMSG0:
MSG1: .BYTE 377 ;MESSAGE OF ALL 1'S
EMSG1:
MSG2: .BYTE 252 ;MESSAGE OF ALTERNATING 1'S
EMSG2:
MSG3: .BYTE 125 ;MESSAGE OF ALTERNATING 0'S
EMSG3:
MSG4:
      ;"CCITT" 512-BIT (VS. 511 BITS) TEST PATTERN
      .WORD 177603,157427,031011,047321,163715,105221,143325,142304

      .WORD 040041,014116,052606,172334,105025,123754,111337,111523

      .WORD 030030,145064,137642,143531,063617,135075,066730,026575

      .WORD 052012,053627,070071,151172,165044,031605,166632,016741

EMSG4:
```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 55  
DEFAULT MESSAGE DEFINITIONS AND TABLES

2438	002320			
2439				
2440	002320	077577	040444	052040
2441	002326	042510	050440	044525
2442	002334	045503	041040	047522
2443	002342	047127	043040	054117
2444	002350	045040	046525	042520
2445	002356	020104	053117	051105
2446	002364	052040	042510	046040
2447	002372	055101	020131	047504
2448	002400	027107		
2449	002402	005015	077401	077577
2450	002410	000177		
2451	002412			
2452	002412			
2453	002412	022043	021041	023040
2454	002420	024047	025051	026053
2455	002426	027055	030460	031462
2456	002434	032464	033466	034470
2457	002442	035472	036474	037476
2458	002450	040500	041502	042504
2459	002456	043506	044510	045512
2460	002464	046514	047516	050520
2461	002472	051522	052524	053526
2462	002500	054530	132	
2463	002503	057	056133	057135
2464	002510	022537	000	
2465	002513			
2466		002514		
2467				
2468				
2469				
2470				
2471	002514	047045	040445	
2472	002520	000122		
2473	002642			
2474				
2475				
2476				
2477				
2478	002642	033		
2479	002643			
2480		002644		

```

MSG5:                                     :''INTERPROCESSOR TEST PROGRAM'S (ITEP)'' MESSAGE
                                           : #1, (DP1:)
.ASCII <177><177>/$A THE QUICK BROWN FOX JUMPED OVER THE LAZY DOG./

.ASCIZ <15><12><001><177><177><177><177>

MSG5:                                     :ALPHA-NUMERICS (OR FUTURE COMM TURNAROUND MSG)
MSG6: .ASCII /#$!' &'()*+,-.0123456789:;<=>?@ABCDEFGHIJKLMNPOQRSTUVWXYZ/

.ASCIZ ?/[ \ ] ^ _ ` ?

MSG6: .EVEN

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

OPBFPT: .ASCII /XNZX/
OPBUF:  .BLKB 82.                ;BU'FER FOR OPERATOR SPEC'D MESSAGES
OPEND:

: THE ABOVE THREE LINES MUST BE KEPT TOGETHER
: *****

MSG8:  .BYTE 33                ;RECEIVE BUFFER FILL PATTERN
MSG8:  .EVEN

```



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 56  
DEFAULT MESSAGE DEFINITIONS AND TABLES

2481  
 2482  
 2483  
 2484  
 2485  
 2486  
 2487 002644 000  
 2488 002645 201  
 2489 002646  
 2490 002646 000000  
 2491 002650 001  
 2492 002651 001  
 2493 002652 001  
 2494 002653  
 2495 002654  
 2496 002654 000006  
 2497  
 2498 002656 000  
 2499 002657 201  
 2500 002660  
 2501 002660 000000  
 2502 002662 001  
 2503 002663 001  
 2504 002664 001  
 2505 002666  
 2506

```

: THE FOLLOWING IS THE AREA USED TO TRANSMIT AND REC THE :
: HEADER MSGS. AND THE START,STACK ACK SEQUENCES. :
:

```

```

:: THE TRANSMIT HEADER MESSAGE WILL BE STORED HERE
HDMMSG: .BYTE 0 ;FILLER
HDMID: .BYTE 201 ;MESSAGE TYPE STORED HERE
HDMTYP: ;IF CONTROL MESSAGE, TYPE IS STORED HERE
HDMCC: .WORD 0 ;CHAR COUNT GOES HERE
HDMREP: .BYTE 1 ;RESPONSE NUMBER
HDMNUM: .BYTE 1 ;MSG. NUMBER
HDMADR: .BYTE 1 ;ADDR TO.
HSMSE:

```

```

HDMC: .EVEN
HDMC: .WORD 6
:: RECEIVED HEADER WILL BE STORED HERE
RHDMMSG: .BYTE 0 ;MESSAGE TYPE GOES IN HERE
RHDMID: .BYTE 201 ;CONTROL MESSAGE TYPE GOES HERE
RHDTYP: ;BYTE COUNT GOES HERE
RHDMCC: .WORD
RHDMREP: .BYTE 1 ;RESP NUM
RHDMNUM: .BYTE 1 ;MSG NUM
RHDMADR: .BYTE 1 ;ADDR TO.
HDMC: .EVEN

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 57  
DEFAULT MESSAGE DEFINITIONS AND TABLES

```

2507
2508
2509 002666 000122
2510 003010 000000
2511
2512 003012 000000
2513 003014 000000
2514 003016 012300
2515 003020 012313
2516 003022 012430
2517 003024 012515
2518 003026 012542
2519 003030 012621
2520 003032 012677
2521 003034 012767
2522 003036
2523
2524 003036 013124
2525 003040 013146
2526 003042 013201
2527 003044 013232
2528 003046 013264
2529 003050 013327
2530 003052
2531
2532 003052 013543 013552 013557
2533 003060 013564 013571 013577
2534 003066 013604 013612
2535
2536
2537
2538
2539 003072 000 377 252
2540 003075 125 203 177
2541 003100 043
2542 003101
2543 003102
2544
2545 003102 013623
2546 003104 013633
2547 003106 013644
2548 003110 013654
2549 003112 013663
2550 003114 013700
2551 003116 013705
2552
2553 003120 013714
2554 003122 013724
2555 003124 013735
2556 003126 013743
2557 003130 013756
2558
2559
2560
2561 003132 000000
2562 003134 000000

```

```

;COMMAND LINE BUFFER, DATA LOCATIONS AND MESSAGES FOR ACTION ROUTINES
CMDBUF: .BLKB 82. ;BUFFER FOR OPERATOR COMMANDS
KEYWD1: .WORD 0 ;THIS LOC WILL =1 IF CLEAR TYPED, 2 FOR SHOW,
; A 4 IF RUN WAS TYPED, 5 IF HELP WAS TYPED
QUALFG: .WORD 0 ;THIS LOC HOLDS QUALIFIER VALUE (SIZE OR COPY)
QUALVL: .WORD 0
HLPTAB: .WORD HLP1
;WORD HLP2
;WORD HLP3
;WORD HLP3A
;WORD HLP4
;WORD HLP4A
;WORD HLP5
;WORD HLP6
HLPEND:
;INDEX TABLE FOR REPORT 'RPT>' HELP MESSAGES REV B EC
RHLPTB: .WORD RHLP1
;WORD RHLP2
;WORD RHLP3
;WORD RHLP4
;WORD RHLP5
;WORD RHLP6
RHLPEN:
SHTYTB: .WORD SHTYP0,SHTYP1,SHTYP2,SHTYP3,SHTYP4,SHTYP5,SHTYP6,SHTYP7
; THE LIST OF BYTES BELOW ARE THE FIRST BYTES OF THE PREDEFINED MESSAGES
; USED TO 'SHW' THE TRANSMIT AND COMPARE BUFFER CONTENTS.
SHTAB: .BYTE 0,377,252,125,203,177,043
SHTEND:
.EVEN
MODES: .WORD M00 ;ADDRESSES OF MODE TYPES IN ASCII
;WORD M01
;WORD M02
;WORD M03
;WORD M04
;WORD M05
;WORD M06
LOOPS: .WORD LP0 ;ADDRESSES OF LOOP TYPES IN ASCII
;WORD LP1
;WORD LP2
;WORD LP3
;WORD LP4
;COMMAND LINE TRAVERSE LOCATIONS (USED BY 'P$TRV')
P$BUFA: .WORD 0 ;LOC. TO HOLD ADDR. OF CMD LINE BUFFER
P$TREE: .WORD 0 ;LOC. TO HOLD ADDR. OF PARSING TREE

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 58  
DEFAULT MESSAGE DEFINITIONS AND TABLES

2563 003136 000000  
2564 003140 000000  
2565 003142 000000  
2566 003144 000000  
2567 003146 000  
2568 003147 000  
2569

PSACT: .WORD 0  
PSCNT: .WORD 0  
PSNUM: .WORD 0  
PSRADX: .WORD 0  
PSNNUF: .BYTE 0  
PSGDBD: .BYTE 0

:LOC. TO HOLD ADDR. OF ACTION ROUTINE  
:LOC. TO BE A COUNTER LOCATION  
:LOC. TO HOLD NUMERIC VALUE FROM PARSE  
:LOC. TO HOLD RADIX USED(LO) AND +/- (HI BYTE)  
:RETURN =0 IF ENOUGH OF COMMAND FOUND  
:RETURN CODE 0 IF NO ERROR FOUND

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 59  
MESSAGE BUFFERS AND POINTER TABLES

```

2570      .SBTTL      MESSAGE BUFFERS AND POINTER TABLES
2571
2572 003150 001000  TXBUF:  .BLKB  BUFLIM  ;TRANSMITTER BUFFERS
2573 004150 001000  RXBUF:  .BLKB  BUFLIM  ;RECEIVER BUFFERS
2574 005150 001000  CMPBUF: .BLKB  BUFLIM  ;COMPARISON BUFFERS
2575 006150 000036  PTRTAB: .BLKW  MSGLIM*2 ;TABLE FOR MESSAGE ADDRS. & BYTE COUNTS
2576 006244 000036  PTR13:  .BLKW  MSGLIM*2
2577 006340 000036  PTR23:  .BLKW  MSGLIM*2
2578 006434
2579
2580 006434 000002      .BLKW  2      ; FILLER FOR OVERFLOW OF RX POINTER TABLE
2581
2582 006440 000000  RXPTR:  .WORD  0      ;RECEIVER MESSAGE POINTER
2583 006442 000000  TXPTR:  .WORD  0      ;TRANSMITTER BUFFER POINTER
2584 006444 000000  CMPPTR: .WORD  0      ;COMPARISON BUFFER POINTER
2585 006446 000000  CMPTOT: .WORD  0      ;CMP MSG TOTAL
2586 006450 000000  CTOTCC: .WORD  0      ;COMPARE BUFFER CHAR. COUNT
2587 006452 000000  CCURAD: .WORD  0      ;CURRENT ADDR OF CMP BUFF TO ADD AT
2588
2589 006454 000000  DVTXA:  .WORD  0      ;DEVICE TX ADDR
2590 006456 000000  DVTCC:  .WORD  0      ;DEVICE TX CHAR COUNT
2591 006460 000000  DVTCT:  .WORD  0      ;DEVICE TX MESSAGE COUNT
2592 006462 000000  TXMTOT: .WORD  0      ;TX MSG TOTAL
2593 006464 000000  TTOTCC: .WORD  0      ;TX BUFFER CHAR. COUNT
2594 006466 000000  TCURAD: .WORD  0      ;CURRENT ADDR. OF TX BUFF TO ADD AT
2595
2596 006470 000000  DVRXA:  .WORD  0      ;DEVICE RX ADDR
2597 006472 000000  DVRCC:  .WORD  0      ;DEVICE RX CHAR COUNT
2598 006474 000000  DVRCT:  .WORD  0      ;DEVICE RX MESSAGE COUNT
2599 006476 000000  RXMTOT: .WORD  0      ;RX MSG TOTAL
2600
2601 006500 000000  LNCNT:  .WORD  0      ;NUMBER OF OPERATOR AWAKE MSGS
2602 006502 000000  OPVAR:  .WORD  0      ;OPTIONAL VARIABLE LOCATION
2603 006504 000000  PSCNT:  .WORD  0      ;PASS COUNTER
2604 006506 000000  ERRCNT: .WORD  0      ;ERROR COUNTER
2605 006510 000000  STADD:  .WORD  0      ;START ADDR.
2606 006512 000000  ENADD:  .WORD  0      ;END ADDR. FOR DUMP
2607 006514 000000  BYTBIT: .WORD  0      ;BYTE BIT FOR DUMP ROUTINE
2608
2609      ;OTHER MESSAGE RELATED STORAGE LOCATIONS
2610
2611 006516 000000  MSGTYP: .WORD  0      ;TYPE OF DATA 0=0'S,1=1'S,2=10'S,3=01'S
2612      ;4=CCITT,5=QUICK FOX,6=ALPHA/NUM,7=OPER
2613 006520 000000  CURCC:  .WORD  0      ;TX/RX/CMP CHAR COUNT
2614 006522 000000  CPTR:   .WORD  0      ;CURRENT RX POINTER
2615 006524 000000  CPTR:   .WORD  0      ;CURRENT POINTER
2616 006526 000000  CURADD: .WORD  0      ;CURRENT TX/RX/CMP START ADDD
2617 006530 000000  TOTCC:  .WORD  0      ;TOTAL CHAR COUNT NOT MORE THEN 'BUFLIM'
2618 006532 000000  OFSET:  .WORD  0      ;OFFSET COUNT
2619 006534 000000  TEMP:   .WORD  0      ;TEMPORARY LOCATIONS (USED A LOT)
2620 006536 000000  TEMP1:  .WORD  0
2621 006540 000000  TEMP2:  .WORD  0
2622 006542 000000  TEMP3:  .WORD  0
2623 006544 000000  TEMP4:  .WORD  0
2624 006546 000000  TEMP5:  .WORD  0
2625 006550 000000  CONOTM: .WORD  0      ;CONTROL OUT ERROR MSG. ADDRESS

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 60  
MESSAGE BUFFERS AND POINTER TABLES

2626 006552 000000  
2627 006554 000  
2628 006555 000  
2629

CONTIN: .WORD 0 :WORD FOR CONTROL IN  
GOOD: .BYTE 0 :BYTE TO HOLD EXPECTED MESSAGE DATA BYTE FOR ERR REPORT  
BAD: .BYTE 0 :BYTE TO HOLD RECEIVED MESSAGE DATA BYTE FOR ERR REPORT

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 61  
MESSAGE BUFFERS AND POINTER TABLES

;MORE INDEPENDENT CODE STORAGE LOCATIONS

2630					
2631					
2632	006556	000000	LOGUNT: .WORD	0	;LOC. TO HOLD LOGICAL UNIT NUMBER
2633	006560	000000	PCADD: .WORD	0	;LOC. HOLD PC OF CALLING ROUTINE
2634	006562	000000	DCLFLG: .WORD	0	;CLEANUP & EXIT FLAG -1 = EXIT TEST
2635	006564	000000	RESFLG: .WORD	0	;LOC TO HOLD FLAG (-1) THAT A RESTART WAS GIVEN
2636	006566	000000	MODTYP: .WORD	0	;DCLT MODE OF OPERATION TYPE
2637					: (0=REC-ONLY, 1=TX-ONLY, 2=PASSIVE-LOOPBK,
2638					: 3=ACTIVE-LOOPBK, 4=DOWN L.L., 5=TALK, 6=LISTEN)
2639	006570	000000	MLTYP: .WORD	0	;MAINTENANCE LOOP TYPE (0=NONE, 1=INTERNAL TTI,
2640					: 2=CABLE, 3=MODEM-ANALOG LOOPBK (LOCAL),
2641					: 4=MODEM-DIGITAL LOOPBK (REMOTE), 5=MOP)
2642	006572	000000	FHDPLX: .WORD	0	;FULL OR HALF DUPLEX FLAG (1=FULL FROM P-TABLE)
2643	006574	000002	PARAM: .WORD	2	;PROGRAM PARAMETERS
2644					: BIT0= STATUS MSGS TO OPR PRINTED (1=YES)
2645					: BIT1= DATA CHECKING DONE ON RCVD MSGS (1=YES)
2646					: BIT2= ECHO (TRANSMIT) RCV'D MSG.(PASSIVE)(1=YES)
2647					: BIT3= MODEM STATUS CHECK (1=YES)
2648					: BIT4= CRC CALC./CHECK DONE (1=YES)
2649					: BIT5= PROTOCOL EMULATION (1=YES)
2650					: BIT6= PROTOCOL IS RUNNING
2651					: BIT7= ABORT PROTOCOL
2652	006576	000000	RPASS: .WORD	0	;PASS NUMBER FROM RUN COMMAND
2653	006600	000000	FLAG: .WORD	0	;DEVICE FLAG WORD
2654					
2655			;MODE DISPATCH TABLE		
2656	006602	032206	MODE: .WORD	RXONLY	;RX ONLY DISPATCH
2657	006604	032240	.WORD	TXONLY	;TX ONLY DISPATCH
2658	006606	032300	.WORD	PLCK	;PASSIVE LOOP BACK DISP
2659	006610	032334	.WORD	ALCK	;ACTIVE LOOP BACK DISP
2660	006612	033566	.WORD	DLL	;DOWN LINE LOAD DISP
2661	006614	033612	.WORD	TALCK	;TALK MODE DISPATCH
2662	006616	034056	.WORD	LISCK	;LISTEN MODE DISPATCH
2663					
2664					
2665			.SBTTL		CLOCK TABLES, EVENT LOG AND POINTERS
2666	006620	000000	CLKCSR: .WORD	0	;CLOCK CSR ADDRESS
2667	006622	000000	CLKBR: .WORD	0	;CLOCK INTERRUPT LEVEL
2668	006624	000000	CLKVEC: .WORD	0	;CLOCK INTERRUPT VECTOR
2669	006626	000074	CLKHZ: .WORD	60.	;CLOCK'S HERTZ RATE
2670	006630	000000	CLKEN: .WORD	0	;CLOCK'S CSR VALUE TO INTRPT. ENABLE IT
2671					
2672	006632	000000	TIMMIN: .WORD	0	;PLACE TO KEEP TIME-SINCE-START
2673	006634	000000	TIMSEC: .WORD	0	
2674	006636	000000	TIMTCK: .WORD	0	;PLACE TO KEEP # OF TICKS/SEC
2675					
2676	006640	000000	TIMER1: .WORD	0	;EVENT TIMER #1 (TICKS)
2677	006642	000000	TIMER2: .WORD	0	;EVENT TIMER #2 (TICKS)
2678	006644	000000	TIMERS: .WORD	0	;EVENT TIMER #3 (SECONDS)
2679					



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 62  
CLOCK TABLES, EVENT LOG AND POINTERS

2680  
2681 006646 006650  
2682 006650 000341  
2683 007552 000001  
2684  
2685  
2686  
2687 007554 000000  
2688  
2689

:EVENT LOG TABLE AND ITS NEXT ENTRY POINTER  
EVTPTN: .WORD EVTLOG ;POINTER TO NEXT FREE SPACE IN EVENT LOG  
EVTLOG: .BLKW 225. ;EVENT LOG BUFFER  
EVTEND: .BLKW 1. ;APPROXIMATE END OF EVENT TABLE (ALLOWS CIRCULAR QUE)

.SBTTL MODEM DATA SELECTION  
MODS: .WORD 0 ;MODEM STATUS

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 63  
MODEM DATA SECTION

2690  
2691  
2692  
2693 007556 020000  
2694 007560 001000  
2695 007562 010000  
2696 007564 000004  
2697 007566 040000  
2698 007570 000040  
2699 007572 000040  
2700 007574  
2701  
2702  
2703  
2704 007574 016477  
2705 007576 016503  
2706 007600 016507  
2707 007602 016513  
2708 007604 016517  
2709 007606 016523  
2710 007610 016527  
2711  
2712  
2713  
2714  
2715 007612 015101  
2716 007614 015125  
2717 007616 015154  
2718 007620 015201  
2719 007622 015227  
2720 007624 015274  
2721 007626 015244  
2722 007630 015426  
2723 007632 015322  
2724 007634 015357  
2725 007636 015412  
2726 007640 015452  
2727  
2728  
2729  
2730 007642 000000  
2731 007644 000000  
2732 007646 000000  
2733 007650 000000  
2734 007652 000000  
2735 007654 000000  
2736  
2737  
2738  
2739 007656 022276  
2740 007660 022276  
2741 007662 022276  
2742 007664 022276  
2743 007666 022350  
2744 007670 022444  
2745 007672 022640

;TABLE OF MODEM SIGNAL BIT DEFINITIONS

MOBITS: .WORD CTS ;CLEAR TO SEND (CIRCUIT CB)  
          .WORD DSR ;DATA SET READY (CIRCUIT CC)  
          .WORD DCD ;DATA CARRIER DETECT (CIRCUIT CF)  
          .WORD RTS ;REQUEST TO SEND (CIRCUIT CA)  
          .WORD RI ;RING INDICATOR (CIRCUIT CE)  
          .WORD SQD ;SIGNAL QUALITY DETECT (CIRCUIT CG)  
          .WORD TM ;MODEM IN TEST MODE (RS 449 ONLY CIRCUIT TM)

MOBITE:

;TABLE OF ADDRESSES OF MODEM SIGNAL MESSAGE POSITIONS

MOMSGS: .WORD EVMCTS ;CLEAR TO SEND (CIRCUIT CB)  
          .WORD EVMDSR ;DATA SET READY (CIRCUIT CC)  
          .WORD EVMDCD ;DATA CARRIER DETECT (CIRCUIT CF)  
          .WORD EVMRTS ;REQUEST TO SEND (CIRCUIT CA)  
          .WORD EVMRI ;RING INDICATOR (CIRCUIT CE)  
          .WORD EVMSQD ;SIGNAL QUALITY DETECT (CIRCUIT CG)  
          .WORD EVMTM ;MODEM IN TEST MODE (RS 449 ONLY CIRCUIT TM)

;TABLE OF ADDRESSES OF EVENT DESCRIPTION MESSAGES  
; ORDER CORRESPONDS TO MESSAGE TYPE VALUES

EVTLST: .WORD EDTXQ ;TRANSMIT MESSAGE QUEUED  
          .WORD EDTXC ;TRANSMIT OF MESSAGE COMPLETE  
          .WORD EDRXQ ;RECEIVE MESSAGE SPACE QUEUED  
          .WORD EDRXC ;MESSAGE RECEIVED - RECEIVE COMPLETE  
          .WORD EDDER ;DEVICE INFORMATION  
          .WORD EDDVI ;DEVICE INITIALIZE STARTED  
          .WORD EDDCK ;DATA COMPARISON DONE  
          .WORD EDMOS ;MODEM STATUS CHANGE  
          .WORD EDDLE ;DATA COMPARE LENGTH ERROR  
          .WORD EDDDE ;DATA COMPARE DATA ERROR  
          .WORD EDEOP ;END OF PASS  
          .WORD EDABO ;^ C ABORT

;LOCATIONS USED DURING EVENT REPORTING

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

;REPORT CODING DISPATCH TABLE

RPTDSP: .WORD RPTTXQ ;TRANSMIT QUEUED ENTRY DECODING  
          .WORD RPTTXC ;TRANSMIT COMPLETE ENTRY DECODING  
          .WORD RPTRXQ ;RECEIVER QUEUED ENTRY DECODING  
          .WORD RPTRXC ;RECEIVER COMPLETE ENTRY DECODING  
          .WORD RPTDER ;DEVICE ERROR ENTRY DECODING  
          .WORD RPTDVI ;DEVICE INIT ENTRY DECODING  
          .WORD RPTDCK ;DATA COMPARISON ENTRY DECODING

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(\*.52) 23-MAR-82 16:43 PAGE 64  
MCDLM DATA SECTION

2746 007674 022714  
2747 007676 022640  
2748 007700 022564  
2749 007702 022510  
2750 007704 022510  
2751  
2752  
2753 007706 000000  
2754 007710 000000  
2755 007712 000000  
2756 007714 000000  
2757

.WORD RPTMSL :REPORT MODEM STATUS CHANGE  
.WORD RPTDLE :DATA COMPARISON LENGH ERROR  
.WORD RPTDDE :DATA COMPARISON DATA ERROR  
.WORD RPTTEOP :END OF PASS  
.WORD RPTABO :^C ABORT

DEV1: .WORD 0  
DEV2: .WORD 0  
DEV3: .WORD 0  
DEV4: .WORD 0

:TEMP LOCS TO HOLD DATA FOR EVENT REPORTING  
: AND SHOW MODE,... SUBROUTINE

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 65  
COMMAND LINE ACTION TREE

.SBTTL COMMAND LINE ACTION TREE

:SAMP\_E 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 DEF' IF
-----
! ASCIZ MATCH STRING ! ONLY IF 'ASCII' ARGUMENT DEFINED
! (.EVEN) !
-----

```

CLITRE:

:FIRST KEYWORD

```

N10$: CLI CLISPA,0,N10$ ;SKIP ANY LEADING 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 'EXIT' ;REV B BY EC
      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' & COTO N100$
N20$: CLI <'S'>,NOTNUF,N30$ ;ELSE, IS FIRST CHAR. A 'S'
      CL: 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 'PASSIVE',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'

```

2758  
2759  
2760  
2761  
2762  
2763  
2764  
2765  
2766  
2767  
2768  
2769  
2770  
2771  
2772  
2773 007716  
2774  
2775  
2776 007716  
2777 007722  
2778 007726  
2779 007730  
2780 007744  
2781 007746  
2782 007762  
2783 007764  
2784 010000  
2785 010002  
2786 010014  
2787 010020  
2788 010034  
2789 010040  
2790 010054  
2791 010060  
2792 010064  
2793 010076  
2794 010102  
2795 010114  
2796 010120  
2797  
2798  
2799  
2800 010122  
2801 010126  
2802 010142  
2803 010146  
2804 010164  
2805 010170  
2806 010206  
2807 010212  
2808 010230  
2809 010234  
2810 010252  
2811 010256  
2812 010302  
2813 010306

CVCLHC DFV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 66  
COMMAND LINE ACTION TREE

```

2814 010312          CLI      CLISTR,TRAMOD,N87$,<'RANSMIT'>  : IS REST OF WORD 'RANSMIT'
2815 010330          CLI      CLIBR,0,N115$                : IF YES, DO 'TRANSM',BR N115$
2816 010334          N87$:  CLI      CLISTR,TALMOD,N30$,<'ALK'>    : IS REST OF WORD 'ALK'
2817 010346          CLI      CLIBR,0,N115$                : IF YES, DO 'TALK',BR N115$
2818                                     : IF NO, ERROR - EXIT
2819
2820          ;SECOND KEYWORD (FOR CLEAR OR SHOW)
2821 010352          N100$:  CLI      CLISPA,0,N30$
2822 010356          N102$:  CLI      CLISTR,CSHEXP,N104$,<'EXPECTBUFF'> : SKIP LEADING SPACES, NONE=ERR
2823 010400          CLI      CLIBR,0,N120$                : IS NEXT WORD 'EXPE...'
2824 010402          N104$:  CLI      CLISTR,CSHTRN,N30$,<'TRANSMITBUFF'> : IF YES, DO CLR-EXP,EXIT
2825 010426          CLI      CLIBR,0,N120$                : IS NEXT WORD 'TRANS...'
2826                                     : IF YES, DO CLR-TRN,EXIT
2827                                     : IF NO - ERROR - EXIT
2828
2829          ;SECOND KEYWORD (FOR SET)
2830 010430          N110$:  CLI      CLISPA,0,N30$
2831 010434          N111$:  CLI      CLISTR,SETEXP,N112$,<'EXPECT'>
2832 010452          CLI      CLIBR,0,N120$
2833 010456          N112$:  CLI      CLISTR,SETTRN,N30$,<'TRANSMIT'>
2834 010476          CLI      CLIBR,0,N120$
2835
2836          ;GET ADDRESSES FOR DUMP COMMAND
2837 010502          N50$:   CLI      CLIALP,0,N51$
2838 010506          N51$:   CLI      CLISPA,0,N52$
2839 010512          N52$:   CLI      CLIOCT,DMP$ ,N30$
2840 010516          CLI      <'-'>,NOTNUF,N125$
2841 010522          CLI      CLIOCT,DMPE,N30$
2842 010526          CLI      <'/'>,NOTNUF,N125$
2843 010532          CLI      <'B'>,DMPQ,N30$
2844 010536          CLI      CLIBR,0,N125$
2845
2846          ;QUALIFIERS FOR THE RUN COMMAND
2847 010542          N115$:  CLI      CLIALP,0,N114$
2848 010546          N114$:  CLI      <'/'>,NOTNUF,N125$
2849 010552          CLI      CLISTR,NO,N116$,<'NO'>
2850 010564          N116$:  CLI      <'C'>,0,N117$
2851 010570          CLI      CLISTR,CHECK,N117$,<'HECK'>
2852 010604          CLI      CLIBR,0,N115$
2853
2854
2855 010610          N117$:  CLI      CLISTR,STATUS,N118$,<'STATUS'>
2856 010626          CLI      CLIBR,0,N115$
2857 010632          N118$:  CLI      CLISTR,ECHO,N119$,<'ECHO'>
2858 010644          CLI      CLIBR,0,N115$
2859
2860 010652          N119$:  CLI      <'P'>,0,N132$
2861 010656          CLI      CLISTR,PROTO,N130$,<'ROTOCOL'>
2862 010674          CLI      CLIBR,0,N115$
2863 010700          N130$:  CLI      CLISTR,0,N30$,<'ASS'>
2864 010712          CLI      CLIBR,0,N150$
2865
2866 010716          N132$:  CLI      CLISTR,MOSC,N131$,<'MODEM'>
2867 010732          CLI      CLIBR,0,N115$
2868
2869 010736          N131$:  CLI      CLISTR,0,N30$,<'LOOP'>
    
```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 67  
COMMAND LINE ACTION TREE

```

2870 0'0752          CLI      CLIBR,0,N140$
2871
2872                ;GET MESSAGE TYPE FOR SET MESSAGE COMMANDS
2873 010756          N120$: CLI      <'=>,0,N30$
2874
2875                ; LOOK FOR DEFAULT MESSAGE NAME
2876 010762          N60$:  CLI      CLISTR,MSG1,N61$,<'ONES'>
2877 010776          CLI      CLIBR,0,N121$
2878 011002          N61$:  CLI      CLISTR,MSG0,N62$,<'ZEROES'>
2879 011020          CLI      CLIBR,0,N121$
2880 011024          N62$:  CLI      CLISTR,MSG2,N63$,<'1ALT'>
2881 011040          CLI      CLIBR,0,N121$
2882 011044          N63$:  CLI      CLISTR,MSG3,N64$,<'0ALT'>
2883 011060          CLI      CLIBR,0,N121$
2884 011064          N64$:  CLI      CLISTR,MSG5,N65$,<'ITEP'>
2885 011100          CLI      CLIBR,0,N121$
2886 011104          N65$:  CLI      CLISTR,MSG4,N66$,<'CCITT'>
2887 011120          CLI      CLIBR,0,N121$
2888 011124          N66$:  CLI      CLISTR,MSG6,N67$,<'ALPHA'>
2889 011140          CLI      CLIBR,0,N121$
2890 011144          N67$:  CLI      CLISTR,SETET,N68$,<'TRANSMIT'> ;REV B BY EC
2891 011164          CLI      CLIBR,0,N125$
2892                ; LOCK FOR QUOTED MESSAGE
2893 011170          N68$:  CLI      <'>,OPRMSG,N30$
2894 011174          N70$:  CLI      <'>,ENDQ0,N71$
2895 011200          CLI      CLIBR,0,N121$
2896 011204          N71$:  CLI      CLISPA,0,N72$
2897 011210          N72$:  CLI      CLIALN,0,N73$           ;ONLY A-Z,SP,TAB, OR 0-9 BETWEEN ''S
2898 011214          CLI      CLIBR,0,N70$
2899 011220          N73$:  CLI      CLIERR,BADCHR           ;PRINT ERROR IF NONE LEGAL CHAR FOR ''S
2900
2901                ;GET QUALIFIERS (SIZE OR COPY) FOR SET MESSAGE COMMANDS
2902 011222          N121$: CLI      CLIALP,0,N123$
2903 011226          N123$: CLI      <'>,NOTNUF,N125$
2904 011232          CLI      CLISTR,SIZE,N122$,<'SIZE'>
2905 011246          CLI      CLIBR,0,N126$
2906 011252          N122$: CLI      CLISTR,QCOPY,N30$,<'COPY'>
2907 011266          CLI      CLIBR,0,N126$
2908
2909                ;NUMER FOR SIZE OR COPY
2910 011272          N126$: CLI      <'=>,0,N30$
2911 011276          CLI      CLIDEC,NUM,N30$
2912 011302          CLI      CLIBR,0,N121$
2913
2914                ;GET MAINTENANCE LOOP TYPE FOR RUN 'LOOP' QUALIFIER
2915 011306          N140$: CLI      <'=>,0,N30$
2916
2917
2918 011312          N141$: CLI      CLISTR,TTLLOP,N142$,<'INTERNAL TTL'>
2919 011334          CLI      CLIBR,0,N115$
2920 011340          N142$: CLI      CLISTR,CBLLOP,N143$,<'CABLE'>
2921 011354          CLI      CLIBR,0,N115$
2922 011360          N143$: CLI      CLISTR,LMDLOP,N144$,<'LOCALMODEM'>
2923 011402          CLI      CLIBR,0,N115$
2924 011406          N144$: CLI      CLISTR,RMDLOP,N30$,<'REMOTEMODEM'>
2925 011430          CLI      CLIBR,0,N115$

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 68  
COMMAND LINE ACTION TREE

2926  
2927  
2928  
2929  
2930  
2931  
2932  
2933  
2934  
2935  
2936

011434  
011440  
011444  
  
  
  
  
011450

;GET LINE NUMBER FOR 'PASS' RUN QUALIFIER  
N150\$: CLI <'=>,0,N30\$  
CLI CLIDEC,PASC,N30\$  
CLI CLIBR,0,N115\$  
  
;END-OF-LINE  
N125\$: CLI CLIEXI,0

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 69  
COMMAND LINE ACTION TREE

2937  
2938  
2939  
2940  
2941  
2942  
2943 011452 000000  
2944 011454 000000  
2945 011456 000000  
2946 011460 000000  
2947 011462 000000  
2948  
2949  
2950 011464 000000  
2951 011466 000000  
2952 011470 000000  
2953 011472 065626  
2954  
2955  
2956  
2957  
2958  
2959  
2960  
2961  
2962  
2963 011474 000000  
2964 011476 000000  
2965 011500 000000  
2966 011502 000000  
2967 011504 000000  
2968 011506 000000  
2969 011510 000000  
2970 011512 000000  
2971 011514 000000  
2972 011516 000000  
2973 011520 000000  
2974 011522 000000  
2975 011524 000000  
2976  
2977  
2978

;DEVICE DEPENDENT STORAGE LOCATIONS FOR  
; CURRENT DEVICE PARAMTERS

RXCSR: .WORD 0  
PCSAR: .WORD 0  
RDSR: .WORD 0  
TXCSR: .WORD 0  
TDSR: .WORD 0

;REC CONTROL AND STATUS  
;STATUS REGISTIER  
;REC DATA AND STATUS REG  
;TRANSMIT AND REC. CONTROL  
;TRANSMIT DATA AND STATUS REG

INVEC: .WORD 0  
OUTVEC: .WORD 0  
INTPRI: .WORD 0  
DPVP1: .WORD 065626

;INPUT INTERRUPT VECTOR ADDRESS  
;OUTPUT INTERRUPT VECTOR ADDRESS  
;INTERRUPT PRICRITY  
;THIS WORD IS BROKEN DOWN AS FOLLOWS  
;BITS 0-7 =SYNC WORD  
;BITS 8-10=ERR DET SELECTED  
;BIT11 = IDLE  
;BIT12 = SEC ADDR. MODE  
;BIT13 = STRIP SYNC  
;BIT14 = PORTO TYPE SEL(1=BCP 0=BOP)  
;BIT15 = ALL PARTIES ADDRESS..

;THIS IS SET TO SYNC 262  
;CRC 16 INIT TO 1  
;STRIP SYNC AND BCP MODE  
;IDLE SET TO MARK

CMODS: .WORD 0  
IRXCSR: .WORD 0  
IRDSR: .WORD 0  
MSGPTR: .WORD 0  
MSGCC: .WORD 0  
SYNCC: .WORD 0  
SYNCW: .WORD 0  
RMSGPT: .WORD 0  
RMSGCC: .WORD 0  
BCCW: .WORD 0  
MGLCNT: .WORD 0  
MHRCNT: .WORD 0  
RNODE: .WORD 0

;CURRENT MODEM  
;IMAGE OF RXCSR  
;IMAGE OR RDSR  
;MSG PTR.FOR HEADER OR CONTROL  
;MSG COUNTER OR CC  
;SYNC CHAR COUNT.  
;SYNC WORD.PLUS TSJM BIT.  
;MSG PTR FOR REC  
;CHAR COUNTER FOR REC  
;CRC HOLDING LOC.  
;COUNT OF GLITCH ERRORS  
;COUNT OF HARD ERRORS  
;1=REMOTE NODE ITEP,0=NON ITEP

; ERR\_TBL



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 70  
GLOBAL TEXT SECTION

2979  
2980  
2981  
2982  
2983  
2984  
2985  
2986  
2987  
2988  
2989  
2990  
2991  
2992  
2993  
2994  
2995  
2996  
2997  
2998  
2999  
3000  
3001  
3002  
3003  
3004  
3005  
3006  
3007  
3008  
3009  
3010  
3011  
3012  
3013  
3014  
3015

.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  
:

DEV TYP <DPV-11>

LSDVTYP::  
.ASCIZ /DPV-11/  
.EVEN

011526  
011526  
011526 050104 026526 030461  
011534 000  
011536

.SBTTL PROGRAM IDENTIFICATION  
: TEST DESCRIPTION  
:

DESCRIPT <DPV-11 DATA COMM LINK TEST >

L\$DESC::  
.ASCIZ /DPV-11 DATA COM  
.EVEN

011536  
011536  
011536 050104 026526 030461  
011544 042040 052101 020101  
011552 047503 046515 046040  
011560 047111 020113 042524  
011566 052123 000040

.EVEN

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 71  
GLOBAL FORMAT STATEMENTS, MESSAGES, AND ASCII INFO

3016  
3017  
3018

.SBTTL GLOBAL FORMAT STATEMENTS, MESSAGES, AND ASCII INFO

011572	041504	052114	000076	CLISPM:	.ASCIZ	/DCLT>/
011600	050122	037124	000	CLISRP:	.ASCIZ	/RPT>/ ;REV B BY EC
011605	045	022516	037501	CLIERM:	.ASCIZ	/XNZ?ILL CMD-BAD SYNTAX?/
011635	045	022516	037501	CLINUF:	.ASCIZ	/XNZ?INCMPLTE CMD?/
011660	047045	040445	047077	CLINBG:	.ASCIZ	/XNZ?NUM TOO BIG?/
011702	047045	040445	041077	CLIBRX:	.ASCIZ	/XNZ?BAD RADIX?/
011722	047045	040445	021077	CLIBDL:	.ASCIZ	/XNZ?'LOOP' VALID ONLY IN ACTIVE?/
011764	047045	040445	021077	CLINPS:	.ASCIZ	/XNZ?'ECHO' VALID ONLY IN PASSIVE?/
012027	045	022516	037501	CLIBCR:	.ASCIZ	/XNZ?ILL CHR- 'A-Z,0-9,SP,TAB' ONLY?/
012074	047045	040445	021077	CLISE0:	.ASCIZ	/XNZ?'SIZE=0' NOT VALID?/
012125	045	022516	037501	CLIPW:	.ASCIZ	/XNZ?TRANSMIT & EXPECT LIST MUST BE IDENTICAL FOR LOOP?/;REV B EC
012215	045	022516	052101	HLP0:	.ASCIZ	/XNZTHIS IS DCLT. TYPE 'H' OR '?' FOR DETAILS/
012273	045	022516	000124	HLPF:	.ASCIZ	/XNZT/
012300	041504	052114	041440	HLP1:	.ASCIZ	/DCLT CMDS:/
012313	040	046103	040505	HLP2:	.ASCII	/ CLEAR OR SHOW EXPECTLIST OR TRANSMITLIST/<15><12>
012367	040	051120	047111		.ASCII	/ PRINT/<15><12>
012377	040	054105	052111		.ASCII	/ EXIT/<15><12> ;REV B EC
012406	042040	046525	020120		.ASCIZ	? DUMP START-END/B?
012430	051440	052105	042440	HLP3:	.ASCIZ	? SET EXPECTMSG OR TRANSMITMSG=TYPE/SIZE=N OR /COPY=N?
012515	040	042523	020124	HLP3A:	.ASCIZ	/ SET EXPECT=TRANSMIT/ ;REV B EC
012542	020040	052040	050131	HLP4:	.ASCIZ	? TYPE=ONES,ZEROES,1ALT,0ALT,ITEP,CCITT,ALPHA?
012621	040	020040	020040	HLP4A:	.ASCIZ	/ OR 'OPR SPCD=A-Z,SP,TAB,0-9 IN QUOTES'/?
012677	040	052522	020116	HLP5:	.ASCIZ	? RUN MODE=MTYP/LOOP=LTP/CHECK,STATUS,ECHO,MODEM,PASS=N?
012767	040	020040	052115	HLP6:	.ASCII	/ MTYP=TRAN,REC,ACT,PAS,TAL,LIS,DOWN/<15><12>
013036	020040	046040	054524		.ASCIZ	/ LTP=INT,CAB,LOC,REM/
013066	047045	040445	054524	RHLP0:	.ASCIZ	/XNZATYPE 'H' OR '?' FOR HELP!/ ;REV B EC
013124	041504	052114	051040	RHLP1:	.ASCIZ	/DCLT REPORT CMDS:/ ;REV B EC
013146	047514	020107	020055	RHLP2:	.ASCIZ	/LOG - PRINT DCLT EVENT LOG/ ;REV B EC
013201	105	044530	020124	RHLP3:	.ASCIZ	/EXIT - EXIT REPORT LEVEL/ ;REV B EC
013232	042510	050114	026440	RHLP4:	.ASCIZ	/HELP - PRINT THIS MESSAGE/ ;REV B EC
013264	047503	047125	042524	RHLP5:	.ASCIZ	?COUNTERS/SW - PRINT DDCMP COUNTERS?
013327	127	042510	042522	RHLP6:	.ASCIZ	?WHERE /SW=FULL, /ERRORS, /OFFSET=NN(O)?
013376	047045	040445	043117	RPTIV:	.ASCIZ	/XNZAOFFSET INVALID/
013421	045	022516	042101	RPTNV:	.ASCIZ	/XNZADDCMP COUNTERS VALID ONLY WITH PROTOCOL SELECTED./
013507	045	022516	046501	SHMSG:	.ASCIZ	?XNZAMSG: TYPE=XNZ/SIZE=XD3?
013543	132	051105	042517	SHTYP0:	.ASCIZ	/ZER0ES/
013552	047117	051505	000	SHTYP1:	.ASCIZ	/ONES/
013557	061	046101	000124	SHTYP2:	.ASCIZ	/1ALT/
013564	040460	052114	000	SHTYP3:	.ASCIZ	/0ALT/
013571	103	044503	052124	SHTYP4:	.ASCIZ	/CCITT/
013577	111	042524	000120	SHTYP5:	.ASCIZ	/ITEP/
013604	046101	044120	000101	SHTYP6:	.ASCIZ	/ALPHA/
013612	050117	020122	050123	SHTYP7:	.ASCIZ	/OPR SPEC/
013623	122	041505	04505	MO0:	.ASCIZ	/RECEIVE/
013633	124	040522	051516	MO1:	.ASCIZ	/TRANSMIT/
013644	040520	051523	05311	MO2:	.ASCIZ	/PASSIVE/
013654	041501	044524	042526	MO3:	.ASCIZ	/ACTIVE/
013663	104	053517	046116	MO4:	.ASCIZ	/DOWNLINELOAD/
013700	040524	045514	000	MO5:	.ASCIZ	/TALK/
013705	114	051511	042524	MO6:	.ASCIZ	/LISTEN/
013714	000			LP0:	.ASCIZ	//
013715	057	047514	050117	LP00:	.ASCIZ	?/LOOP=?
013724	047111	042524	047122	LP1:	.ASCIZ	?INTERNAL?

CVCLHC DPV-11 DATA COMM. LINK TEST MACY11 30A(1052) 23-MAR-82 16:43 PAGE 72  
 CVCLHC.P11 22-MAR-82 11:09 GLOBAL FORMAT STATEMENTS, MESSAGES, AND ASCII INFO

013735	103	041101	042514	LP2:	.ASCIIZ	?CABLE?
013743	114	041517	046101	LP3:	.ASCIIZ	?LOCALMODEM?
013756	042522	047515	042524	LP4:	.ASCIIZ	?REMOTEMODEM?
013772	047516			PNST:	.ASCII	/NO/
013774	052123	052101	051525	PST:	.ASCIIZ	/STATUS/
014003	116	117		PNCK:	.ASCII	/NO/
014005	103	042510	045503	PCK:	.ASCIIZ	/CHECK/
014013	116	117		PNEC:	.ASCII	/NO/
014015	105	044103	000117	PEC:	.ASCIIZ	/ECHO/
014022	047516			PNMS:	.ASCII	/NO/
014024	047515	042504	000115	PMS:	.ASCIIZ	/MODEM/
014032	047516			PNPR:	.ASCII	/NO/
014034	051120	052117	041517	PPR:	.ASCIIZ	/PROTOCOL/

014045	045	022516	046101	LISP:	.ASCIIZ	/XN%ALIS>/
014056	046124	037113	000	OPRMM:	.ASCIIZ	/TLK>/
014063	124	044510	020123	L5060:	.ASCIIZ	/THIS A 50. OR 60. HZ. LSI-11:/
	014122				.EVEN	

:  
: FORMAT STATEMENTS USED IN PRINT CALLS  
:

014122	047045	040445	047504	DLLCM:	.ASCIIZ	/XN%DOWN LINE LOAD NOT SUPPORTED BY THIS DEVICE/
014202	047045	040445	046103	BDCLK:	.ASCIIZ	/XN%ACLOCK NOT FOUND/
014226	047045	040445	040502	NOCLK:	.ASCIIZ	/XN%ABAD CLOCK - PROGRAM WILL HANG ON 'TIMEOUT'!!!/
014307	115	054101	020056	TABEX:	.ASCIIZ	/MAX. CHAR. MSG COUNT EXCEEDED -/
014347	102	043125	042506	BUFEX:	.ASCIIZ	/BUFFER FULL -/
014365	045	022516	022524	MSGTRN:	.ASCIIZ	/XN%T% MSG. NOT BUILT !!/
014416	047045	040445	044103	MSGTRU:	.ASCIIZ	/XN%ACHAR. COUNT EXCEEDS BUFF LIMIT - MSG TRUNCATED/
014501	045	022516	032523	SHF0:	.ASCIIZ	?XN%S5%MODE=%T%T%T%/PASS=%Z5?
014537	045	022516	032523	SHF1:	.ASCIIZ	?XN%S5%S5%S5%/T%/T%/T%/T%/T%?
014604	051445	022465	052101	EFM2:	.ASCIIZ	/S5%ATOTAL MISMATCHES IN MSG = %D5/
014647	045	022516	031523	PCPM:	.ASCIIZ	/XN%S3%ACALLED FROM PC=%O6/
014701	045	032523	040445	EFM11:	.ASCIIZ	/S5%ACOMPARE COUNT=%D5%S3%ARECEIVE COUNT=%D5/
014756	047515	042504	020115	MSCMS:	.ASCIIZ	/MODEM STATUS CHANGES FOR THIS PASS WERE../
015030	051445	022465	044101	EFM13:	.ASCIIZ	/S5%AHARD CHANGES=%D5%X%S3%AGLITCHES=%D5/

:EVENT DESCRIPTION MESSAGES

015101	124	040522	051516	EDTXC	.ASCIIZ	/TRANSMIT MSG QUEUED/
015125	124	040522	051516	EDTXC:	.ASCIIZ	/TRANSMIT MSG COMPLETED/
015154	042522	042503	053111	EDRXQ:	.ASCIIZ	/RECEIVE SPACE QUEUED/
015201	122	041505	044505	EDRXC:	.ASCIIZ	/RECEIVE MSG COMPLETED/
015227	104	053105	041511	EDDER:	.ASCIIZ	/DEVICE ERROR/
015244	040504	040524	041440	EDDCK:	.ASCIIZ	/DATA COMPARISON STARTED/
015274	042504	044526	042503	EDDVI:	.ASCIIZ	/DEVICE INIT AND SETUP/

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 73  
GLOBAL FORMAT STATEMENTS, MESSAGES, AND ASCII INFO

015322	040504	040524	041440	EDDL:	.ASCIIZ	/DATA COMPARISON LENGTH ERROR/
015357	104	052101	020101	EDDE:	.ASCIIZ	/DATA COMPARISON DATA ERROR/
015412	047105	020104	043117	EDEOP:	.ASCIIZ	/END OF PASS/
015426	047515	042504	020115	EDMOS:	.ASCIIZ	/MODEM STATUS CHANGE/
015452	041536	040440	047502	EDABO:	.ASCIIZ	/^C ABORT/

:EVENT REPORTING MESSAGES

015463	045	031523	047445	BASM3:	.ASCIIZ	/%S3%O3/
015472	051445	022463	033117	BASM2:	.ASCIIZ	/%S3%O6/
015501	045	022516	033117	BASM1:	.ASCIIZ	/%N%O6/
015507	045	022516	052101	NULEV:	.ASCIIZ	/%N%THE DCLT EVENT LOG IS EMPTY/
015547	045	022516	037101	EVTFO:	.ASCIIZ	/%N%>>> DCLT EVENT LOG ENTRY <<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<</
015643	045	022516	032504	EVTF1:	.ASCIIZ	/%N%D5%:Z2%A:Z2%S3%T/
015672	047045	051445	022463	EVTF2:	.ASCIIZ	/%N%S3%AADDR OF MSG=%O6%S3%ABYTE COUNT=%D5/
015744	047045	051445	022463	EVTF3:	.ASCIIZ	/%N%S3%T%N/
015756	051445	022463	033117	EVTF3C:	.ASCIIZ	/%S3%O6%S3%O6/
015773	045	031523	047445	EVTF3D:	.ASCIIZ	/%S3%O6%S3%O6%S3%T/
016015	045	022516	031523	EVTF4:	.ASCIIZ	/%N%S3%AADDR OF MSG=%O6%S3%ABYTE COUNT=%D5%S3%ANO. OF CMP ERRS=%D5/
016117	045	022516	031523	EVTF4A:	.ASCIIZ	/%N%S3%AADDR OF MSG=%O6%S3%ARX BYTES=%D5%S3%ACMPARE BYTES=%D5/

016215 045 022516 031523 EVTF4B: .ASCIIZ /%N%S3%APASS=%D5%S3%AERRORS=%D5%S3%ASTRT-TO=%D5/

016274 051445 022465 041101 EVTF5A: .ASCIIZ /%S5%ABYTE# IN MSG.= %D5%S3%AEXPTD=%O3%S3%ARECVD=%O3/

016357 045 022516 034523 EVMOCG: .ASCIIZ /%N%S9%A CHANGED TO:/

: \*\*\*\*\*  
: DO NOT SEPERATE THE NEXT LIST OF MESSAGES - MODEM SIGNAL HEADER AND REPORT

016402	047045	051445	022470	EVMOH:	.ASCIIZ	/%N%S8%MODEM STATUS: CTS DSR DCD RTS RI SQD TM/
016452	047045	051445	022471	EVMOST:	.ASCIIZ	/%N%S9%S9%S5%A/
016477	130	040	040	EVMCTS:	.BYTE	'X,40,40,40
016503	130	040	040	EVMDSR:	.BYTE	'X,40,40,40
016507	130	040	040	EVMDCD:	.BYTE	'X,40,40,40
016513	130	040	040	EVMRTS:	.BYTE	'X,40,40,40
016517	130	040	040	EVMRI:	.BYTE	'X,40,40,40
016523	130	040	040	EVMSQD:	.BYTE	'X,40,40,40
016527	130	040	040	EVMTM:	.BYTE	'X,40,40,40
016533	000				.BYTE	0
					.EVEN	

:EXECUTION STATUS MESSAGES TO BE PRINTED TO KEEP OPERATOR AWAKE

016534	047045	000		CR:	.ASCIIZ	/%N/	:CR FOR LINES IN A ROW
016537	045	031523	040445	STXQ:	.ASCIIZ	/%S3%ATXQ/	:ABOUT TO TRANSMIT
016550	051445	022463	052101	STXC:	.ASCIIZ	/%S3%ATXC/	:TX COMPLETED
016561	045	031523	040445	SRXQ:	.ASCIIZ	/%S3%ARXQ/	:ABOUT TO RECEIVE
016572	051445	022463	042501	SDVE:	.ASCIIZ	/%S3%AERR/	:DEVICE ERROR
016603	045	031523	040445	SCM:	.ASCIIZ	/%S3%ACMP/	:ABOUT TO DO DATA CHECKING OF RECVD VS. EXPTD
016614	051445	022463	044501	SDVI:	.ASCIIZ	/%S3%AINI/	:DEVICE ABOUT TO BE INITIALIZED
016625	045	031523	040445	SCML:	.ASCIIZ	/%S3%ACML/	:COMPARE LENGTH ERROR
016636	051445	022463	041501	SCMD:	.ASCIIZ	/%S3%ACMD/	:COMPARE DATA ERROR
016647	045	031523	040445	SEOP:	.ASCIIZ	/%S3%AEOP/	:END OF PASS
					.EVEN		

016660 051445 022463 046501 SMSC: .ASCIIZ /%S3%AMSC/ ;MODEM STATUS CHANGE.

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 74  
GLOBAL FORMAT STATEMENTS, MESSAGES, AND ASCII INFO

016671 115 042117 046505 GLMSG: .ASCIZ /MODEM STATUS GLITCHED/  
016717 115 042117 046505 HRDMSG: .ASCIZ /MODEM STATUS HARD ERROR/

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 75  
GLOBAL FORMAT STATEMENTS, MESSAGES, AND ASCII INFO

016747	115	051501	042524	DVEM0:	.ASCII	/MASTER RESET DID NOT WORK/
017000	005015	020040	051040		.ASCIIZ	<15><12>/ RXCSR TXCSR /
017026	047516	041440	042514	DVEM1:	.ASCII	/NO CLEAR TO SEND FROM MODEM /
017062	005015	020040	051040		.ASCIIZ	<15><12>/ RXCSR TXCSR /
017110	044524	042515	047440	DVEM2:	.ASCII	/TIME OUT WAITING FOR RX OR TX TO COMPLETE/
017161	015	020012	020040		.ASCIIZ	<15><12>/ RXCSR TXCSR/
017205	103	041522	044440	DVEM3:	.ASCII	/CRC IN ERROR/
017221	015	020012	020040		.ASCIIZ	<15><12>/ RDSR RXCSR/
017245	122	041505	044505	DVEM4:	.ASCII	/RECEIVER OVERRUN/
017265	015	020012	020040		.ASCIIZ	<15><12>/ RDSR RXCSR/
017311	124	046511	042105	DVEM5:	.ASCII	/TIMED OUT IN START,S-ACK,ACK SEQ/
017351	015	020012	020040		.ASCIIZ	<15><12>/ RDATA SDATA/
017375	115	042117	046505	DVEM6:	.ASCII	/MODEM DID NOT RETURN MODEM READY/
017435	015	020012	020040		.ASCIIZ	<15><12>/ RXCSR TXCSR/

/  
.EVEN

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 76  
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
: (BASIC) AND PRINTX (EXTENDED) CALLS ARE USED TO CALL PRINT SERVICES.
:--
    
```

.LIST BEX

3019							
3020	017462			BGNMSG	ERR1		
3021	017462					ERR1::	
3022	017462			PRINTB	#EVTF5A,OFSET,<B,GOOD>,<B,BAD>	;INDIVIDUAL DATA COMPARE ERROR	
3023	017462	005046				CLR	-(SP)
3024	017464	153716	006555			BISB	BAD,(SP)
3025	017470	005046				CLR	-(SP)
3026	017472	153716	006554			BISB	GOOD,(SP)
3027	017476	013746	006532			MOV	OFSET, -(SP)
3028	017502	012746	016274			MOV	#EVTF5A, -(SP)
3029	017506	012746	000004			MOV	#4, -(SP)
3030	017512	010600				MOV	SP,RO
3031	017514	104414				TRAP	CSPNTB
3032	017516	062706	000012			ADD	#12,SP
3033	017522			ENDMSG			
3034	017522					L10001:	
3035	017522	104423				TRAP	C\$MSG
3036							
3037	017524			BGNMSG	ERR2		
3038	017524					ERR2::	
3039	017524			PRINTB	#EFM2,TEMP4	;TOTAL DATA COMPARE FAILS ERROR	
3040	017524	013746	006544			MOV	TEMP4, -(SP)
3041	017530	012746	014604			MOV	#EFM2, -(SP)
3042	017534	012746	000002			MOV	#2, -(SP)
3043	017540	010600				MOV	SP,RO
3044	017542	104414				TRAP	CSPNTB
3045	017544	062706	000006			ADD	#6,SP
3046	017550			ENDMSG			
3047	017550					L10002:	
3048	017550	104423				TRAP	C\$MSG
3049							
3050	017552			BGNMSG	ERR10		
3051	017552					ERR10::	
3052	017552			PRINTB	#EFM11,R4,TEMP3	;LENGH COMPARISON ERROR	
3053	017552	013746	006542			MOV	TEMP3, -(SP)
3054	017556	010446				MOV	R4, -(SP)
3055	017560	012746	014701			MOV	#EFM11, -(SP)
3056	017564	012746	000003			MOV	#3, -(SP)
3057	017570	010600				MOV	SP,RO
3058	017572	104414				TRAP	CSPNTB
3059	017574	062706	000010			ADD	#10,SP
3060	017600			ENDMSG			
3061	017600					L10003:	
3062	017600	104423				TRAP	C\$MSG

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 77  
GLOBAL ERROR REPORT SECTION

3063				BGNMSG ERR4		
3064	017602					
3065	017602					
3066	017602			PRINTB #EFM13,MHRCNT,MGLCNT	ERR4:: ;MODEM STATUS CHANGE	
3067	017602	013746	011520			MOV MGLCNT,-(SP)
3068	017606	013746	011522			MOV MHRCNT,-(SP)
3069	017612	012746	015030			MOV #EFM13,-(SP)
3070	017616	012746	000003			MOV #3,-(SP)
3071	017622	010600				MOV SP,R0
3072	017624	104414				TRAP C\$PNTB
3073	017626	062706	000010			ADD #10,SP
3074	017632			ENDMSG		
3075	017632				L10004:	
3076	017632	104423			TRAP	C\$MSG
3077						
3078						
3079						
3080						
3081				:PRINT THE 2 OCTAL #'S IN TEMP3/4		
3082				:		
3083				:		
3084	017634			BGNMSG ERR13		
3085	017634				ERR13::	
3086	017634			PRINTB #EVTF3C,TEMP3,TEMP4		
3087	017634	013746	006544			MOV TEMP4,-(SP)
3088	017640	013746	006542			MOV TEMP3,-(SP)
3089	017644	012746	015756			MOV #EVTF3C,-(SP)
3090	017650	012746	000003			MOV #3,-(SP)
3091	017654	010600				MOV SP,R0
3092	017656	104414				TRAP C\$PNTB
3093	017660	062706	000010			ADD #10,SP
3094	017664			ENDMSG		
3095	017664				L10005:	
3096	017664	104423			TRAP	C\$MSG
3097						
3098						
3099				:PRINT THE 2 OCTAL #'S IN TEMP3/4		
3100				: AND THE MMSG. WHOSE ADDR. IS IN CONOTM		
3101				:		
3102				:		
3103	017666			BGNMSG ERR14		
3104	017666				ERR14::	
3105	017666			PRINTB #EVTF3D,TEMP3,TEMP4,CONOTM		
3106	017666	013746	006550			MOV CONOTM,-(SP)
3107	017672	013746	006544			MOV TEMP4,-(SP)
3108	017676	013746	006542			MOV TEMP3,-(SP)
3109	017702	012746	015773			MOV #EVTF3D,-(SP)
3110	017706	012746	000004			MOV #4,-(SP)
3111	017712	010600				MOV SP,R0
3112	017714	104414				TRAP C\$PNTB
3113	017716	062706	000012			ADD #12,SP
3114	017722			ENDMSG		
3115	017722				L10006:	
3116	017722	104423			TRAP	C\$MSG
3117						
3118	017724			EXIT MSG		



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MA Y11 30A(1052) 23-MAR-82 16:43 PAGE 78  
GLOBAL ERROR REPORT SECTION

3119 017724 000167  
3120 017726 177772  
3121  
3122

.WORD JSJMP  
.WORD L10005-2-

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 79  
GLOBAL SUBROUTINES SECTION

3123  
3124  
3125  
3126  
3127  
3128  
3129  
3130  
3131  
3132  
3133  
3134  
3135  
3136  
3137  
3138  
3139  
3140  
3141  
3142  
3143  
3144  
3145  
3146  
3147  
3148  
3149  
3150  
3151  
3152  
3153  
3154  
3155  
3156  
3157  
3158  
3159  
3160  
3161  
3162  
3163  
3164  
3165  
3166  
3167  
3168  
3169

017730  
017730 012122  
017732 012112  
017734 006312  
017736 006312  
017740 006312  
017742 006312  
017744 006322  
017746 012122  
017750 012122  
017752 000207

.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
      ; 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
    
```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 80  
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.
--

```

3170  
3171  
3172  
3173  
3174  
3175  
3176  
3177  
3178  
3179  
3180  
3181  
3182  
3183  
3184  
3185  
3186  
3187  
3188  
3189  
3190  
3191  
3192  
3193  
3194  
3195  
3196  
3197  
3198  
3199  
3200

```

3201
3202 017754
3203 017754
3204
3205 017754 005077 166640
3206 017760 005337 006636
3207 017764 001015
3208 017766 013737 006626 006636
3209 017774 005237 006634
3210 020000 022737 000074 006634
3211 020006 001004
3212 020010 005237 006632
3213 020014 005037 006634
3214
3215 020020 005737 006640 1$:
3216 020024 001402
3217 020026 005337 006640
3218 020032 005737 006642 2$:
3219 020036 001402
3220 020040 005337 006642
3221 020044 005737 006644 3$:
3222 020050 001406
3223 020052 023737 006626 006636
3224 020060 001002
3225 020062 005337 006644

```

```

BGNSRV CLKINT

CLKINT::
CLR @CLKCSR ;DISABLE THE CLOCK FROM INTERRUPTING
DEC TIMTCK ;DECREMENT THE # OF TICKS/SEC.
BNE 1$ ;GO CHECK TIMERS (1&2-TICKS, 3-SECONDS)
MOV CLKHZ,TIMTCK ;RESET THE # OF TICKS/SEC.
INC TIMSEC ;INC # OF SECS-SINCE-START
CMP #60.,TIMSEC ;SEE IF WE'VE COUNTED 60 SECS. YET
BNE 1$ ;IF NOT, GO CHECK TIMERS
INC TIMMIN ; ELSE INC MINUTES-SINCE-START
CLR TIMSEC ; AND RESTART SECOND COUNTER

1$: TST TIMER1 ;SEE IF TIMER #1, TIMING ANYTHING
BEQ 2$ ; IF=0, NOTHING BEING TIMED CHECK NEXT TIMER
DEC TIMER1 ; ELSE DECREMENT THE TIMER VALUE (BY 1 TICK)
2$: TST TIMER2 ;SEE IF TIMER #2, TIMING ANYTHING
BEQ 3$ ; IF=0, NOTHING BEING TIMED CHECK NEXT TIMER
DEC TIMER2 ; ELSE DECREMENT THE TIMER VALUE (BY 1 TICK)
3$: TST TIMERS ;SEE IF TIMER #3, TIMING ANYTHING
BEQ 4$ ; IF=0, NOTHING BEING TIMED, LEAVE
CMP CLKHZ,TIMTCK ;SEE IF A SECOND HAS BEEN COUNTED OFF
BNE 4$ ; BR IF NO
DEC TIMERS ; ELSE DECREMENT THE TIMER VALUE (BY 1 SEC.)

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 81  
CLOCK INTERRUPT SERVICE ROUTINE

3226 020066 013777 006630 166524 4\$:  
3227 020074  
3228 020074  
3229 020074 000002

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

L10007:  
RTI

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 82  
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
--

```

3230  
3231  
3232  
3233  
3234  
3235  
3236  
3237  
3238  
3239  
3240  
3241  
3242  
3243  
3244  
3245  
3246  
3247  
3248  
3249  
3250  
3251  
3252  
3253  
3254  
3255  
3256  
3257  
3258  
3259  
3260  
3261  
3262  
3263  
3264  
3265  
3266  
3267  
3268  
3269  
3270  
3271  
3272  
3273  
3274  
3275  
3276  
3277  
3278  
3279  
3280  
3281  
3282  
3283  
3284  
3285

```

020076
020076 012737 016537 006536
020104 012737 000000 006534
0201'2 000517
020114
020114 012737 016550 006536
020122 012737 000002 006534
020130 000510
020132
020132 012737 016561 006536
020140 012737 000004 006534
020146 000501
020150
020150 012737 000006 006534
020156 000475
020160

```

```

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:

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 83  
EVENT LOG SUBROUTINES

3286	020160	012737	016572	006536	MOV	#SDVE,TEMP1	:SET UP MSG. TO PRINT
3287	020166	012737	000010	006534	MOV	#DER,TEMP	:SET UP EVENT TYPE
3288	020174	000503			BR	LOGS3	:GO LOG EVENT AND TIME
3289							
3290	020176				LOGDVI:		
3291	020176	012737	016614	006536	MOV	#SDVI,TEMP1	:SET UP MSG. TO PRINT
3292	020204	012737	000012	006534	MOV	#DVI,TEMP	:SET UP EVENT TYPE
3293	020212	113737	006566	006540	MOVB	MODTYP,TEMP2	
3294	020220	113737	006570	006541	MOVB	MLTYP,TEMP2+1	
3295	020226	013737	006576	006542	MOV	RPASS,TEMP3	
3296	020234	013737	006574	006544	MOV	PARAM,TEMP4	:SET UP EVNT ENTRIES
3297	020242	000460			BR	LOGS3	:GO LOG EVENT AND TIME
3298							
3299	020244				LOGCMP:		
3300	020244	012737	016603	006536	MOV	#SCM,TEMP1	:SET UP MSG. TO PRINT
3301	020252	012737	000014	006534	MOV	#DCK,TEMP	:SET UP EVENT TYPE
3302	020260	000451			BR	LOGS3	
3303	020262				LOGCML:		
3304	020262	012737	016625	006536	MOV	#SCML,TEMP1	
3305	020270	012737	000020	006534	MOV	#DLE,TEMP	:SET UP MSG. AND TYPE
3306	020276	000442			BR	LOGS3	:GO LOG EVENT AND TIME
3307	020300				LOGCMD:		
3308	020300	012737	016636	006536	MOV	#SCMD,TEMP1	
3309	020306	012737	000022	006534	MOV	#DDE,TEMP	
3310	020314	000433			BR	LOGS3	:GO LOG MSG TYPE AND TIME
3311	020316				LOGEOP:		
3312	020316	012737	016647	006536	MOV	#SEOP,TEMP1	
3313	020324	012737	000024	006534	MOV	#EOP,TEMP	
3314	020332	000424			BR	LOGS3	:GO LOG MSG TYPE AND TIME
3315							
3316							
3317	020334				LOGMSC:		
3318	020334	012737	016660	006536	MOV	#SMSC,TEMP1	
3319	020342	012737	000016	006534	MOV	#MSC,TEMP	
3320	020350	000415			BR	LOGS3	
3321							
3322							
3323	020352	013746	006506		LOGS1:	MOV	ERRCNT, -(SP)
3324	020356	004737	035124			JSR	PC,DVMODS
3325	020362	012604				MOV	(SP)+,R4
3326	020364	020437	006506			MOV	R4,ERRCNT
3327	020370	001402				BEQ	1\$
3328	020372	000137	020606			JMP	LOGEX
3329							
3330	020376	013737	007554	006544	1\$:	MOV	MODS,TEMP4
3331							
3332	020404				LOGS3:		
3333	020404	022737	000006	006534		CMP	#RXC,TEMP
3334	020412	001434				BEQ	LOGS5
3335	020414	032737	000001	006574		BIT	#STATB,PARAM
3336	020422	001430				BEQ	LOGS5
3337							:IF NO STATUS SELECTED
3338							:GO TO 5
3339	020424	022737	000010	006500		CMP	#10,LNCNT
3340	020432	001012				BNE	LOGS4
3341	020434	005037	006500			CLR	LNCNT

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 84  
EVENT LOG SUBROUTINES

```

3342
3343 020440          PRINTF  #CR          :ELSE PRINT CR
3344 020440 012746 016534          MOV      #CR,-(SP)
3345 020444 012746 000001          MOV      #1,-(SP)
3346 020450 010600          MOV      SP,R0
3347 020452 104417          TRAP    CSPNTF
3348 020454 062706 000004          ADD     #4,SP
3349 020460
3350 020460 005237 006500 LOGS4: INC      LNCNT          :INC COUNTER OF # OF AWAKE MSGS
3351 020464          PRINTF  TEMP1         :PRINT OPERATOR AWAKE MSG.
3352 020464 013746 006536          MOV      TEMP1,-(SP)
3353 020470 012746 000001          MOV      #1,-(SP)
3354 020474 010600          MOV      SP,R0
3355 020476 104417          TRAP    CSPNTF
3356 020500 062706 000004          ADD     #4,SP
3357 020504 010346 LOGS5: MOV      R3,-(SP)          :SAVE R3 ON THE STACK
3358 020506 013703 006646          MOV      EVTPTR,R3
3359 020512 113723 006534          MOVVB   TEMP,(R3)+          :LOG EVENT
3360 020516 013737 006626          MOV      CLKHZ,TEMP
3361 020524 163737 006636          SUB     TIMTCK,TEMP
3362 020532 113723 006534          MOVVB   TEMP,(R3)+          :LOG TIME SINCE START
3363 020536 113723 006634          MOVVB   TIMSEC,(R3)+
3364 020542 113723 006632          MOVVB   TIMMIN,(R3)+
3365 020546 013723 006540          MOV      TEMP2,(R3)+
3366 020552 013723 006542          MOV      TEMP3,(R3)+
3367 020556 013723 006544          MOV      TEMP4,(R3)+
3368 020562 020327 007552          CMP     R3,#EVTEND
3369 020566 103404          BLO     LOGS2
3370
3371 020570 012713 177777          MOV      #-1,(R3)
3372 020574 012703 006650          MOV      #EVTLOC,R3
3373 020600 010337 006646 LOGS2: MOV      R3,EVTPTR
3374 020604 012603          MOV      (SP)+,R3
3375 020606 000207 LOGEX: RTS      PC
3376

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 85  
REPORT EVENT LOG

```

3377 .SBTTL REPORT EVENT LOG
3378      ::DPV DCLT PROGRAM
3379      ::RPT> LOG
3380      ::      HELP
3381      ::      EXIT
3382      ::      COUNTER/FULL,ERROR,OFFSET=NN(0)
3383
3384 020610 010246 REPORT: MOV      R2,-(SP)      ;SAVE R2,R3,R4 ON THE STACK
3385 020612 010346      MOV      R3,-(SP)
3386 020614 010446      MOV      R4,-(SP)
3387
3388      :PRINT HELP MESSAGE
3389 020616      PRINTF  #RHLPO      ;BASIC HELP MESSAGE
3390 020616 012746 013066      MOV      #RHLPO,-(SP)
3391 020622 012746 000001      MOV      #1,-(SP)
3392 020626 010600      MOV      SP,R0
3393 020630 104417      TRAP    C$PNTF
3394 020632 062706 000004      ADD     #4,SP
3395
3396 020636 105037 003147 GETRCL: CLRB    P$GDBD      ;INIT GOOD/BAD FLAG -1=BAD INPUT
3397 020642 105037 003146      CLRB    P$NNUF      ;INIT MORE COMMAND LINE INPUT NEEDED
3398
3399      :PRINT PROMPT 'RPT>'
3400 020646      GMANID  CLISRP,CMDBUF,A,-1,1,72.,NO
3401 020646 104443      TRAP    C$GMAN
3402 020650 000406      BR     10000$
3403 020652 002666      .WORD  CMDBUF
3404 020654 000142      .WORD  T$CODE
3405 020656 011600      .WORD  CLISRP
3406 020660 177777      .WORD  -1
3407 020662 000001      .WORD  T$LOLIM
3408 020664 000110      .WORD  T$HILIM
3409 020666      10000$:
3410 020666 012737 002666 003132 MOV     #CMDBUF,PSBUFA ;INPUT BUFFER
3411 020674 012737 021030 003134 MOV     #CLIRT,P$TREE ;REPORT CLI TREE
3412 020702 012737 021232 003136 MOV     #CLIRAC,PSACT ;ACTION ROUTINES
3413 020710 005037 003012 CLR     QUALFG
3414 020714 004737 024244 JSR     PC,P$TRV ;GO PARSE COMMAND LINE
3415 020720 105737 003147 TSTB   P$GDBD ;COMMAND OK ?
3416 020724 001412 BEQ     1$ ;YES,BRANCH
3417 020726 PRINTF  #CLIERM ;PRINT INVALID INPUT MESSAGE
3418 020726 012746 011605 MOV     #CLIERM,-(SP)
3419 020732 012746 000001 MOV     #1,-(SP)
3420 020736 010600 MOV     SP,R0
3421 020740 104417 TRAP    C$PNTF
3422 020742 062706 000004 ADD     #4,SP
3423 020746 000137 020636 JMP     GETRCL ;TRY AGAIN
3424
3425 020752 105737 003146 1$: TSTB   P$NNUF ;MORE COMMAND NEEDED ?
3426 020756 001412 BEQ     10$ ;NO,BRANCH
3427 020760 PRINTF  #CLINUF ;INCOMPLETE MESSAGE
3428 020760 012746 011635 MOV     #CLINUF,-(SP)
3429 020764 012746 000001 MOV     #1,-(SP)
3430 020770 010600 MOV     SP,R0
3431 020772 104417 TRAP    C$PNTF
3432 020774 062706 000004 ADD     #4,SP

```



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 86  
REPORT EVENT LOG

3433	021000	000137	020636			JMP	GETRCL		:TRY AGAIN
3434									
3435	021004	023727	003010	000002	10\$:	CMP	KEYWD1,#RPEXT		:EXIT COMMAND ?
3436	021012	001402				BEQ	20\$		:YES,BRANCH
3437	021014	000137	020636			JMP	GETRCL		:GET ANOTHER COMMAND
3438	021020	012604			20\$:	MOV	(SP)+,R4		:RESTORE R4
3439	021022	012603				MOV	(SP)+,R3		:RESTORE R3
3440	021024	012602				MOV	(SP)+,R2		:RESTORE R2
3441	021026	000207				RTS	PC		:RETURN

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 87  
COMMAND LINE PARSING TREE FOR REPORT

```

3442 .SBTTL COMMAND LINE PARSING TREE FOR REPORT
3443 CLIRT: CLI CLISPA,0,R10$ :SKIP SPACES IN COMMAND LINE
3444 021034 R10$: CLI <'?'>,RPHLP,R11$ :IF INPUT = ? THEN PRINT HELP MESSAGE
3445 021040 CLI CLIEXI,0 :AND EXIT PARSER
3446 021042 R11$: CLI CLISTR,RPHLP,R12$,<'HELP'> :IF INPUT = 'HELP' THEN PRINT HELP
3447 021056 CLI CLIEXI,0 :MESSAGE AND EXIT PARSER
3448 021060 R12$: CLI CLISTR,RPEXT,R13$,<'EXIT'> :IF INPUT = 'EXIT' THEN SET KEYWORD =
3449 021074 CLI CLIEXI,0 :RPEXT AND EXIT PARSER
3450 021076 R13$: CLI CLISTR,RPLOG,R14$,<'LOG'> :IF INPUT = 'LOG' THEN GO PRINT EVENT
3451 021110 CLI CLIEXI,0 :LOG AND EXIT PARSER
3452 021112 R14$: CLI CLISTR,RNOTNF,R30$,<'COUNTERS'> :IF INPUT = COUNTERS
3453 021132 CLI CLIBR,0,R20$ :THEN GET SWITCH
3454 021136 R20$: CLI <'/'>,RNOTNF,R30$ :
3455 021142 CLI CLISTR,RPERR,R21$,<'ERROR'> :REPORT ERROR COUNTERS
3456 021156 CLI CLIEXI,0 :
3457 021160 R21$: CLI CLISTR,RPFUL,R22$,<'FULL'> :REPORT ALL STATUS
3458 021174 CLI CLIEXI,0 :
3459 021176 R22$: CLI CLISTR,RNOTNF,R30$,<'OFFSET'> :REPORT ONE LOCATION
3460 021214 CLI <'='>,0,R30$ :
3461 021220 CLI CLIOCT,RPSWO,R30$ :
3462 021224 CLI CLIEXI,0 :
3463 021226 R30$: CLI CLIERR,0 :
3464 021230 R125$: CLI CLIEXI,0 :

```

CVCLHC DPV-11 DATA COMM LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 88  
CLI ACTION DISPATCHER AND ROUTINES

```

3465 .SBTTL CLI ACTION DISPATCHER AND ROUTINES
3466 021232 006302 CLIRAC: ASL R2 ;SET UP INDEX
3467 021234 016202 021250 MOV 10$(R2),R2 ;
3468 021240 062702 021250 ADD #10$,R2 ;
3469 021244 004712 JSR PC,(R2) ;GO DO ACTION
3470 021246 000207 RTS PC ;RETURN
3471 021250 000026 10$: .WORD ACTRNL-10$ ;NULL
3472 021252 000030 .WORD ACTRHL-10$ ;HELP ROUTINE
3473 021254 000074 .WORD ACTREX-10$ ;EXIT ROUTINE
3474 021256 000104 .WORD ACTRLG-10$ ;REPORT EVENT LOG ROUTINE
3475 021260 000142 .WORD ACTERR-10$ ;ERROR COUNTERS ONLY
3476 021262 000120 .WORD ACTFUL-10$ ;ALL COUNTERS
3477 021264 000020 .WORD ACTRNF-10$ ;MORE COMMAND NEEDED
3478 021266 000164 .WORD ACTRSO-10$ ;VALIDATE OFFSET
3479
3480 ::::ACTION ROUTINES FOR REPORT::::
3481 021270 113737 177777 003146 ACTRNF: MOVB -1,P$NNUF ;SET 'MORE COMMAND' NEEDED
3482 021276 000207 ACTRNL: RTS PC ;NULL
3483
3484 ;PRINT HELP MESSAGE
3485 021300 012702 003036 ACTRHL: MOV #RHLPTB,R2 ;INDEX FOR HELP MESSAGES
3486 021304 1$: PRINTF #HLPF,(R2)+ ;PRINT IT
3487 021304 012246 MOV (R2)+,-(SP)
3488 021306 012746 012273 MOV #HLPF,-(SP)
3489 021312 012746 000002 MOV #2,-(SP)
3490 021316 010600 MOV SP,R0
3491 021320 104417 TRAP C$PNTF
3492 021322 062706 000006 ADD #6,SP
3493 021326 020227 003052 CMP R2,#RHLPEN ;LAST MESSAGE ?
3494 021332 001364 BNE 1$ ;NO BRANCH
3495 021334 012737 000001 003010 MOV #RPHLP,KEYWD1 ;SET KEYWORD
3496 021342 000207 RTS PC ;RETURN
3497
3498 ;EXIT REPORT LEVEL
3499 021344 012737 000002 003010 ACTREX: MOV #RPEXT,KEYWD1 ;SET KEYWORD AND RETURN
3500 021352 000207 RTS PC
3501
3502 ;PRINT ERROR LOG
3503 021354 004737 022056 003010 ACTRLG: JSR PC,REPLOG ;GO PRINT EVENT LOG
3504 021360 012737 000003 MOV #RPL0G,KEYWD1 ;SET KEYWORD
3505 021366 000207 RTS PC ;RETURN
3506
3507 ;;REPORT ALL MESSAGE AND ERROR COUNTERS
3508 021370 012737 000000 037250 ACTFUL: MOV #0,FIR ;STARTING INDEX
3509 021376 012737 000036 037246 MOV #36,LAST ;LAST INDEX
3510 021404 004737 021540 JSR PC,STAPRI ;GO PRINT IT
3511 021410 000207 RETURN
3512
3513 ;;PRINT ONLY DDCMP ERROR COUNTERS
3514 021412 012737 000014 037250 ACTERR: MOV #14,FIR ;FIRST ERROR
3515 021420 012737 000036 037246 MOV #36,LAST ;LAST ERROR
3516 021426 004737 021540 JSR PC,STAPRI ;GO PRINT IT
3517 021432 000207 RETURN
3518
3519
3520 ;;VERIFY OFFSET VALUE

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 89  
CLI ACTION DISPATCHER AND ROUTINES

```

3521 021434 105037 003146 ACTRSO: CLRB PS$NUF ;CLEAR 'NOT ENOUGH FLAG'
3522 021440 032737 000001 003142 BIT #BIT0,PSNUM ;IS IT ODD ?
3523 021446 001020 BNE 20$ ;YES,BRANCH
3524 021450 005737 003142 TST PS$NUM ;NEGATIVE # ?
3525 021454 100415 BMI 20$ ;YES,BRANCH
3526 021456 023727 003142 000036 CMP PS$NUM,#36 ;INDEX LARGER THEN 36 ?
3527 021464 003011 BGT 20$ ;YES,BRANCH
3528 021466 013737 003142 037250 MOV PS$NUM,FIR ;STARTING INDEX
3529 021474 013737 003142 037246 MOV PS$NUM,LAST ;LAST LOCATION
3530 021502 004737 021546 JSR PC,STAPRI ;PRINT SINGLE LOCATION
3531 021506 000413 BR 30$ ;EXIT
3532 021510 20$: PRINTS #RPTIV ;INVALID
3533 021510 012746 013376 MOV #RPTIV,-(SP)
3534 021514 012746 000001 MOV #1,-(SP)
3535 021520 010600 MOV SP,R0
3536 021522 104416 TRAP C$PNTS
3537 021524 062706 000004 ADD #4,SP
3538 021530 112737 177777 003147 30$: MOVB #-1,PS$GDBD ;SET BAD DATA FLAG
3539 021536 000207 RETURN ;OFFSET OK - EXIT
3540
3541
3542 :: PRINT ROUTINES
3543 021540 010146 STAPRI: MOV R1,-(SP) ;SAVE R1
3544 021542 032737 000040 006574 BIT #PROTOB,PARAM ;'/PROTOCOL' SELECTED?
3545 021550 001011 BNE 5$ ;YES,BRANCH
3546 021552 PRINTF #RPTNV ;'VALID ONLY WITH PROTOCOL SELECTED'
3547 021552 012746 013421 MOV #RPTNV,-(SP)
3548 021556 012746 000001 MOV #1,-(SP)
3549 021562 010600 MOV SP,R0
3550 021564 104417 TRAP C$PNTF
3551 021566 062706 000004 ADD #4,SP
3552 021572 000420 BR 20$ ;EXIT
3553 021574 013701 037250 5$: MOV FIR,R1 ;FIRST INDEX
3554 021600 016137 037146 037252 10$: MOV STALST(R1),MES ;MESSAGE ADDRESS
3555 021606 016137 037046 037254 MOV PRSTAT(R1),MESDATA ;MESSAGE DATA
3556 021614 004771 037206 JSR PC,@STAINDR1) ;JUMP TO PROPER PRINT ROUTINE
3557 021620 062701 000002 ADD #2,R1 ;BUMP INDEX
3558 021624 020137 037246 CMP R1,LAST ;ALL MESSAGES PRINTED
3559 021630 003001 BGT 20$ ;YES,BRANCH
3560 021632 000762 BR 10$ ;PRINT NEXT MESSAGE
3561 021634 012601 20$: MOV (SP)+,R1 ;RESTORE R1
3562 021636 000207 RETURN ;EXIT
3563
3564
3565 :: PRINT WORD LOCATION
3566 021640 PRIW: PRINTS MES,MESDATA ;PRINT WORD LOCATION
3567 021640 013746 037254 MOV MESDATA,-(SP)
3568 021644 013746 037252 MOV MES,-(SP)
3569 021650 012746 000002 MOV #2,-(SP)
3570 021654 010600 MOV SP,R0
3571 021656 104416 TRAP C$PNTS
3572 021660 062706 000006 ADD #6,SP
3573 021664 000207 RETURN
3574
3575
3576 :: PRINT TWO BYTES OF DATA

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 90  
CLI ACTION DISPATCHER AND ROUTINES

PRIBB: PRINTS MES,<B,MESDATA>,<B,MESDATA+1>

3577 021666  
3578 021666 005046  
3579 021670 153716 037255  
3580 021674 005046  
3581 021676 153716 037254  
3582 021702 013746 037252  
3583 021706 012746 000003  
3584 021712 010600  
3585 021714 104416  
3586 021716 062706 000010  
3587 021722 000207

CLR -(SP)  
BISB MESDATA+1,(SP)  
CLR -(SP)  
BISB MESDATA,(SP)  
MOV MES,-(SP)  
MOV #3,-(SP)  
MOV SP,R0  
TRAP C\$PNTS  
ADD #10,SP

RETURN

:: PRINT SPECIAL BYTE MASK

3589  
3590 021724 005037 006536  
3591 021730 005037 006540  
3592 021734 005037 006542  
3593 021740 132737 000001 037255  
3594 021746 001402  
3595 021750 005237 006536  
3596 021754 132737 000002 037255 10\$:  
3597 021762 001402  
3598 021764 005237 006540  
3599 021770 132737 000004 037255 20\$:  
3600 021776 001402  
3601 022000 005237 006542  
3602 022004 30\$:  
3603 022004 005046  
3604 022006 153716 006542  
3605 022012 005046  
3606 022014 153716 006540  
3607 022020 005046  
3608 022022 153716 006536  
3609 022026 005046  
3610 022030 153716 037254  
3611 022034 013746 037252  
3612 022040 012746 000005  
3613 022044 010600  
3614 022046 104416  
3615 022050 062706 000014  
3616 022054 000207

PRIBS: CLR TEMP1  
CLR TEMP2  
CLR TEMP3  
BITB #BIT0,MESDATA+1 :BIT 0 = 1 ?  
BEQ 10\$ :NO,BRANCH  
INC TEMP1 :SET IT  
BITB #BIT1,MESDATA+1 :BIT 1 = 1 ?  
BEQ 20\$ :NO,BRANCH  
INC TEMP2 :SET IT  
BITB #BIT2,MESDATA+1 :BIT 2 = 1 ?  
BEQ 30\$ :NO,BRANCH  
INC TEMP3 :SET IT  
30\$: PRINTS MES,<B,MESDATA>,<B,TEMP1>,<B,TEMP2>,<B,TEMP3>

CLR -(SP)  
BISB TEMP3,(SP)  
CLR -(SP)  
BISB TEMP2,(SP)  
CLR -(SP)  
BISB TEMP1,(SP)  
CLR -(SP)  
BISB MESDATA,(SP)  
MOV MES,-(SP)  
MOV #5,-(SP)  
MOV SP,R0  
TRAP C\$PNTS  
ADD #14,SP

RETURN

3617  
3618  
3619

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 91  
DUMP EVENT LOG

.SBTTL DUMP EVENT LOG

```

3620
3621
3622
3623 022056 010246
3624 022060 010346
3625 022062 010446
3626
3627
3628
3629
3630 022064 013702 006646
3631 022070 023727 006650 177777
3632 022076 001034
3633 022100
3634 022100 012746 015507
3635 022104 012746 000001
3636 022110 010600
3637 022112 104416
3638 022114 062706 000004
3639 022120 000137 023004
3640
3641 022124 162702 000012
3642
3643
3644 022130 020227 006650
3645 022134 001010
3646 022136 012702 007552
3647 022142 026227 177776 177777
3648 022150 001007
3649 022152 000137 023004
3650
3651 022156 020237 006646
3652 022162 001002
3653 022164 000137 023004
3654
3655 022170 162702 000012
3656 022174
3657 022174 012746 015547
3658 022200 012746 000001
3659 022204 010600
3660 022206 104416
3661 022210 062706 000004
3662 022214 112203
3663 022216 112237 007646
3664 022222 112237 007642
3665 022226 112237 007644
3666 022232
3667 022232 016346 007612
3668 022236 013746 007646
3669 022242 013746 007642
3670 022246 013746 007644
3671 022252 012746 015643
3672 022256 012746 000005
3673 022262 010600
3674 022264 104416
3675 022266 062706 000014

```

```

REPLOG: MOV R2,-(SP) ;SAVE R2,R3,R4 ON THE STACK
        MOV R3,-(SP)
        MOV R4,-(SP)

MOV EVTPTR,R2 ;MAKE R2 A POINTER TO EVENT TABLE
CMP EVTLOG,#-1 ;SEE IF EVENT TABLE IS EMPTY
BNE RPT0 ;BR IF NO
PRINTS #NULEVT ;IF EMPTY TELL OPERATOR.

MOV #NULEVT,-(SP)
MOV #1,-(SP)
MOV SP,R0
TRAP C$PNTS
ADD #4,SP

JMP ENDEVT ;AND END

RPT: SUB #12,R2 ;NOW POINT BACK TO TOP OF ENTRY U
      ;JUST PRINTED

CMP R2,#EVTLOG ;POINTING TO TOP OF EVNT LOG QUEUE?
BNE RPT1 ; BR IF NO
MOV #EVTEND,R2 ;SET R2 TO POINT TO BOTTOM OF LOG
CMP -2(R2),#-1
BNE RPT0 ;IF END OF LOG IS NOT EMPTY
JMP ENDEVT ;CONTINUE...ELSE EXIT

RPT1: CMP R2,EVTPTR ;ARE WE BACK TO POINT??
       BNE RPT0 ;IF NOT CONTINUE
       JMP ENDEVT ;IF SO EXIT....

RPT0: SUB #12,R2 ;POINT R2 TO START OF ENTRY
RPTAA: PRINTS #EVTFO ;PRINT EVENT ENTRY HEADER

MOV #EVTFO,-(SP)
MOV #1,-(SP)
MOV SP,R0
TRAP C$PNTS
ADD #4,SP

MOVB (R2)+,R3 ;PUT EVENT TYPE INTO R3
MOVB (R2)+,EVTTCK
MOVB (R2)+,EVTSEC ;PUT EVENT TIME (TICKS,SECS,MINS IN TEMP LOC.S)
MOVB (R2)+,EVTMIN
PRINTS #EVTFO,EVTMIN,EVTSEC,EVTTCK,EVTLST(R3) ;PRINT EVENT TIME AND DESCRIPT.

MOV EVTLST(R3),-(SP)
MOV EVTTCK,-(SP)
MOV EVTSEC,-(SP)
MOV EVTMIN,-(SP)
MOV #EVTFO,-(SP)
MOV #5,-(SP)
MOV SP,R0
TRAP C$PNTS
ADD #14,SP

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 92  
DUMP EVENT LOG

```

3676 022272 000173 007656      JMP      @RPTDSP(R3)      ;DISPATCH TO DECODING SECTION FOR SPECIFIC TYPE
3677
3678 022276 012237 007650      RPTTXQ: MOV      (R2)+,EVTADD ;STORE MESSAGE ADDRESS FOR PRINTING
3679 022302 012237 007652      MOV      (R2)+,EVTBCT ;STORE BYTE COUNT FOR PRINTING
3680 022306 012203                MOV      (R2)+,R3 ;STORE MODEM STATUS FOR PRINTING
3681 022310                PRINTS  #EVTF2,EVTADD,EVTBCT ;PRINT ADDR,BYTE CNT
3682 022310 013746 007652                MOV      EVTBCT,-(SP)
3683 022314 013746 007650                MOV      EVTADD,-(SP)
3684 022320 012746 015672                MOV      #EVTF2,-(SP)
3685 022324 012746 000003                MOV      #3,-(SP)
3686 022330 010600                MOV      SP,R0
3687 022332 104416                TRAP    C$PNTS
3688 022334 062706 000010                ADD     #10,SP
3689 022340 004737 023014      JSR      PC,RPTMSB      ;GO PRINT MODEM STATUS
3690 022344 000137 022124      JMP      RPT            ;GO BACK FOR NEXT EVENT ENTRY
3691
3692 022350 012237 007654      RPTDER: MOV      (R2)+,EVTTMP ;GET ADDRESS OF DEVICE INFO MESSAGE
3693 022354 012237 007706      MOV      (R2)+,DEV1 ;STORE DEVICE REG CONTENTS FOR PRINTING
3694 022360 012237 007710      MOV      (R2)+,DEV2
3695 022364                PRINTS  #EVTF3,EVTTMP ;PRINT DEVICE REG CONTENTS.
3696 022364 013746 007654                MOV      EVTTMP,-(SP)
3697 022370 012746 015744                MOV      #EVTF3,-(SP)
3698 022374 012746 000002                MOV      #2,-(SP)
3699 022400 010600                MOV      SP,R0
3700 022402 104416                TRAP    C$PNTS
3701 022404 062706 000006                ADD     #6,SP
3702 022410                PRINTS  #EVTF3C,DEV1,DEV2
3703 022410 013746 007710                MOV      DEV2,-(SP)
3704 022414 013746 007706                MOV      DEV1,-(SP)
3705 022420 012746 015756                MOV      #EVTF3C,-(SP)
3706 022424 012746 000003                MOV      #3,-(SP)
3707 022430 010600                MOV      SP,R0
3708 022432 104416                TRAP    C$PNTS
3709 022434 062706 000010                ADD     #10,SP
3710 022440 000137 022124      JMP      RPT            ;GO BACK FOR NEXT EVENT ENTRY
3711
3712 022444 005037 007706      RPTDVI: CLR      DEV1
3713 022450 005037 007710      CLR      DEV2 ;CLEAR UPPER BYTES OF DEV1 & DEV2 BEFORE USE
3714 022454 112237 007706      MOV      (R2)+,DEV1 ;STORE SETUP OPERATION PARAMETERS FOR PRINTING
3715 022460 112237 007710      MOV      (R2)+,DEV2
3716 022464 012237 007712      MOV      (R2)+,DEV3
3717 022470 012237 007714      MOV      (R2)+,DEV4
3718 022474 010246                MOV      R2,-(SP) ;SAVE R2 ON THE STACK
3719 022476 004737 023712      JSR      PC,SHWOP ;GO PRINT MODE, MAINT-LOOP TYPE, PARAMTERS.
3720 022502 012602                MOV      (SP)+,R2 ;RESTORE R2
3721 022504 000137 022124      JMP      RPT            ;GO BACK FOR NEXT EVENT ENTRY
3722
3723                ;:REPORT END OF PASS OR ^C ABORT
3724 022510                RPTABO:
3725 022510 012237 007650      RPTTEUP: MOV      (R2)+,EVTADD
3726 022514 012237 007652      MOV      (R2)+,EVTBCT
3727 022520 012237 007654      MOV      (R2)+,EVTTMP
3728 022524                PRINTS  #EVTF4B,EVTADD,EVTBCT,EVTTMP ;PRINT ADDR,RXBYTES,CMPTBYTES.
3729 022524 013746 007654                MOV      EVTTMP,-(SP)
3730 022530 013746 007652                MOV      EVTBCT,-(SP)
3731 022534 013746 007650                MOV      EVTADD,-(SP)

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 93  
DIIMP EVENT LOG

```

3732 022540 012746 016215          MOV      #EVTF4B,-(SP)
3733 022544 012746 000004          MOV      #4,-(SP)
3734 022550 010600                    MOV      SP,R0
3735 022552 104416                    TRAP     CSPNTS
3736 022554 062706 000012          ADD      #12,SP
3737
3738 022560 000137 022124          JMP      RPT          ;THEN GO GET NEXT EVENT ENTRY
3739
3740
3741 022564 012237 007650          RPTDDE: MOV      (R2)+,EVTADD ;STORE MESSAGE ADDRESS FOR PRINTING
3742 022570 012237 007652          MOV      (R2)+,EVTBCT ;STORE BYTE COUNT FOR PRINTING
3743 022574 012237 007654          MOV      (R2)+,EVTTMP ;STORE TOTAL # OF CMP ERRORS
3744 022600                    PRINTS  #EVTF4,EVTADD,EVTBCT,EVTTMP ;PRINT ADDR, BYTE CNT, # CMP ERRS
3745 022600 013746 007654                    MOV      EVTTMP,-(SP)
3746 022604 013746 007652                    MOV      EVTBCT,-(SP)
3747 022610 013746 007650                    MOV      EVTADD,-(SP)
3748 022614 012746 016015                    MOV      #EVTF4,-(SP)
3749 022620 012746 000004                    MOV      #4,-(SP)
3750 022624 010600                    MOV      SP,R0
3751 022626 104416                    TRAP     CSPNTS
3752 022630 062706 000012          ADD      #12,SP
3753 022634 000137 022124          JMP      RPT          ;THEN GO GET NEXT EVENT ENTRY
3754
3755 022640
3756 022640 012237 007650          RPTDLE: RPTDCK: MOV      (R2)+,EVTADD ;STORE MSG ADDR FOR PRINT
3757 022644 012237 007652          MOV      (R2)+,EVTBCT ;STORE BYTE COUNT
3758 022650 012237 007654          MOV      (R2)+,EVTTMP ;STORE BYTE COUNT COMP
3759 022654                    PRINTS  #EVTF4A,EVTADD,EVTBCT,EVTTMP ;PRINT ADDR,RXBYTES,CMPBYTES.
3760 022654 013746 007654                    MOV      EVTTMP,-(SP)
3761 022660 013746 007652                    MOV      EVTBCT,-(SP)
3762 022664 013746 007650                    MOV      EVTADD,-(SP)
3763 022670 012746 016117                    MOV      #EVTF4A,-(SP)
3764 022674 012746 000004                    MOV      #4,-(SP)
3765 022700 010600                    MOV      SP,R0
3766 022702 104416                    TRAP     CSPNTS
3767 022704 062706 000012          ADD      #12,SP
3768
3769 022710 000137 022124          JMP      RPT          ;THEN GO GET NEXT EVENT ENTRY
3770
3771
3772
3773
3774
3775 022714 012237 007654          RPTMSC: MOV      (R2)+,EVTTMP
3776 022720                    PRINTS  #EVTF3,EVTTMP ;PRINT CHANGE TYPE
3777 022720 013746 007654                    MOV      EVTTMP,-(SP)
3778 022724 012746 015744                    MOV      #EVTF3,-(SP)
3779 022730 012746 000002                    MOV      #2,-(SP)
3780 022734 010600                    MOV      SP,R0
3781 022736 104416                    TRAP     CSPNTS
3782 022740 062706 000006          ADD      #6,SP
3783 022744 012203                    MOV      (R2)+,R3 ;PUT OLD MODEM STATUS IN R3 FOR PRINTING
3784 022746 004737 023014          JSR      PC,RPTMSB ;GO PRINT OLD MODEM STATUS
3785 022752                    PRINTS  #EVMOCG ;GO PRINT "CHANGED TO:"
3786 022752 012746 016357                    MOV      #EVMOCG,-(SP)
3787 022756 012746 000001                    MOV      #1,-(SP)

```



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 94  
DUMP EVENT LOG

```

3788 022762 010600
3789 022764 104416
3790 022766 062706 000004
3791 022772 012203
3792 022774 004737 023014
3793 023000 000137 022124
3794
3795
3796 023004 012604
3797 023006 012603
3798 023010 012602
3799 023012 000207
3800
3801
3802
3803
3804
3805 023014
3806 023014 012746 016402
3807 023020 012746 000001
3808 023024 010600
3809 023026 104416
3810 023030 062706 000004
3811 023034 012704 007556
3812 023040 012705 007574
3813 023044 005714
3814 023046 001004
3815 023050 112735 000130
3816 023054 005724
3817 023056 000407
3818 023060 032403
3819 023062 001403
3820 023064 112735 000061
3821 023070 000402
3822 023072 112735 000060
3823 023076 020427 007574
3824 023102 002760
3825 023104
3826 023104 012746 016462
3827 023110 012746 000001
3828 023114 010600
3829 023116 104416
3830 023120 062706 000004
3831 023124 000207
3832
3833

```

```

;REPORT MODEM STATUS SUBROUTINE
; PART OF STATISICAL REPORTING (DUMPING EVENT LOG)
RPTMSE: PRINTS #EVMOHD ;PRINT MODEM STATUS HEADER
;MAKE R4 A POINTER TO MODEM SIG. BIT DEF. TABLE
;MAKE R5 A POINTER TO MODEM MSG. POSITION TABLE
;SEE IF BIT AVAIABLE FROM DEVICE
;BR IF THAT MODEM SIG. AVAIABLE
;ELSE PUT 'X' IN REPORT IF SIGNAL NOT AVAILABLE
;BUMP R4 TO POINT TO NEXT BIT DEFINITION
;GO SEE IF CHECKED ALL MODEM SIGNALS
;IF THERE, SEE IF THAT BIT IN DEVICE'S ENTRY=1
;BR IF BIT (SIGNAL) VALUE =0
;IF=1, PUT '1' IN REPORT MESSAGE
;GO SFE IF ALL MODEM SIGNALS CHECKED
;IF BIT(SIGNAL)=0, PUT '0' IN REPORT MESSAGE
;SEE IF ALL BITS(SIGNALS) CHECKED
;LOOP UNTIL ALL SIGNALS(BITS) CHECKED
;THEN PRINT MODEM SIGNAL VALUE MESSAGE
RPTMSE: PRINTS #EVMOST
;RETURN TO EVENT DECODING

```

```

MOV (R2)+,R3 ;PUT NEW MODEM STATUS IN R3 FOR PRINTING
TRAP PC,RPTMSB ;GO PRINT NEW MODEM STATUS
ADD #4,SP ;THEN GO GET NEXT EVENT
MOV (SP)+,R4 ;RESTORE R4,R3,R2
MOV (SP)+,R3
MOV (SP)+,R2
RTS PC ;RETURN TO CALLING ROUTINE

```

```

MOV #EVMOHD,-(SP)
MOV #1,-(SP)
MOV SP,R0
TRAP C$PNTS
ADD #4,SP

```

```

MOV #EVMOST,-(SP)
MOV #1,-(SP)
MOV SP,R0
TRAP C$PNTS
ADD #4,SP

```

```

RTS PC ;RETURN TO EVENT DECODING

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 95  
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

3834  
3835  
3836  
3837  
3838  
3839  
3840  
3841  
3842  
3843  
3844  
3845  
3846  
3847  
3848  
3849  
3850  
3851  
3852  
3853  
3854  
3855  
3856  
3857  
3858  
3859  
3860  
3861 023126 013702 006510  
3862 023132 005003  
3863 023134  
3864 023134 010246  
3865 023136 012746 015501  
3866 023142 012746 000002  
3867 023146 010600  
3868 023150 104417  
3869 023152 062706 000006  
3870 023156 005737 006514  
3871 023162 001416  
3872 023164 112237 006534  
3873 023170  
3874 023170 005046  
3875 023172 153716 006534  
3876 023176 012746 015463  
3877 023202 012746 000002  
3878 023206 010600  
3879 023210 104417  
3880 023212 062706 000006  
3881 023216 000411  
3882 023220  
3883 023220 012246  
3884 023222 012746 015472  
3885 023226 012746 000002  
3886 023232 010600  
3887 023234 104417  
3888 023236 062706 000006  
3889 023242 020237 006512

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

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 96  
DUMP BYTES OR WORDS

3890 023246 003005  
3891 023250 005203  
3892 023252 022703 000010  
3893 023256 001725  
3894 023260 000736  
3895  
3896 023262 000207  
3897

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

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 97  
UPDATE TOTAL CHAR. COUNT SUBROUTINE

3898  
3899  
3900  
3901  
3902  
3903  
3904  
3905  
3906  
3907  
3908  
3909  
3910  
3911  
3912  
3913  
3914  
3915  
3916  
3917  
3918  
3919  
3920  
3921  
3922  
3923  
3924  
3925  
3926  
3927  
3928  
3929  
3930  
3931  
3932  
3933  
3934  
3935  
3936  
3937  
3938  
3939

.SBTTL UPDATE TOTAL CHAR. COUNT SUBROUTINE

```

:++
: FUNCTIONAL DESCRIPTION:
:   UPDATES TOTAL CHAR. COUNT TOTCC BASED ON CURCC.
:   LAST MESSAGE IS TRUNCATED TO FIT INTO THE
:   BUFFER IF TOTAL CHAR. COUNT EXCEEDS 'BUFLIM' A MESSAGE
:   IS PRINTED TELLING THE OPERATOR THE TRUNCATION OCCURED.
:
: INPUTS:
:   CURCC= CHAR. COUNT OF MESSAGE BEING ADDED
:   TOTCC= TOTAL CHAR COUNT OF BUFFER ITS BEING ADDED TO
:
: OUTPUTS:
:   MESSAGE TO OPERATOR IF MESSAGE TRUNCATED TO FIT
:
: FUNCTIONAL SIDE EFFECTS:
:   LOCATION 'TEMP' USED FOR CALCULATIONS
:
: CALLING SEQUENCE:
:   JSR    PC,ADCC          ;UPDATED TOTAL CHAR. COUNT
:--
    
```

```

ADDCC:  ADD    CURCC,TOTCC      ;ADD CURRENT TO TOTAL
        CMP    #BUFLIM,TOTCC   ; COMPARE TO 'BUFLIM'
        BHIS  ADDC1            ;IF NOT MORE THEN 'BUFLIM' EXIT
: PRINT MESSAGE AND TRUNCATE COUNT
        PRINTF #MSGTRU
:
        MOV    #MSGTRU,-(SP)
        MOV    #1,-(SP)
        MOV    SP,R0
        TRAP   C$PNTF
        ADD    #4,SP
        SUB    CURCC,TOTCC     ;SUB CURRENT FROM TOTAL
        MOV    #BUFLIM,TEMP    ;MOV 'BUFLIM' TO TEMP
        SUB    TOTCC,TEMP      ;SUB TOTAL FROM 'BUFLIM'
        MOV    TEMP,CURCC      ;AND ESTABLISH NEW CURRENT
        ADD    CURCC,TOTCC     ;ADD 'ADJUSTED CURRENT' TO TOTAL CHAR. CNT.
ADDCC1: RTS    PC              ;RETURN TO CALLER
    
```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 98  
BUILD MESSAGE BUFFERS SUBROUTINE

```

3940 .SBTTL          BUILD MESSAGE BUFFERS SUBROUTINE
3941
3942
3943
3944
3945
3946
3947
3948
3949
3950
3951
3952
3953
3954
3955
3956
3957
3958
3959
3960
3961
3962
3963
3964 023362
3965 023362 010246
3966 023364 010346
3967 023366 013702 006524
3968
3969 023372 013722 006526
3970 023376 013722 006520
3971 023402 010237 006524
3972 023406 013702 006516
3973 023412 006302
3974 023414 013737 006526 006534
3975 023422 063737 006520 006534
3976 023430 013703 006526
3977 023434 016237 002150 006540
3978 023442 016204 002172
3979 023446 060437 006540
3980 023452 112423
3981 023454 020337 006534
3982 023460 001404
3983 023462 020437 006540
3984 023466 001762
3985 023470 000770
3986 023472 063737 006520 006526
3987 023500 012603
3988 023502 012602
3989 023504 000207
3990

++
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.
--

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
BLDB2: 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
BLDB3: 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

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 99  
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 [EXPECT]=  
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  
....P1=R1+1  
..UNIL 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

3991  
3992  
3993  
3994  
3995  
3996  
3997  
3998  
3999  
4000  
4001  
4002  
4003  
4004  
4005  
4006  
4007  
4008  
4009  
4010  
4011  
4012  
4013  
4014  
4015  
4016  
4017  
4018  
4019  
4020  
4021  
4022  
4023  
4024  
4025  
4026  
4027  
4028  
4029  
4030  
4031  
4032  
4033  
4034  
4035  
4036  
4037  
4038  
4039  
4040  
4041  
4042  
4043  
4044  
4045  
4046

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 100  
CREATE FACSIMILE OF TX BUFFER AND MESSAGE LIST

```

4047
4048 023506
4049
4050 023506 010146
4051 023510 005001
4052 023512 116161 003150 005150 10$:
4053 023520 005201
4054 023522 020127 001000
4055 023526 001371
4056
4057 023530 012701 000017 20$:
4058 023534 006301
4059 023536 006301
4060 023540 012737 006150 006444
4061 023546 050137 006444
4062 023552 005001
4063
4064
4065 023554 012737 006150 006442
4066 023562 012737 005150 006452
4067 023570 062737 000002 006442
4068 023576 017737 162640 006450
4069 023604 005037 006446
4070
4071
4072 023610 023737 006462 006446 30$:
4073 023616 001430
4074 023620 013777 006452 162616
4075 023626 062737 000002 006444
4076 023634 013777 006450 162602
4077 023642 062737 000004 006442
4078 023650 063737 006450 006452
4079 023656 017737 162560 006450
4080 023664 062737 000002 006444
4081 023672 005237 006446
4082 023676 000744
4083
4084 023700 013737 006464 006450 40$:
4085
4086
4087 023706 012601
4088 023710 000207
4089
4090

FACSIMILE:

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

MOV #MSGLIM,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
    
```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 101  
SHOW MODE OF OPERATION, LOOP TYPE AND QUALIFIERS

.SBTTL SHOW MODE OF OPERATION, LOOP TYPE AND QUALIFIERS

++  
FUNCTIONAL DESCRIPTION:  
SHWOP - SHOW MODE OF OPERATION, LOOP, QUALIFIERS  
PRINTED ON THE OPERATOR'S CONSOLE.

INPUTS:  
DEV1= MODE TYPE (MODTYP)  
DEV2= MAINT LOOP TYPE (MLTYP)  
DEV3= 'RUN PASS' COUNT (RPASS) - COUNT DOWN  
DEV4= PARAMETERS WORD (PARAM)

IMPLICIT INPUTS:  
MODES= TABLE OF ADDRESSES OF MODE NAME STRINGS  
LOOPS= TABLE OF ADDRESSES OF LOOP TYPE NAMES

CALLING SEQUENCE:  
JSR PC,SHWOP

--

4091  
4092  
4093  
4094  
4095  
4096  
4097  
4098  
4099  
4100  
4101  
4102  
4103  
4104  
4105  
4106  
4107  
4108  
4109  
4110  
4111  
4112 023712 013702 007706  
4113 023716 006302  
4114 023720 016237 003102 006534  
4115 023726 013702 007710  
4116 023732 006302  
4117 023734 012737 013715 006542  
4118 023742 005702  
4119 023744 007003  
4120 023746 012737 013714 006542  
4121 023754 016237 003120 006536  
4122 023762 013737 007712 006540  
4123 023770  
4124 023770 013746 006540  
4125 023774 013746 006536  
4126 024000 013746 006542  
4127 024004 013746 006534  
4128 024010 012746 014501  
4129 024014 012746 000005  
4130 024020 010600  
4131 024022 104416  
4132 024024 062706 000014  
4133  
4134 024030 005002  
4135 024032 012737 013774 006534  
4136 024040 032737 000001 007714  
4137 024046 001003  
4138 024050 012737 013772 006534  
4139 024056 012737 014005 006536  
4140 024064 032737 000002 007714  
4141 024072 001003  
4142 024074 012737 014003 006536  
4143 024102 012737 014015 006540  
4144 024110 032737 000004 007714  
4145 024116 001003  
4146 024120 012737 014013 006540

SHWOP: MOV DEV1,R2 ;GET THE MODE TYPE IN R2  
ASL R2 ;MAKE IT A WORD TABLE OFFSET  
MOV MODES(R2),TEMP ;GET ADDRESS OF MODE-IN-ASCII  
MOV DEV2,R2 ;GET MAINTENANCE LOOP TYPE  
ASL R2  
MOV #LPO0,TEMP3 ;LOAD TEMP3 TO POINT TO '/LOOP='  
TST R2 ;SEE IF /LOOP=XXXXX OR NONE  
BNE 10\$ ;BR IF /LOOP= OF SOME KIND  
MOV #LPO,TEMP3 ;IF NO LOOP THEN DON'T PRINT '/LOOP='  
10\$: MOV LOOPS(R2),TEMP1 ;GET ADDRESS OF LOOP-IN-ASCII  
MOV DEV3,TEMP2 ;GET NUMBER OF PASSES  
PRINTS #SHF0,TEMP,TEMP3,TEMP1,TEMP2

MOV TEMP2,-(SP)  
MOV TEMP1,-(SP)  
MOV TEMP3,-(SP)  
MOV TEMP,-(SP)  
MOV #SHF0,-(SP)  
MOV #5,-(SP)  
MOV SP,R0  
TRAP C\$PNTS  
ADD #14,SP

CLR R2 ;NOW SET UP FOR QUALIFIERS IN ASCII  
MOV #PST,TEMP  
BIT #STATB,DEV4 ;SEE IF /STATUS OR /NOSTATUS  
BNE 1\$ ;BR IF /STATUS  
MOV #PNST,TEMP  
MOV #PCK,TEMP1  
BIT #DATCKB,DEV4 ;SEE IF /CHECK OR /NOCHECK  
BNE 2\$ ;BR IF /CHECK  
MOV #PNCK,TEMP1  
MOV #PEC,TEMP2  
BIT #ECHOB,DEV4 ;SEE IF /ECHO OR /NOECHO  
BNE 4\$ ;BR IF /ECHO  
MOV #PNEC,TEMP2



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 102  
SHOW MODE OF OPERATION, LOOP TYPE AND QUALIFIERS

```

4147
4148 024126 012737 014034 006544 4$: MOV #PPR,TEMP4
4149 024134 032737 000040 007714 BIT #PROTOB,DEV4 ;SEE OF /PROTOCOL OR /NOPROTOCOL
4150 024142 001003 BNE 3$ ;BR IF /PROTOCOL
4151 024144 012737 014032 006544 MOV #PNPR,TEMP4
4152 024152 012737 014024 006546 3$: MOV #PMS,TEMP5
4153 024160 032737 000010 007714 BIT #MOCHK,DEV4 ;SEE IF /MODEM OR /NOMODEM
4154 024166 001003 BNE 5$ ;BR IF MODEM
4155 024170 012737 014022 006546 MOV #PNMS,TEMP5
4156
4157
4158 024176 5$: PRINTS #SHF1,TEMP,TEMP1,TEMP2,TEMP5,TEMP4 ;,TEMP3
4159 024176 013746 006544 MOV TEMP4,-(SP)
4160 024202 013746 006546 MOV TEMP5,-(SP)
4161 024206 013746 006540 MOV TEMP2,-(SP)
4162 024212 013746 006536 MOV TEMP1,-(SP)
4163 024216 013746 006534 MOV TEMP,-(SP)
4164 024222 012746 014537 MOV #SHF1,-(SP)
4165 024226 012746 000006 MOV #6,-(SP)
4166 024232 010600 MOV SP,R0
4167 024234 104416 TRAP C$PNTS
4168 024236 062706 000016 ADD #16,SP
4169 024242 000207
4170
4171
RTS PC ;RETURN
    
```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 103  
TRAVERSE COMMAND LINE SUBROUTINES

```

4172 .SBTTL TRVERSE COMMAND LINE SUBROUTINES
4173
4174 :++
4175 : PSTRV SUBROUTINE
4176 :
4177 : PARSE THE COMMAND LINE SUBROUTINE
4178 : TAKE ACTIONS (VIA ACTION TREE) AS PARSING LINE
4179 : PARSING DIRECTIONS FROM 'CLI PARSING NODES'
4180 : REGS USED:
4181 :
4182 : R1,R5=SCRATCH P$NUM=NUMERIC CODE FROM DATA
4183 : R2=ACTION CODE PARAMETER FROM TREE
4184 : R3=PARSE TREE POINTER
4185 : R4=INPUT STRING POINTER
4186 : CALLING SEQUENCE:
4187 : JSR PC,PSTRV
4188 :--
4189
4190 PSTRV:
4191 024244 013704 003132 MOV PSBUFA,P'
4192 024244 013703 003134 MOV PSTREE,R3
4193 024254 105714 TSTB (R4) ;SEE IF ANY CHARS LEFT IN INPUT STRING
4194 024256 001441 BEQ P$EXIT ;BR IF NO
4195 024260 121327 000013 CMPB (R3),#11. ;SEE IF SPECIAL CLI CHAR CODE OR ASCII
4196 024264 003023 BGT 20$ ;BR IF REGULAR ASCII CHAR.
4197 024266 111305 MOVB (R3),R5 ;GET SPECIAL CHAR CODE INTO R5
4198 024270 006305 ASL R5
4199 024272 016505 024306 MOV 10$(R5),R5 ;BUILD TRAVERSE ROUTINE ADDRESS
4200 024276 062705 024306 ADD #10$,R5
4201 024302 004715 JSR PC,(R5) ;JSR TO SPECIAL CLI TRAVERSE ROUTINE
4202 024304 000763 BR PSTR5 ;GO SEE IF MORE OF STRING LEFT
4203
4204
4205 024306 000114 10$: .WORD TRVERR-10$ ;TRAVERSE TABLE FOR 'CLI FUNCTIONS'
4206 024310 000134 .WORD TRVEXI-10$ :1
4207 024312 000152 .WORD TRVBR-10$ :2
4208 024314 000162 .WORD TRVBIF-10$ :3
4209 024316 000204 .WORD TRVSPA-10$ :4
4210 024320 000270 .WORD TRVNUM-10$ :5
4211 024322 000604 .WORD TRVALP-10$ :6
4212 024324 000650 .WORD TRVALN-10$ :7
4213 024326 000270 .WORD TRVOCT-10$ :8
4214 024330 000256 .WORD TRVDEC-10$ :9
4215 024332 000736 .WORD TRVSTR-10$ :10
4216
4217 ;NOT A SPECIAL CODE
4218
4219 024334 121314 20$: CMPB (R3),(R4) ;SEE IF FIRST CHAR OF STRING IS A MATCH
4220 024336 001403 BEQ 22$ ;BR IF A MATCH
4221 024340 004737 024404 JSR PC,TRVBR ;IF NOT A MATCH, GO TAKE MISS BRANCH
4222 024344 000743 BR PSTR5 ; THEN GO BACK PT'G TO MISS NODE
4223 024346 004737 024364 22$: JSR PC,TRVACT ;IF A MATCH, GO DO ACTION DEFINED BY
4224 024352 062703 000004 ADD #4,R3 ; ACTION CODE IN CLI NODE, THEN
4225 : ADJUST PTR TO NEXT CLI NODE
4226 024356 005204 INC R4 ;ADJUST BUF PTR TO NEXT CHAR IF MATCH
4227 024360 000735 BR PSTR5

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 104  
TRAVERSE COMMAND LINE SUBROUTINES

```

4228
4229 024362 000207 P$EXIT: RTS PC ;RETURN FROM PARSER
4230
4231
4232
4233
4234 024364 116302 000001 ;GOTO USER ACTION ROUTINE
4235 024370 042702 177400 TRVACT: MOV 1(R3),R2 ;GET ACTION CODE FROM CLI NODE
4236 024374 013705 003136 BIC #177400,R2 ;CLEAR ANY SIGN EXTENSION
4237 024400 004715 MOV P$ACT,R5 ;GET ADDRESS OF CLI ACTION ROUTINE
4238 024402 000207 JSR PC,(R5) ;GO DO ACTION DEFINED BY CODE
4239 RTS PC ;RETURN TO CALLING CODE
4240
4241 024404 016305 000002 ;TAKE BRANCH IN TREE
4242 024410 060503 TRVBRC: MOV 2(R3),R5 ;GET BRANCH DISPLACEMENT FROM TREE
4243 024412 000207 ADD R5,R3 ; AND POINT R3 TO THE 'MISS' NODE
4244 RTS PC ; RETURN TO P$TRV
4245
4246 024414 062703 000004 ;NO BRANCH TAKEN
4247 024420 000207 TRVNOB: ADD #4,R3 ;THINGS OK, UPDATE R3 TO POINT TO NEXT
4248 RTS PC ; NODE AND RETURN TO P$TRV
4249
4250 024422 004737 024364 TRVERR: JSR PC,TRVACT ;TAKE ERROR ACTION
4251 024426 112737 177777 003147 MOV #-1,P$GDBD ;SET ERROR RETURN FLAG
4252 024434 005726 TST (SP)+ ;GET RID OF 'JSR PUSH TO TRVERR'
4253 024436 000137 024362 JMP P$EXIT ;RETURN DIRECT TO EXIT OF P$TRV ROUTINE
4254
4255 024442 004737 024364 TRVEXI: JSR PC,TRVACT ;TAKE EXIT ACTION
4256 024446 105037 003147 CLRB P$GD3D ;SET GOOD/BAD FLAG TO 'SUCCESS (0)'
4257 024452 005726 TST (SP)+ ;GET RID OF 'JSR PUSH TO TRVEXI'
4258 024454 000137 024362 JMP P$EXIT ;RETURN DIRECT TO EXIT OF P$TRV ROUTINE
4259
4260 024460 004737 024364 TRVBR: JSR PC,TRVACT ;GO TAKE BRANCH ACTION
4261 024464 000137 024404 JMP TRVBRC
4262
4263 024470 004737 024364 TRVBIF: JSR PC,TRVACT
4264 024474 105737 003147 TST P$GDBD ;SEE IF P$GDBD SET OR CLEARED BY ACTION
4265 024500 001402 BEQ 1$ ;IF CLEAR FALL THRU TO NEXT NODE
4266 024502 000137 024404 JMP TRVBRC ;ELSE TAKE THE 'MISS' BRANCH
4267 024506 000137 024414 1$: JMP TRVNOB ;JUST UPDATE TO NEXT NODE IF THINGS OK
4268
4269 024512 005005 TRVSPA: CLR R5 ;CLEAR 'SPACE OR TAB FOUND' FLAG
4270 024514 121427 000011 1$: CMPB (R4),#11 ;SEE IF CHAR. IN CMD LINE= TAB
4271 024520 001003 BNE 2$ ;BR IF NO, NOT A TAB
4272 024522 005204 INC R4 ;INC INPUT STRING POINTER
4273 024524 005205 INC R5 ;INDICATE A TAB FOUND
4274 024526 000772 BR 1$ ;GO CHECK NEXT CHAR
4275
4276 024530 121427 000040 2$: CMPB (R4),#40 ;SEE IF CHAR. IN CMD LINE= SPACE
4277 024534 001003 BNE 10$ ;BR IF NO, NON-SPACE OR NON-TAB Char.
4278 024536 005204 INC R4 ;INC INPUT STRING POINTER
4279 024540 005205 INC R5 ;INDICATE A SPACE FOUND
4280 024542 000764 BR 1$ ;GO CHECK NEXT CHAR
4281 024544 005705 10$: TST R5 ;SEE IF ANY SPACES OR TABS FOUND
4282 024546 001404 BEQ 15$ ;BR IF NO, TAKE NO ACTION
4283 024550 004737 024364 JSR PC,TRVACT ;GO TAKE ACTION IF ANY FOUND

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 105  
TRAVERSE COMMAND LINE SUBROUTINES

```

4284 024554 000137 024414          JMP      TRVNOB          ;JUST GO UPDATE R3 TO NEXT NODE IF OK
4285 024560 000137 024404    15$:    JMP      TRVBRC          ;TAKE BRANCH (MISS) IF NONE FOUND
4286
4287
4288 024564 012737 000012 003144  TRVDEC: MOV      #10.,PSRADX      ;USE DECIMAL AS RADIX AND ASSUME +
4289 024572 000137 024604          JMP      TRVNMA
4290 024576          TRVOCT: ;(SAME AS TRVNUM SINCE DEFAULT RADIX IS OCTAL)
4291 024576 012737 000010 003144  TRVNUM: MOV      #8.,PSRADX      ;USE OCTAL AS RADIX AND ASSUME +
4292 024604 005005          TRVNMA: CLR      R5           ;CLEAR DIGIT COUNTER
4293 024606 121427 000053          CMPB     (R4),#'+         ;SEE IF THERE'S A + SIGN THERE
4294 024612 001001          BNE     10$             ; BR IF NO
4295 024614 000406          BR      11$             ; ELSE PSRADX ALREADY SAYS +, JUST BR
4296 024616 121427 000055    10$:    CMPB     (R4),#'-         ;SEE IF THERE'S A - SIGN THERE
4297 024622 001004          BNE     1$              ; BR IF NO
4298 024624 112737 177777 003145  MOVB     #-1,PSRADX+1     ;SET 'MINUS FLAG' (HI BYTE OF PSRADX)
4299 024632 005204    11$:    INC      R4             ;BUMP R4 TO POINT TO FIRST CHAR
4300
4301 024634 121427 000060    1$:    CMPB     (R4),#60         ;SEE IF CHAR. LESS THAN A '0'
4302 024640 002434          BLT     2$              ;BR IF YES (NOT NUMERIC)
4303 024642 121427 000067          CMPB     (R4),#67         ;SEE IF CHAR. GREATER THAN A '7'
4304 024646 003426          BLE     13$             ; BR IF YES
4305 024650 123727 003144 000012  CMPB     PSRADX,#10.      ;SEE IF IN DECIMAL MODE
4306 024656 001417          BEQ     12$             ; BR IF YES (CAN USE HIGHER LIMIT)
4307 024660 121427 000071          CMPB     (R4),#71         ;SEE IF DIGIT WAS A 8 OR 9
4308 024664 003022          BGT     2$              ;BR IF NON-NUMERIC
4309 024666          PRINTF #CLIBRX          ;ELSE WAS A 8 OR 9 WHEN IN OCTAL RADIX
4310 024666 012746 011702          MOV      #CLIBRX,-(SP)
4311 024672 012746 000001          MOV      #1,-(SP)
4312 024676 010600          MOV      SP,R0
4313 024700 104417          TRAP    C$PNTF
4314 024702 062706 000004          ADD     #4,SP
4315 024706 112737 177777 003147  MOVB     #-1,PSGDBD      ;SET ERROR RETURN FLAG
4316 024714 000474          BR      5$              ; PRINT ERROR AND TAKE MISS
4317
4318 024716 121427 000071    12$:    CMPB     (R4),#71         ;SEE IF CHAR. GREATER THAN A '9'
4319 024722 003003          BGT     2$              ;BR IF YES (NOT NUMERIC)
4320 024724 005204    13$:    INC      R4             ;UPDATE CMD LINE PTR TO NEXT CHAR.
4321 024726 005205          INC     R5             ;INDICATE A NUMERIC FOUND
4322 024730 000741          BR      1$              ;GO LOOK AT NEXT CHAR.
4323
4324 024732 005705    2$:    TST     R5             ;SEE IF FOUND ANY NUMERICS
4325 024734 001464          BEQ     5$              ;BR IF NO, TAKE 'MISS' BRANCH
4326 024736 010401          MOV     R4,R1           ;GET POINTER TO START OF NUMERIC STRING
4327 024740 160501          SUB     R5,R1
4328 024742 005037 003142          CLR     PSNUM           ;CLEAR LOC. WHERE VALUE WILL BE STORED
4329 024746 112102    3$:    MOVB     (R1)+,R2        ;GET ASCII CHAR AND CONVERT IT TO A #
4330 024750 162702 000060          SUB     #60,R2
4331 024754 006337 003142          ASL     PSNUM           ;SHIFT CURRENT VALUE TO MAKE ROOM
4332 024760 103437          BCS     7$              ;ERROR IF NUMBER TOO BIG
4333 024762 013737 003142 003140  MOV     PSNUM,PSCNT      ;SAVE FOR LATER IN CASE DECIMAL RADIX
4334 024770 006337 003142          ASL     PSNUM
4335 024774 103431          BCS     7$              ;ERROR IF NUMBER TOO BIG
4336 024776 006337 003142          ASL     PSNUM
4337 025002 103426          BCS     7$              ;ERROR IF NUMBER TOO BIG
4338 025004 123727 003144 000012  CMPB     PSRADX,#10.      ;SEE IF DECIMAL RADIX
4339 025012 001004          BNE     4$              ;BR IF NOT EQUAL

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 106  
TRAVERSE COMMAND LINE SUBROUTINES

4340	025014	063737	003140	003142	ADD	P\$CNT,P\$NUM		
4341	025022	103416			BCS	7\$		:ERROR IF NUMBER TOO BIG
4342	025024	060237	003142		4\$: ADD	R2,P\$NUM		
4343	025030	103413			BCS	7\$		:ERROR IF NUMBER TOO BIG
4344	025032	005305			DEC	R5		
4345	025034	001344			BNE	3\$		
4346	025036	105737	003145		TSTB	P\$RADX+1		:SEE IF NUM WAS PRECEDED BY A - SIGN
4347	025042	001402			BEQ	15\$		: BR IF NO
4348	025044	005437	003142		NEG	P\$NUM		: ELSE NEGATE THE NUMBER BEFORE LEAVING
4349	025050	004737	024364		15\$: JSR	PC,TRVACT		:SINCE NUMERIC FOUND, GO TAKE ACTION
4350	025054	000137	024414		JMP	TRVNOB		:GO POINT R3 TO NEXT NODE
4351								
4352	025060				7\$: PRINTF	#CLINBG		:PRINT NUMBER TOO BIG ERROR
4353	025060	012746	011660				MOV	#CLINBG, -(SP)
4354	025064	012746	000001				MOV	#1, -(SP)
4355	025070	010600					MOV	SP, R0
4356	025072	104417					TRAP	C\$PNTF
4357	025074	062706	000004				ADD	#4, SP
4358	025100	112737	177777	003147	5\$: MOVB	#-1, P\$GDBD		:SET ERROR RETURN FLAG
4359	025106	000137	024404		JMP	TRVBRC		:TAKE 'MISS' BRANCH
4360								
4361								
4362	025112	005005			TRVALP: CLR	R5		:CLEAR ALPHA FOUND FLAG
4363	025114	121427	000101		1\$: CMPB	(R4), #101		:SEE IF CHAR. LESS THAN A 'A'
4364	025120	002406			BLT	2\$		:BR IF YES (NOT ALPHA)
4365	025122	121427	000132		CMPB	(R4), #132		:SEE IF CHAR. GREATER THAN A 'Z'
4366	025126	003003			BGT	2\$		:BR IF YES (NOT ALPHA)
4367	025130	005204			INC	R4		:UPDATE CMD LINE PTR TO NEXT CHAR
4368	025132	005205			INC	R5		:INDICATE AN ALPHA WAS FOUND
4369	025134	000767			BR	1\$		:GO LOOK AT NEXT CHAR.
4370	025136	005705			2\$: TST	R5		:SEE IF ANY ALPHA'S WERE FOUND
4371	025140	001404			BEQ	3\$		:BR IF NO
4372	025142	004737	024364		JSR	PC,TRVACT		:IF ANY FOUND TAKE ACTION
4373	025146	000137	024414		JMP	TRVNOB		:THEN UPDATE R3 TO NEXT NODE -NO BRANCH
4374	025152	000137	024404		3\$: JMP	TRVBRC		:NONE FOUND, TAKE MISS BRANCH
4375								
4376	025156	005005			TRVALN: CLR	R5		:CLEAR ALPHANUM FOUND FLAG
4377	025160	121427	000060		10\$: CMPB	(R4), #60		:SEE IF CHAR. LESS THAN A '0'
4378	025164	002417			BLT	2\$		:BR IF YES (NOT NUMERIC OR ALPHA)
4379	025166	121427	000072		CMPB	(R4), #72		:SEE IF CHAR. GREATER THAN A '9'
4380	025172	003003			BGT	1\$		:BR IF YES (NOT NUMERIC)
4381	025174	005204			INC	R4		:UPDATE CMD LINE PTR TO NEXT CHAR.
4382	025176	005205			INC	R5		:INDICATE A NUMERIC FOUND
4383	025200	000767			BR	10\$		:GO LOOK AT NEXT CHAR.
4384	025202	121427	000101		1\$: CMPB	(R4), #101		:SEE IF CHAR. LESS THAN A 'A'
4385	025206	002406			BLT	2\$		:BR IF YES (NOT ALPHA)
4386	025210	121427	000132		CMPB	(R4), #132		:SEE IF CHAR. GREATER THAN A 'Z'
4387	025214	003003			BGT	2\$		:BR IF YES (NOT ALPHA)
4388	025216	005204			INC	R4		:UPDATE CMD LINE PTR TO NEXT CHAR
4389	025220	005205			INC	R5		:INDICATE AN ALPHA FOUND
4390	025222	000756			BR	10\$		:GO LOOK AT NEXT CHAR.
4391	025224	005705			2\$: TST	R5		:SEE IF ANY ALPHANUM'S WERE FOUND
4392	025226	001404			BEQ	3\$		:BR IF NO
4393	025230	004737	024364		JSR	PC,TRVACT		:IF ANY FOUND TAKE ACTION
4394	025234	000137	024414		JMP	TRVNOB		:THEN UPDATE R3 TO NEXT NODE -NO BRANCH
4395	025240	000137	024404		3\$: JMP	TRVBRC		:NONE FOUND, TAKE MISS BRANCH

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 107  
TRAVERSE COMMAND LINE SUBROUTINES

```

4396
4397
4398
4399 025244 010401 TRVSTR: MOV R4,R1 ;POINT R1 TO CMD STRING
4400 025246 010305 MOV R3,R5
4401 025250 062705 000006 ADD #6,R5 ;POINT R5 TO MATCH STRING FROM CLI NODE
4402 025254 005037 003140 CLR P$CNT ;CLEAR CHAR MATCH COUNT
4403 025260 105715 2$: TSTB (R5) ;SEE IF END OF MATCH STRING YET
4404 025262 001411 BEQ 10$ ;BR IF YES
4405 025264 105711 TSTB (R1) ;SEE IF END OF CMD LINE YET
4406 025266 001407 BEQ 10$ ;BR IF YES
4407 025270 121115 CMPB (R1),(R5) ;SEE IF CHARACTERS MATCH
4408 025272 001005 BNE 10$ ;BR IF NO
4409 025274 005237 003140 INC P$CNT ;MATCH -INCREMENT MATCH COUNT
4410 025300 005201 INC R1 ;UPDATE STRING POINTERS
4411 025302 005205 INC R5
4412 025304 000765 BR 2$ ;BR TO CONTINUE CHECKING CHARS.
4413
4414 025306 005737 003140 10$: TST P$CNT ;WHEN DONE SEE IF ANY MATCHES FOUND
4415 025312 001406 BEQ 15$ ;BR IF NO, GO TAKE THE MISS BRANCH
4416 025314 010104 MOV R1,R ;POINT CMD POINTER TO END OF STRING &
4417 025316 004737 024364 JSR PC,TRVACT ;IF A MATCH FOUND, GO DO MATCH ACTION
4418 025322 066303 000004 ADD 4(R3),R3 ;UPDATE R3 TO NEXT NODE (NO BRANCH)
4419 025326 000207 RTS PC ; (NO RETURN THRU TRVNOB SINCE DIFFERNT
4420 ; DISPLACEMENT DUE TO MATCH STRING)
4421 025330 000137 024404 15$: JMP TRVBRC ; GO TAKE BRANCH
4422 ; (PARSED OK), -1 IF ILL CMD.....
4423 ;-----
4424
4425

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 108  
REPORT CODING SECTION

.SBTTL REPORT CODING SECTION

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

4426  
4427  
4428  
4429  
4430  
4431  
4432  
4433  
4434  
4435  
4436  
4437  
4438  
4439  
4440  
4441  
4442  
4443  
4444  
4445  
4446

025334  
025334  
  
025334 004737 020610  
  
  
025340  
025340  
025340 104425

BGNRPT

JSR PC,REPORT

ENDRPT

LSRPT::

;CALL SUBROUTINE TO DUMP EVENT LOG  
; AND BASE TABLE

L10010: TRAP CSRPT

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 109  
PROTECTION TABLE

.SBTTL PROTECTION TABLE

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

4447  
4448  
4449  
4450  
4451  
4452  
4453  
4454 025342  
4455 025342  
4456  
4457 025342 177777  
4458 025344 177777  
4459 025346 177777  
4460  
4461 025350  
4462

BGNPROT

L\$PROT::

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

ENDPROT



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 110  
INITIALIZE SECTION

```

4463
4464
4465
4466
4467
4468
4469
4470 025350          BGNINIT
4471 025350          LSINIT::
4472
4473 025350 005037 003010      CLR      KEYWD1      ;INIT COMMAND STORAGE VARIABLE
4474 025354 005737 006562      TST      DCLFLG      ;CLEANUP AND EXIT? REV B EC
4475 025360 001403              BEQ      INIT1        ;NO BRANCH REV B EC
4476 025362 005037 006562      CLR      DCLFLG      ;CLEAR FLAG REV B EC
4477 025366              DOCLN                    ;GO CLEANUP AND EXIT REV B EC
4478 025366 104444              TRAP      C$DCLN
4479
4480 025370 012737 177777 006564 INIT1:  MOV     #-1,RESFLG    ;SET RESTART FLAG
4481 025376              REDEF     #EF.START    ;IF HERE CAUSE OF START,DO SOME INIT
4482 025376 012700 000040              MOV     #EF.START,RO  ;INIT
4483 025402 104447              TRAP      C$REFG
4484 025404              BCOMPLETE      START
4485 025404 103417              REDEF     #EF.RESTART ;IF HERE CAUSE OF RESTART, DO SOME INIT
4486 025406              BCS      START
4487 025406 012700 000037              MOV     #EF.RESTART,RO ;INIT
4488 025412 104447              TRAP      C$REFG
4489 025414              BCOMPLETE      RESTRT
4490 025414 103513              REDEF     #EF.CONTINUE ;SEE IF WE'RE HERE CAUSE OF A CONTINUE
4491 025416              BCS      RESTRT
4492 025416 012700 000036              MOV     #EF.CONTINUE,RO ;CONTINUE
4493 025422 104447              TRAP      C$REFG
4494 025 24              BNCOMPLETE      S1
4495 025424 103002              BCC      S1
4496 025426 000137 026116              JMP      ENDIT
4497 025432              S1:  REDEF     #EF.NEW
4498 025432 012700 000035              MOV     #EF.NEW,RO
4499 025436 104447              TRAP      C$REFG
4500 025440              BCOMPLETE      NEW
4501 025440 103521              BCS      # SETUP
4502 025442 000523              BR      GETPRM
4503
4504 025444 005037 006564      START: CLR     RESFLG      ;CLEAR RESTART FLAG SINCE HERE ON START
4505 025450 005037 006624      CLR     CLKVEC        ;CLEAR CLK VECTOR PTR. AS A FLAG IN
4506              ; NO CLOCK IS FOUND.
4507 025454 012702 006620      MOV     #CLKCSR,R2    ;SETUP R2 AS A PTR. TO CLOCK INFO BLOCK
4508 025460              CLOCK     L,R1        ;LOOK FOR A LINE CLOCK
4509 025460 012700 000114              MOV     #'L,RO
4510 025464 104462              TRAP      C$CLCK
4511 025466 010001              MOV     RO,R1
4512 025470              BNCOMPLETE      S2
4513 025470 103006              BCC      S2
4514 025472 004737 017730              JSR     PC,CLKSET
4515 025476 012737 000100 006630      MOV     #LCLKEN,CLKEN ;GO SET UP CLOCK INFO TABLE & CLK VEC.
4516 025504 000457              BR      RESTRT        ;SETUP THE ENABLE LINE CLOCK DATA
4517
4518 025506              S2:  CLOCK     P,R1        ;LOOK FOR A P-CLOCK SINCE NO LINE CLOCK

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 111  
INITIALIZE SECTION

```

4519 025506 012700 000120          MOV      #'P,RO
4520 025512 104462          TRAP     C$CLCK
4521 025514 010001          MOV      RO,R1
4522 025516          BNCOMPLETE      S3          ; IF NONE THERE GO SEE IF THIS IS LSI
4523 025516 103017          BCC      S3
4524 025520 004737 017730          JSR      PC,CLKSET          ; ELSE GO SET UP CLOCK INFO & VECTOR
4525 025524 062737 000002 006620          ADD      #2,CLKCSR          ;POINT CLKCSR TO P-CLK COUNT SET REG.
4526 025532 012777 001600 161060          MOV      #PCLKCT,@CLKCSR   ;LOAD CLK SET REG. WITH COUNT VALUE
4527 025540 162737 000002 006620          SUB      #2,CLKCSR          ;POINT CLKCSR BAC TO P-CLK CSR
4528 025546 012737 000111 006630          MOV      #PCLKEN,CLKEN     ;SETUP THE ENABLE THE P-CLK DATA
4529 025554 000433          BR       RESTRT
4530
4531 025556          S3:      READBUS          ;READ BUS TYPE TO SEE IF ON AN LSI
4532 025556 104407          TRAP     C$RDBU
4533 025560          BNCOMPLETE      S4          ;BR IF NOT, NO CHANCE OF A CLOCK
4534 025560 103021          BCC      S4
4535 025562 012737 000100 006624          MOV      #100,CLKVEC        ;LOAD 100 AS CLK VECTOR
4536 025570 005037 006622          CLR      CLKBR              ;LOAD 0 AS CLK INT. LEVEL
4537 025574 012737 006630 006620          MOV      #CLKEN,CLKCSR     ;KLUDGE UP THE CSR & ENABLE DATA LOCS
4538 025602          GMANID  L5060,CLKHZ,D,377,50.,60.,YES
4539 025602 104443          TRAP     C$GMAN
4540 025604 000406          BR       10000$
4541 025606 006626          .WORD   CLKHZ
4542 025610 000052          .WORD   T$CODE
4543 025612 014063          .WORD   L5060
4544 025614 000377          .WORD   377
4545 025616 000062          .WORD   T$LOLIM
4546 025620 000074          .WORD   T$HILIM
4547 025622          10000$:
4548 025622 000410          BR       RESTRT
4549
4550 025624          S4:      PRINTF #BDCLK          ;INFORM OPR. NO CLOCK, & EXIT INIT
4551 025624 012746 014202          MOV      #BDCLK,-(SP)
4552 025630 012746 000001          MOV      #1,-(SP)
4553 025634 010600          MOV      SP,RO
4554 025636 104417          TRAP     C$PNTF
4555 025640 062706 000004          ADD      #4,SP
4556
4557 025644 005037 006632          RESTRT: CLR      TIMMIN          ;CLEAR TIME SINCE START LOCATIONS
4558 025650 005037 006634          CLR      TIMSEC
4559 025654 013737 006626 006636          MOV      CLKHZ,TIMTCK       ;LOAD TICKS/SEC
4560 025662 012702 006650          MOV      #EVTLOG,R2        ;INIT EVENT TABLE TO ALL 1'S AFTER EACH
4561 025666 010237 006646          MOV      R2,EVTPTR         ; START OR RES AND INIT TABLE POINTER
4562 025672 012722 177777          1$:      MOV      #-1,(R2)+
4563 025676 020227 007552          CMP      R2,#EVTEND
4564 025702 001373          BNE      1$                ;SEE IF REACHED END OF TABLE
4565
4566 025704 012737 177777 006556          NEW:     MOV      #-1,LOGUNT  ;INITIALIZE LOGICAL UNIT #
4567
4568 025712 005237 006556          GETPRM: INC      LOGUNT          ;POINT TO NEXT LOGICAL UNIT
4569 025716 023737 006556 002012          CMP      LOGUNT,L$UNIT     ;SEE IF PAST MAX. LOG. UNIT #
4570 025724 002367          BGE      NEW              ;BR IF YES, AND START OVER
4571
4572 025726          GPHARD  LOGUNT,R1          ;GET THE P-TABLE FOR THIS LOG. UNIT
4573 025726 013700 006556          MOV      LOGUNT,RO
4574 025732 104442          TRAP     C$GPHRD

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 112  
INITIALIZE SECTION

```

4575 025734 010001
4576 025736
4577 025736 103365
4578
4579 025740 011137 006572
4580
4581
4582
4583
4584 025744 016137 000002 011452
4585
4586
4587 025752 016137 000002 011454
4588 025760 062737 000002 011454
4589 025766 016137 000002 011456
4590 025774 062737 000002 011456
4591 026002 016137 000002 011460
4592 026010 062737 000004 011460
4593 026016 016137 000002 011462
4594 026024 062737 000006 011462
4595
4596 026032 016137 000004 011464
4597 026040 016137 000004 011466
4598 026046 062737 000004 011466
4599 026054 016137 000006 011470
4600 026062 016137 000014 011524
4601 026070 016137 000010 037126
4602 026076 001004
4603 026100 112737 000001 037061
4604 026106 000403
4605 026110 116137 000012 037061
4606 026116
4607 026116
4608 026116 012746 000340
4609 026122 012746 017754
4610 026126 013746 006624
4611 026132 012746 000003
4612 026136 104437
4613 026140 062706 000010
4614
4615
4616
4617 026144
4618 026144 012746 000200
4619 026150 012746 035554
4620 026154 013746 011464
4621 026160 012746 000003
4622 026164 104437
4623 026166 062706 000010
4624 026172
4625 026172 012746 000200
4626 026176 012746 036254
4627 026202 013746 011466
4628 026206 012746 000003
4629 026212 104437
4630 026214 062706 000010

```

```

BNCOMPLETE GETPRM ;IF NO P-TABLE AVAIL., GO GET NEXT ONE
MOV (R1),FHDPLX ;PUT FULL OR HALF DUPLEX ANSWER IN LOC.
;DEVICE DEPENDENT PART OF GETTING INFO FROM P-TABLE
MOV 2(R1),RXCSR ;STORE AWAY CSR ADDRESSES
MOV 2(R1),PCSAR
ADD #2,PCSAR
MOV 2(R1),RDSR
ADD #2,RDSR
MOV 2(R1),TXCSR
ADD #4,TXCSR
MOV 2(R1),TDSR
ADD #6,TDSR
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 14(R1),RNODE ;STORE AWAY THE REMOTE NODE TYPE
MOV 10(R1),MPPTP ;MULTI-POINT = 1
BNE 10$ ;IF MTP THEN GET TRIB ADDRESS FROM P-TABLE
MOVB #1,TRIBN ;PTP TRIB ADDRESS ALWAYS 1
BR ENDIT ;BRANCH
MOVB 12(R1),TRIBN ;STORE AWAY TRIB NUMBER
10$:
ENDIT:
SETVEC CLKVEC,#CLKINT,#340 ;SETUP CLOCK VECTOR
MOV #340,-(SP)
MOV #CLKINT,-(SP)
MOV CLKVEC,-(SP)
MOV #3,-(SP)
TRAP C$SVEC
ADD #10,SP
;DEVICE DEPENDENT VECTOR SETUP
SETVEC INVEC,#DVRXI,#PRI04 ;SETUP INPUT INTERRUPT VECTOR
MOV #PRI04,-(SP)
MOV #DVRXI,-(SP)
MOV INVEC,-(SP)
MOV #3,-(SP)
TRAP C$SVEC
ADD #10,SP
SETVEC OUTVEC,#DVTXI,#PRI04 ;SETUP OUTPUT INTERRUPT VECTOR
MOV #PRI04,-(SP)
MOV #DVTXI,-(SP)
MOV OUTVEC,-(SP)
MOV #3,-(SP)
TRAP C$SVEC
ADD #10,SP

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 113  
INITIALIZE SECTION

4631							
4632	026220			SETPRI	#PRI00		:SET THE 'RUN' PRIORITY TO 0
4633	026220	012700	000000				MOV #PRI00,R0
4634	026224	104441					TRAP C\$SPRI
4635	026226			EXIT	INIT		
4636	026226	104432					TRAP C\$EXIT
4637	026230	000002					.WORD L10012-
4638							
4639							
4640				.EVEN			
4641							
4642	026232			ENDINIT			
4643	026232						L10012:
4644	026232	104411					TRAP C\$INIT

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 114  
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.  
:--

4645  
4646  
4647  
4648  
4649  
4650  
4651  
4652  
4653  
4654 026234  
4655 026234  
4656  
4657  
4658 026234  
4659 026234  
4660 026234 104461

BGNAUTO

LSAUTO::

ENDAUTO

L10013: TRAP CSAUTO

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 115  
CLEANUP CODING SECTION

.SBTTL CLEANUP CODING SECTION

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

```

4661
4662
4663
4664
4665
4666
4667
4668 026236          BGNCLN
4669 026236          L$CLEAN::
4670
4671 026236 005077 160356      CLR @CLKCSR      :DISABLE CLOCK
4672 026242          SETPRI #PRI07      :SET PROCESSOR PRIORITY BACK TO 7
4673 026242 012700 000340          MOV #PRI07,R0
4674 026246 104441          TRAP      C$SPRI
4675 026250 022737 000057 003010  CMP #EXIT,KEYWD1  :'EXIT' COMMAND ?
4676 026256 001416          BEQ  EXITCLN      :YES,BRANCH
4677
4678          ::LOG ^C ABORT IN EVENT LOG
4679 026260 012737 000026 006534  MOV #ABO,TEMP      :EVENT TYPE
4680 026266 013737 006502 006544  MOV OPVAR,TEMP4    :START TIME OUTS
4681 026274 013737 006504 006540  MOV PSCNT,TEMP2    :PASSES
4682 026302 013737 006506 006542  MOV ERRCNT,TEMP3   :ERRORS
4683 026310 004737 020504          JSR  PC,LOG$5      :GO LOG IT
4684
4685 026314          EXITCLN:BRESET      :RESET
4686 026314 104433          TRAP      C$RESET
4687 026316          EXIT  CLN
4688 026316 104432          TRAP      C$EXIT
4689 026320 000002          .WORD  L10014-.
4690
4691
4692          .EVEN
4693
4694 026322          ENDCLN
4695 026322          L10014:
4696 026322 104412          TRAP      C$CLEAN

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 116  
DROP UNIT SECTION

.SBTTL DROP UNIT SECTION

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

4697							
4698							
4699							
4700							
4701							
4702							
4703							
4704	026324		BGNDU			LSDU::	
4705	026324						
4706							
4707							
4708	026324		EXIT DU				
4709	026324	000167				.WORD JSJMP	
4710	026326	000000				.WORD L10015-2-	
4711							
4712							
4713			.EVEN				
4714							
4715	026330		ENDDU				
4716	026330					L10015:	
4717	026330	104453				TRAP CSDU	

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 117  
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.  
:--

4718							
4719							
4720							
4721							
4722							
4723							
4724							
4725							
4726	026332		E GNAU			LSAU::	
4727	026332						
4728							
4729							
4730	026332		EXIT AU				
4731	026332	000167				.WORD JSJMP	
4732	026334	000000				.WORD L10016-2-	
4733							
4734							
4735			.FVEN				
4736							
4737	026336		ENDAU				
4738	026336					L10016:	
4739	026336	104452				TRAP CSAU	
4740							
4741							



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 118  
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.  
:--

4742  
4743  
4744  
4745  
4746  
4747  
4748  
4749  
4750  
4751  
4752  
4753  
4754  
4755  
4756  
4757  
4758  
4759  
4760  
4761  
4762  
4763  
4764  
4765  
4766  
4767  
4768  
4769  
4770  
4771  
4772  
4773  
4774  
4775  
4776  
4777  
4778  
4779  
4780  
4781  
4782  
4783  
4784  
4785  
4786  
4787  
4788  
4789  
4790  
4791  
4792  
4793  
4794  
4795  
4796  
4797

026340  
026340

BGNTST

T1::

.SBTTL PROGRAM SETUP SECTION

026340 013777 006630 160252

MOV CLKEN,@CLKCSR ;ENABLE THE CLOCK

026346 005001  
026346 012737 000001 006640  
026350 005737 006640

GTXRXB:  
GTRA2: CLR R1  
MOV #1,TIMER1 ;SET TIMER TO COUNT 1 TICK  
1\$: TST TIMER1 ;CHECK FOR IT TO BE COUNTED OFF  
BEQ GTRA3 ;BRANCH IF CLOCK EXISTS (COUNTED A TICK)  
DEC R1  
BNE 1\$ ;KEEP CHECKING UNTIL R1 DOES FULL COUNTDOWN  
PRINTF #NOCLK ;PRINT BAD CLK. MSG AND WARN OF HANG IF TIMEOUT  
MOV #NOCLK,-(SP)  
MOV #1,-(SP)  
MOV SP,R0  
TRAP C\$PNTF  
ADD #4,SP

026370 012746 014226  
026374 012746 000001  
026400 010600  
026402 104417  
026404 062706 000004

026410 005737 006564  
026414 001112

GTRA3: TST RESFLG ;SEE IF HERE AFTER A RESTART.  
BNE GTRA5 ;BR IF HERE CAUSE OF A RESTART

; CLEAR COUNTS AND SET UP DEFAULTS

026416 005037 006530  
026422 005037 006464  
026426 005037 006450  
026432 012701 006150  
026436 010137 006442  
026442 005037 006440

GTRA4: CLR TOTCC ;CLEAR TOTAL CHAR. COUNT TEMP. LOC.  
CLR TTOTCC ; CLEAR TOTAL CHAR. COUNT FOR TX BUFF  
CLR CTOTCC ; CLEAR TOTAL CHAR. COUNT FOR CMP BUFF  
MOV #PTRTAB,R1 ;INIT TRANSMIT MESSAGE POINTER  
MOV R1, TXPTR  
CLR RXPTR ; ZERO RX POINTER

026446 012737 006244 006444

MOV #PTR13,CMPPTR ;INIT COMPARE MESSAGE POINTER

026454 012737 000005 006516  
026462 013737 002162 006520  
026470 012737 003150 006466  
026476 012737 005150 006452

MOV #5,MSGTYP ;SET UP DEFAULT MSG TYPE (QUICK FOX - ITEP MSG)  
MOV MSG5C,CURCC ;SET UP DEFAULT CHAR COUNT  
MOV #TXBUF,TCURAD ;SET UP CURRENT ADD TO START OF TX BUFFER  
MOV #CMPBUF,CCURAD ;SET UP CURRENT ADD TO START OF CMP BUFFER

026504 013737 006466 006526  
026512 013737 006442 006524  
026520 004737 023362  
026524 012737 000001 006462

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

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 119  
PROGRAM SETUP SECTION

```

4798
4799 026532 013737 006444 006524      MOV      CMPPTR,CPTR      ;SET UP START OF COMPARE POINTER TABLE
4800 026540 013737 006452 006526      MOV      CCURAD,CURADD   ;SET UP CURRENT ADDR. TO START OF CMPBUF
4801 026546 012737 000005 006516      MOV      #5,MSGTYP
4802 026554 013737 002162 006520      MOV      MSG5C,CURCC
4803 026562 004737 023362                JSR      PC,BLDBUF       ;PUT DEFAULT MESSAGE INTO CMPBUF
4804 026566 012737 000001 006446      MOV      #1,CMPTOT      ;BUMP THE COMP MESSG COUNT
4805 026574 012737 000003 006566      MOV      #ACT,MODTYP    ;SET DEFAULT MODE= ACTIVE
4806 026602 005037 006570                CLR      MLTYP          ;SET DEFAULT MAINTENANCE LOOP MODE =NONE
4807 026606 012737 000001 006576      MOV      #1,RPASS       ;SET UP DEFAULT 'RUN PASS' COUNT TO 1
4808 026614 012737 000002 006574      MOV      #2,PARAM       ;SET UP PROG. PARAMETERS - DATACHECKING ENABLED
4809                                     ;                               OPERATOR STATUS MSGS. PRINT OFF
4810                                     PRINTF  #HLP0
4811 026622 012746 012215                MOV      #HLP0,-(SP)
4812 026626 012746 000001                MOV      #1,-(SP)
4813 026632 010600                MOV      SP,R0
4814 026634 104417                TRAP    C$PNTF
4815 026636 062706 000004                ADD      #4,SP
4816 026642                GTRAS: SETVEC  INVEC,#DVRXI,#PRI04 ;DEFAULT NON-PROTOCOL RX INTER. VECTOR
4817 026642 012746 000200                MOV      #PRI04,-(SP)
4818 026646 012746 035554                MOV      #DVRXI,-(SP)
4819 026652 013746 011464                MOV      INVEC,-(SP)
4820 026656 012746 000003                MOV      #3,-(SP)
4821 026662 104437                TRAP    C$SVEC
4822 026664 062706 000010                ADD      #10,SP
4823 026670 042737 000300 006574      BIC      #PRORUN!ABORT,PARAM ;INIT PROTOCOL VARIABLES
4824 026676 013737 006566 007706      MOV      MODTYP,DEV1
4825 026704 013737 006570 007710      MOV      MLTYP,DEV2
4826 026712 013737 006576 007712      MOV      RPASS,DEV3
4827 026720 013737 006574 007714      MOV      PARAM,DEV4
4828 026726 004737 023712                JSR      PC,SHWOP       ;PRINT TO OPERATOR THE CURRENT MODE.....
4829
4830 026732                MANUAL                ;SEE IF MANUAL INTERVENTION ALLOWED
4831 026732 104450                TRAP    C$MANI
4832 026734                BCOMPLETE  GETCL      ; BR IF YES (UAM=0 AND NOT CHAINED)
4833 026734 103412                BCS     GETCL
4834 026736 005737 006576      TST      RPASS         ;SEE IF THIS IS FIRST 'DCLT PASS'
4835 026742 001002                BNE     1$            ; BR IF NOT COMPLETED 1 PASS
4836 026744                EXIT  TST              ; IF DONE 1 PASS IN UNATTENDED MODE - EXIT
4837 026744 104432                TRAP    C$EXIT
4838 026746 017276                .WORD   L10017-.
4839 026750 012737 000001 006570 1$:  MOV      #TTL,MLTYP    ;SET UP DEFAULT FOR UNATTENDED MODE
4840 026756 000137 031734                JMP     GTR9          ; 'R M=ACT/LO=I/PAS=1/NOST/CH' AND RUN
4841
4842                .SBTTL  COMMAND LINE FETCH & INTERPRETATION SECTION
4843
4844 026762 105037 003147                GETCL: CLRB  P$GDBD    ;CLEAR CMD LINE PARSING ERROR FLAGS
4845 026766 105037 003146                CLRB  P$NNUF
4846 026772                GMANID  CLISPM,CMDBUF,A,-1,1,72.,NO ;GET A COMMAND LINE FROM OPR.
4847 026772 104443                TRAP    C$GMAN
4848 026774 000406                BR     10000$
4849 026776 002666                .WORD  CMDBUF
4850 027000 000142                .WORD  T$CODE
4851 027002 011572                .WORD  CLISPM
4852 027004 177777                .WORD  -1
4853 027006 000001                .WORD  T$LOLIM

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 120  
COMMAND LINE FETCH & INTERPRETATION SECTION

```

4854 027010 000110                                  .WORD TSHILIM
4855 027012                                         10000$:
4856 027012 012737 002666 003132   MOV      #CMDBUF,PSBUFA
4857 027020 012737 007716 003134   MOV      #CLITRE,PSTREE
4858 027026 012737 027736 003136   MOV      #CLIACT,PSACT
4859 027034 005037 003012           CLR      QUALFG          ;CLEAR QUALIFIER FLAG LOCATION
4860 027040 004737 024244           JSR      PC,PSTRV        ;GO PARSE COMMAND LINE.
4861 027044 105737 003147           TSTB    PSGDBD          ;SEE IF PARSED OK OR AN ERROR
4862 027050 001412           BEQ     1$
4863 027052           PRINTF #CLIERM
4864 027052 012746 011605           MOV     #CLIERM,-(SP)
4865 027056 012746 000001           MOV     #1,-(SP)
4866 027062 010600           MOV     SP,R0
4867 027064 104417           TRAP   C$PNTF
4868 027066 062706 000004           ADD    #4,SP
4869 027072 000137 026762           JMP     GETCL
4870 027076 105737 003146 1$:    TSTB    P$NNUF          ;SEE IF INCOMPLETE COMMAND TYPED
4871 027102 001412           BEQ     10$
4872 027104           PRINTF #CLINUF
4873 027104 012746 011635           MOV     #CLINUF,-(SP)
4874 027110 012746 000001           MOV     #1,-(SP)
4875 027114 010600           MOV     SP,R0
4876 027116 104417           TRAP   C$PNTF
4877 027120 062706 000004           ADD    #4,SP
4878 027124 000137 026762           JMP     GETCL
4879
4880 027130 023727 003010 000060 10$:  CMP     KEYWD1,#SETET    ;WAS 'SET EXPECT=TRANSMIT' TYPED ? REVB EC
4881 027136 001711           BEQ     GETCL           ;YES,BRANCH REV B EC
4882 027140 023727 003010 000005     CMP     KEYWD1,#HLP     ;SEE IF HELP WAS TYPED
4883 027146 001705           BEQ     GETCL           ;GO GET CMD AGAIN IF YES
4884 027150 023727 003010 000055     CMP     KEYWD1,#PRNT    ;SEE IF PRINT WAS TYPED
4885 027156 001701           BEQ     GETCL           ;GO GET CMD AGAIN IF YES
4886 027160 023727 003010 000004     CMP     KEYWD1,#RUN     ;SEE IF RUN WAS TYPED
4887 027166 001002           BNE    11$             ;BR IF NO
4888 027170 000137 031734           JMP     GTR9           ;START EXEC. IF YES
4889 027174 023727 003010 000052 11$:  CMP     KEYWD1,#DMPS    ;SEE IF DUMP WAS TYPED
4890 027202 001004           BNE    12$             ;BR IF NO
4891 027204 004737 023126           JSR     PC,DUMPSR      ;ELSE, DUMP PART OF MEMORY
4892 027210 000137 026762           JMP     GETCL          ;THEN RETURN TO GET ANOTHER CMD.
4893 027214 023727 003010 000057 12$:  CMP     KEYWD1,#EXIT    ;EXIT ? REV B EC
4894 027222 001005           BNE    13$             ;NO,BRANCH REV B EC
4895 027224 C12737 000001 006562     MOV     #1,DCLFLG     ;SET CLEANUP FLAG REV B EC
4896 027232           EXIT    TST           ;GO BACK TO INIT REV B EC
4897 027232 104432           TRAP   C$EXIT
4898 027234 017010           .WORD  L10017-.
4899
4900 027236 023727 003010 000001 13$:  CMP     KEYWD1,#CLEAR   ;SEE IF CLEAR WAS TYPED
4901 027244 001646           BEQ     GETCL          ;IF YES, BACK TO GET ANOTHER CMD.
4902 027246 023727 003010 000002     CMP     KEYWD1,#SHOW    ;SEE IF SHOW WAS TYPED
4903 027254 001642           BEQ     GETCL          ;IF YES, BACK TO GET ANOTHER CMD.
4904 027256 023727 003010 000010 4$:    CMP     KEYWD1,#SETEXP  ;SEE IF SET EXPECTED
4905 027264 001512           BEQ     2$             ;BR IF YES (A SETEXP WAS TYPED)
4906 027266 013737 006464 006530 5$:    MOV     TOTCC,TOTCC
4907 027274 023727 006530 001000     CMP     TOTCC,#BUFLIM  ;SEE IF BUFFER ALREADY FULL
4908 027302 002414           BLT     15$           ;BR IF NOT FULL (BUFLIM # OF CHARS.)
4909 027304           PRINTF #MSGTRN,#BUFEX ; ELSE TELL OPR. AND DON'T BUILD MSG.

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 121  
COMMAND LINE FETCH & INTERPRETATION SECTION

4910	027304	012746	014347						MOV	#BUFEX,-(SP)
4911	027310	012746	014365						MOV	#MSGTRN,-(SP)
4912	027314	012746	000002						MOV	#2,-(SP)
4913	027320	010600							MOV	SP,RO
4914	027322	104417							TRAP	C\$PNTF
4915	027324	062706	000006						ADD	#6,SP
4916	027330	000137	026762							
4917	027334	005737	006464	15\$:	JMP	GETCL				: THEN GO GET A NEW COMMAND
4918	027340	001002			TST	TTOTCC				: IF FIRST "SET" THEN GET RID OF DEFAULT
4919	027342	005037	006462		BNE	6\$				
4920	027346	012737	006150	006442	6\$:	CLR	TXMTOT			: GET POSITION OF END OF TX LIST
4921	027354	013701	006462		MOV	#PTRTAB, TXPTR				
4922	027360	020127	000017		MOV	TXMTOT, R1				: SEE IF MSG COUNT EXCEEDED.
4923	027364	002414			CMP	R1, #MSGLIM				: BR IF NO
4924	027366				BLT	17\$				: ELSE TELL OPR. AND DON'T BUILD MSG.
4925	027366	012746	014307		PRINTF	#MSGTRN, #TABEX				
4926	027372	012746	014365						MOV	#TABEX,-(SP)
4927	027376	012746	000002						MOV	#MSGTRN,-(SP)
4928	027402	010600							MOV	#2,-(SP)
4929	027404	104417							MOV	SP,RO
4930	027406	062706	000006						TRAP	C\$PNTF
4931	027412	000137	026762						ADD	#6,SP
4932	027416	006301		17\$:	JMP	GETCL				: THEN GO GET A NEW COMMAND.
4933	027420	006301			ASL	R1				: # OF MSGS *4 = NEXT FREE PTR BLOCK
4934	027422	060137	006442		ASL	R1				
4935	027426	013737	006442	006524	ADD	R1, TXPTR				
4936	027434	013737	006466	006526	MOV	TXPTR, CPTR				: SETUP CHAR. COUNT, CURRENT ADDR, & PTR
4937	027442	004737	023264		MOV	TCURAD, CURADD				
4938	027446	004737	023362		JSR	PC, ADDCC				: ADD IN CHAR. COUNT AND CHECK TOTAL
4939	027452	013737	006524	006442	JSR	PC, BLDBUF				: GO BUILD MESSAGE IN BUFFER AND PTRS.
4940	027460	013737	006530	006464	MOV	CPTR, TXPTR				
4941	027460	013737	006526	006466	MOV	TOTCC, TTOTCC				: UPDATE CHAR. COUNT, CURR ADDR, & PTR
4942	027474	005237	006462		MOV	CURADD, TCURAD				
4943	027500	005337	003014		INC	TXMTOT				
4944	027504	001270			DEC	QUALVL				: DEC THE COPY COUNT
4945	027506	000137	026762		BNE	5\$				
4946					JMP	GETCL				
4947	027512	013737	006450	006530	2\$:	MOV	CTOTCC, TOTCC			: SETUP CHAR. COUNT, CURR. ADDR. & PTR
4948	027520	023727	006530	001000	CMP	TOTCC, #BUFLIM				: SEE IF BUFFER ALREADY FULL
4949	027526	002414			BLT	16\$				: BR IF NOT FULL (BUFLIM # OF CHARS.)
4950	027530				PRINTF	#MSGTRN, #BUFEX				: ELSE TELL OPR. AND DON'T BUILD MSG.
4951	027530	012746	014347						MOV	#BUFEX,-(SP)
4952	027534	012746	014365						MOV	#MSGTRN,-(SP)
4953	027540	012746	000002						MOV	#2,-(SP)
4954	027544	010600							MOV	SP,RO
4955	027546	104417							TRAP	C\$PNTF
4956	027550	062706	000006						ADD	#6,SP
4957	027554	000137	026762							
4958	027560	005737	006450	16\$:	JMP	GETCL				: THEN GO GET A NEW COMMAND
4959	027564	001002			TST	CTOTCC				: IF FIRST "SET" THEN GET RID OF DEFAULT
4960	027566	005037	006446		BNE	7\$				
4961	027572			7\$:	CLR	CMPTOT				
4962	027572	012737	006244	006444	MOV	#PTR13, CMPPTR				: INIT COMPARE MESSAGE POINTER
4963	027600	013701	006446		MOV	CMPTOT, R1				
4964	027604	020127	000017		CMP	R1, #MSGLIM				: SEE IF MSG COUNT EXCEEDED.
4965	027610	002414			BLT	18\$				: BR IF NO

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 122  
COMMAND LINE FETCH & INTERPRETATION SECTION

4966	027612			
4967	027612	012746	014307	
4968	027616	012746	014365	
4969	027622	012746	000002	
4970	027626	010600		
4971	027630	104417		
4972	027632	062706	000006	
4973	027636	000137	026762	
4974	027642	006301		
4975	027644	006301		
4976	027646	060137	006444	
4977	027652	013737	006444	006524
4978	027660	013737	006452	006526
4979	027666	004737	023264	
4980	027672	004737	023362	
4981	027676	013737	006524	006444
4982	027704	005237	006446	
4983	027710	013737	006526	006452
4984	027716	013737	006530	006450
4985	027724	005337	003014	
4986	027730	001270		
4987	027732	000137	026762	
4988				
4989				
4990				
4991				
4992				

```

PRINTF #MSGTRN,#TABEX
18$: JMP GETCL
ASL R1
ASL R1
ADD R1,CMPPTR
MOV CMPPTR,CPTR
MOV CCURAD,CURADD
JSR PC,ADDCC
JSR PC,BLDBUF
MOV CPTR,CMPPTR
INC CMPTOT
MOV CURADD,CCURAD
MOV TOTCC,CTOTCC
DEC QUALVL
BNE 2$
JMP GETCL

```

```

; 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'

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 123  
COMMAND LINE FETCH & INTERPRETATION SECTION

4993  
4994  
4995  
4996  
4997 027736  
4998 027736 006302  
4999 027740 016202 027754  
5000 027744 062702 027754  
5001 027750 004712  
5002 027752 000207  
5003  
5004  
5005 027754 000150  
5006 027756 000152  
5007 027760 000162  
5008 027762 001550  
5009 027764 000262  
5010 027766 000172  
5011 027770 000306  
5012 027772 000400  
5013 027774 000722  
5014 027776 000732  
5015 030000 000750  
5016 030002 000760  
5017 030004 000770  
5018 030006 001062  
5019 030010 001556  
5020 030012 001102  
5021 030014 001162  
5022 030016 001170  
5023 030020 001200  
5024 030022 001210  
5025 030024 001220  
5026 030026 001230  
5027 030030 001246  
5028 030032 001334  
5029 030034 001344  
5030 030036 001364  
5031 030040 001372  
5032 030042 001402  
5033 030044 001412  
5034 030046 001422  
5035 030050 001450  
5036 030052 001460  
5037 030054 001564  
5038 030056 001600  
5039 030060 001632  
5040 030062 001642  
5041 030064 001652  
5042 030066 001662  
5043 030070 001672  
5044 030072 001702  
5045 030074 000142  
5046 030076 001140  
5047 030100 000656  
5048 030102 000706

.SBTTL ACTION TABLE AND ROUTINES  
: USER MUST CLEAR/SET PSGDBD IF USE "CLIBIF" IN CONNECTION WITH ACTION  
: R2 WILL HOLD ACTION CODE FROM PARSING (CLI) NODE

CLIACT: ASL R2 ;MULTIPLY ACTION CODE BY 2  
MOV 10\$(R2),R2 ;OFFSET VALUE  
ADD #10\$,R2 ;ADD BASE VALUE  
JSR PC,(R2) ;GO DO ACTION  
RTS PC ;RETURN TO TRVACT:

10\$: .WORD ACTNUL-10\$ ;BRIEF DESCRIPTION OF ACTONS TAKEN  
 .WORD ACTCLR-10\$ ;NULL  
 .WORD ACTSHO-10\$ ;CLEAR  
 .WORD ACTCHK-10\$ ;SHOW  
 .WORD ACTRUN-10\$ ;CHECK  
 .WORD ACTHLP-10\$ ;RUN  
 .WORD ACTCSE-10\$ ;HELP  
 .WORD ACTCST-10\$ ;CLEAR OR SHOW EXPECT  
 .WORD ACTSTE-10\$ ;CLEAR OR SHOW TRANSMIT  
 .WORD ACTSTT-10\$ ;SET EXPECT  
 .WORD ACTSZE-10\$ ;SET TRANSMIT  
 .WORD ACTCOP-10\$ ;SIZE  
 .WORD ACTNUM-10\$ ;COPY  
 .WORD ACTOPM-10\$ ;NUMERIC VALUE FOR SIZE OR COPY  
 .WORD ACTSTS-10\$ ;QUOTED MESSAGE FROM USER  
 .WORD ACTEQ0-10\$ ;STATUS  
 .WORD ACTMS0-10\$ ;END OF QUOTED MESSAGE FROM USER  
 .WORD ACTMS1-10\$ ;ONES AS DATA  
 .WORD ACTMS2-10\$ ;ZEROS AS DATA  
 .WORD ACTMS3-10\$ ;1ALT AS DATA  
 .WORD ACTMS4-10\$ ;OACT AS DATA  
 .WORD ACTMS5-10\$ ;ITEP AS DATA  
 .WORD ACTMS6-10\$ ;CCITT AS DATA  
 .WORD ACTATV-10\$ ;ALPHA AS DATA  
 .WORD ACTPAS-10\$ ;ACTIVE MODE  
 .WORD ACTREC-10\$ ;PASSIVE MODE  
 .WORD ACTLIS-10\$ ;RECEIVE MODE  
 .WORD ACTDLL-10\$ ;LISTEN MODE  
 .WORD ACTTRA-10\$ ;DOWNLINE LOAD  
 .WORD ACTTAL-10\$ ;TRANSPIT MODE  
 .WORD ACTNO-10\$ ;TALK MODE  
 .WORD ACTECH-10\$ ;NO IE /NOCHECK  
 .WORD ACTCRC-10\$ ;ECHO  
 .WORD ACTPRO-10\$ ;CRC  
 .WORD ACTRFS-10\$ ;PROTOCOL  
 .WORD ACTMOP-10\$ ;STATUS  
 .WORD ACTTLP-10\$ ;SATELLITE IN MAINTENANCE LOOP MODE  
 .WORD ACTCLP-10\$ ;INTERNAL TTL  
 .WORD ACTLLP-10\$ ;CABLE LOOP  
 .WORD ACTRLP-10\$ ;LOCAL MODEM LOOP  
 .WORD ACTNUF-10\$ ;REMOTE MODEM LOOP  
 .WORD ACTBCR-10\$ ;MORE COMMAND NEEDED  
 .WORD ACTDMS-10\$ ;BAD CHARACTER IN OPERATOR MESSAGE  
 .WORD ACTDME-10\$ ;DUMP MEMORY START ADDRESS  
 .WORD ACTDME-10\$ ;DUMP MEMORY END ADDRESS

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 124  
ACTION TABLE AND ROUTINES

5049	030104	000700	.WORD	ACTDMQ-10\$	:DUMP WORD
5050	030106	000246	.WORD	ACTPRT-10\$	:PRINT
5051	030110	001572	.WORD	ACTMOS-10\$	:MODEM STATUS
5052	030112	000236	.WORD	ACTEXT-10\$	:EXIT ROUTINE REV B EC
5053	030114	001272	.WORD	ACTSEX-10\$	:SET EX=TR REV B EC
5054					

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 125  
ACTION TABLE AND ROUTINES

5055											
5056	030116	112737	177777	003146	ACTNUF: MOV	#-1,PSNNUF				:SET FLAG TO SAY NEED MORE OF COMMAND	
5057	030124	000207			ACTNUL: RTS	PC				:RETURN TO PARSER	
5058											
5059	030126	012737	000001	003010	ACTCLR: MOV	#CLEAR,KEYWD1				:SET LOC TO SAY A CLEAR WAS TYPED	
5060	030134	000207			RTS	PC					
5061											
5062	030136	012737	000002	003010	ACTSHO: MOV	#SHOW,KEYWD1				:SET LOC. TO SAY A SHOW TYPED	
5063	030144	000207			RTS	PC					
5064											
5065	030146	012702	003016		ACTHLP: MOV	#HLP,KEYWD1				:SETUP R2 AS A POINTER TO HELP MSG TABLE	
5066	030152				1\$: PRINTF	#HLPF,(R2)+				:PRINT HELP INFORMATION MESSAGES	
5067	030152	012246								MOV (R2)+,-(SP)	
5068	030154	012746	012273							MOV #HLPF,-(SP)	
5069	030160	012746	000002							MOV #2,-(SP)	
5070	030164	010600								MOV SP,R0	
5071	030166	104417								TRAP C\$PNTF	
5072	030170	062706	000006							ADD #6,SP	
5073	030174	020227	003036		CMP	R2,#HLPEND				:SEE IF ALL INFO PRINTED YET	
5074	030200	001344			BNE	1\$				:IF NO KEEP PRINTING	
5075	030202	012737	000005	003010	MOV	#HLP,KEYWD1				:SET LOC. TO SAY A HELP WAS TYPED	
5076	030210	000207			RTS	PC					
5077											
5078	030212	012737	000057	003010	ACTEXT: MOV	#EXIT,KEYWD1				:EXIT COMMAND WAS INPUT REV B EC	
5079	030220	000207			RTS	PC				:RETURN	
5080											
5081	030222	012737	000055	003010	ACTPRT: MOV	#PRNT,KEYWD1				:SET LOC. TO SAY A HELP WAS TYPED	
5082	030230	004737	020610		JSR	PC,REPORT				:CALL ROUTINE TO PRINT EVENT LOG AND BASE TABLE	
5083	030234	000207			RTS	PC					
5084											
5085	030236	012737	000004	003010	ACTRUN: MOV	#RUN,KEYWD1				:SET RUN FLAG	
5086	030244	112737	177777	003146	MOV	#-1,PSNNUF				:SET FLAG TO SAY NEED MORE OF COMMAND	
5087	030252	012737	000001	006576	MOV	#1,RPASS				:SET DEFAULT RUN 'PASS' TO 1	
5088	030260	000207			RTS	PC					
5089											
5090	030262	012737	006244	006444	ACTCSE: MOV	#PTR13,CMPPTR				:INIT COMPARE MESSAGE POINTER	
5091	030270	013701	006444		MOV	CMPPTR,R1					
5092											
5093	030274	013702	006446		MOV	CMPTOT,R2					
5094	030300	105037	003146		CLRB	PSNNUF				:FLAG THAT HAVE VALID COMMAND AT THIS PT.	
5095	030304	023727	003010	000002	CMP	KEYWD1,#SHOW				:SEE IF A CLEAR OR SHOW WAS TYPED	
5096	030312	001471			BEQ	ACTSHW				:BR IF A SHOW WAS TYPED	
5097	030314	012737	000001	006446	MOV	#1,CMPTOT				:CLEAR COMPARE MESSAGE COUNT, CHAR. COUNT	
5098	030322	005037	006450		CLR	CTOTCC				: AND RESET POINTER	
5099											
5100	030326	012737	006244	006444	MOV	#PTR13,CMPPTR				:INIT COMPARE MESSAGE POINTER	
5101	030334	013737	006444	006524	MOV	CMPPTR,CPTR				:SET UP TO FILL IN DEFAULT MESSAGE	
5102	030342	012701	005150		MOV	#CMPBUF,R1					
5103	030346	010137	006452		MOV	R1,CCURAD					
5104	030352	000431			BR	ACTCLB					
5105											
5106	030354	012701	006150		ACTCST: MOV	#PTRTAB,R1					
5107	030360	013702	006462		MOV	TXMTOT,R2					
5108	030364	105037	003146		CLRB	PSNNUF				:FLAG THAT HAVE VALID COMMAND AT THIS PT.	
5109	030370	023727	003010	000002	CMP	KEYWD1,#SHOW				:SEE IF A CLEAR OR SHOW WAS TYPED	
5110	030376	001437			BEQ	ACTSHW				:BR IF A SHOW WAS TYPED	



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 126  
ACTION TABLE AND ROUTINES

5111	030400	012737	000001	006462	MOV	#1, TXMTOT	; CLEAR TRANSMIT MESSAGE COUNT, CHAR. COUNT
5112	030406	005037	006464		CLR	TTOTCC	; AND RESET POINTER
5113	030412	012737	006150	006442	MOV	#PTRTAB, TXPTR	
5114	030420	013737	006442	006524	MOV	TXPTR, CPTR	
5115	030426	012701	003150		MOV	#TXBUF, R1	
5116	030432	010137	006466		MOV	R1, TCUR, D	
5117							
5118	030436	012702	001000		ACTCLB: MOV	#BUFLIM, R2	
5119	030442	010137	006526		MOV	R1, CURADD	; SET UP TO PUT DEFAULT MSG IN LIST AFTER 033'S
5120	030446	012737	000005	006516	MOV	#5, MSGTYP	
5121	030454	013737	002162	006520	MOV	MSGSC, CURCC	
5122	030462	105021			1\$: CLR	(R1)+	; FILL EXPT OR TRAN BUFFER WITH 0'S IF A CLEAR
5123	030464	005302			DEC	R2	; DO 'BUFLIM' NUMBER OF BYTE LOCATIONS
5124	030466	001375			BNE	1\$	
5125	030470	004737	023362		JSR	PC, BLDBUF	; 'CLEAR' REALLY MEANS TO PUT DEFAULT MSG IN
5126	030474	000207			RTS	PC	; WHEN DONE, RETURN TO PARSER
5127							
5128							
5129	030476	012705	003072		ACTSHW: MOV	#SHTAB, R5	
5130	030502	122571	000000		5\$: CMPB	(R5)+, @ (R1)	; LOOK AT FIRST BYTE OF MSG TO DECIPHER TYPE
5131	030506	001404			BEQ	6\$	
5132	030510	020527	003101		CMP	R5, #SHTEND	; SEE IF LOOKED AT ALL OF DEFAULTS YET
5133	030514	001372			BNE	5\$	
5134	030516	005205			INC	R5	; MUST BE OPR. SPEC'D THEN
5135	030520	162705	003073		6\$: SUB	#SHTAB+1, R5	
5136	030524	006305			ASL	R5	
5137	030526	016137	000002	006534	MOV	2(R1), TEMP	
5138	030534				PRINTF	#SHMSG, SHTYTB(R5), TEMP	; PRINT MSG SIZE & TYPE
5139	030534	013746	006534				MOV TEMP, -(SP)
5140	030540	016546	003052				MOV SHTYTB(R5), -(SP)
5141	030544	012746	013507				MOV #SHMSG, -(SP)
5142	030550	012746	000003				MOV #3, -(SP)
5143	030554	010600					MOV SP, R0
5144	030556	104417					TRAP C\$PNTF
5145	030560	062706	000010				ADD #10, SP
5146	030564	062701	000004		ADD	#4, R1	; BUMP R1 TO NEXT SET OF POINTERS
5147	030570	005302			DEC	R2	
5148	030572	001341			BNE	ACTSHW	
5149	030574	013737	006566	007706	MOV	MODTYP, DEV1	
5150	030602	013737	006570	007710	MOV	MLTYP, DEV2	
5151	030610	013737	006576	007712	MOV	RPASS, DEV3	
5152	030616	013737	006574	007714	MOV	PARAM, DEV4	
5153	030624	004737	023712		JSR	PC, SHWOP	; SHOW THE OPERATOR THE CURRENT MODE..... ALSO
5154	030630	000207			RTS	PC	
5155							
5156	030632	013737	003142	006510	ACTDMS: MOV	PSNUM, STADD	; SETUP STARTING ADDRESS FOR DUMP
5157	030640	005037	006514		CLR	BYTBIT	; SET DEFAULT OF WORD DUMP
5158	030644	012737	000052	003010	MOV	#DMPS, KEYWD1	; FLAG THAT A DUMP WAS TYPED
5159	030652	000403			BR	ACTDME	
5160							
5161	030654	012737	177777	006514	ACTDMQ: MOV	#-1, BYTBIT	; SET DUMP FLAG TO 'DUMP-WORD'
5162	030662	013737	003142	006512	ACTDME: MOV	PSNUM, ENADD	; SETUP END ADDRESS FOR DUMP (=START IF NO 'EEE')
5163	030670	105037	003146		ACTDMX: CLR	PSNUF	; CLEAR NOT-ENOUGH FLAG, 'DUMP N-N/B' IS VALID
5164	030674	000207			RTS	PC	
5165							

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P.1 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 127  
ACTION TABLE AND ROUTINES

```

5166
5167
5168 030676 012737 000010 003010 ACTSTE: MOV #SETEXP,KEYWD1
5169 030704 000403 BR ACTSTX
5170
5171 030706 012737 000011 003010 ACTSTT: MOV #SETTRN,KEYWD1
5172 030714 012737 000001 003014 ACTSTX: MOV #1,QUALVL ;SET UP DEFAULT COPY TO 1 (/COPY=0)
5173 030722 000207 RTS PC
5174
5175 030724 012737 000012 003012 ACTSIZE: MOV #SIZE,QUALFG
5176 030732 000207 RTS PC
5177
5178 030734 012737 000013 003012 ACTCOP: MOV "QCOPY,QUALFG
5179 030742 000207 RTS PC
5180
5181 030744 023727 003012 000012 ACTNUM: CMP QUALFG,#SIZE ;SEE IF A SIZE OR COPY TYPED
5182 030752 001023 BNE 1$ ;BR IF IT WAS A COPY
5183 030754 005737 003142 TST PSNUM ;CHECK TO BE SURE DIDN'T TRY SIZE=0
5184 030760 001014 BNE 3$ ; BR IF NO
5185 030762 PRINTF #CLISEO
5186 030762 012746 012074 MOV #CLISEO,-(SP)
5187 030766 012746 000001 MOV #1,-(SP)
5188 030772 010600 MOV SP,R0
5189 030774 104417 TRAP C$PNTF
5190 030776 062706 000004 ADD #4,SP
5191 031002 112737 177777 003147 MOVB #-1,PSGDBD ;SEE ERROR-IN-CMD FLAG
5192 031010 000411 BR 2$
5193 031012 013737 003142 006520 3$: MOV PSNUM,CURCC ;IF A SIZE LOAD CURCC WITH BYTE COUNT
5194 031020 000405 BR 2$
5195 031022 013737 003142 003014 1$: MOV PSNUM,QUALVL ;IF A COPY, LOAD COPY COUNT
5196 031030 005237 003014 INC QUALVL ;INCREMENT SO FIRST DEC MAKES IT REAL #
5197 031034 000522 2$: BR ACTMEX
5198
5199 031036 012737 000007 006516 ACTOPM: MOV #7,MSGTYP
5200 031044 010437 006534 MOV R4,TEMP ;KEEP TRACK OF START OF QUOTED TEXT
5201 031050 005237 006534 INC TEMP ; SO CAN CALC OPCNT AT END OF QUOTES
5202 031054 000207 RTS PC
5203
5204 031056 010402 ACTEQO: MOV R4,R2
5205 031060 012702 006534 SUB TEMP,R2
5206 031064 010237 006520 MOV R2,CURCC ;CALC BYTE COUNT FOR QUOTED TEXT
5207 031070 010237 002166 MOV R2,OPCNT
5208 031074 013701 006534 MOV TEMP,R1
5209 031100 012705 002520 MOV #OPBUF,R5
5210 031104 112125 1$: MOVB (R1)+,(R5)+ ;COPY QUOTED TEXT TO OPBUF
5211 031106 005302 DEC R2
5212 031110 001375 BNE 1$
5213 031112 000473 BR ACTMEX
5214
5215 031114 ACTBCR: PRINTF #CLIBCR ;BAD CHAR. IN OPR. QUOTED STRING
5216 031114 012746 012027 MOV #CLIBCR,-(SP)
5217 031120 012746 000001 MOV #1,-(SP)
5218 031124 010600 MOV SP,R0
5219 031126 104417 TRAP C$PNTF
5220 031130 062706 000004 ADD #4,SP
5221 031134 000207 RTS PC

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 128  
ACTION TABLE AND ROUTINES

```

5222
5223 031136 005037 006516      ACTMS0: CLR      MSGTYP
5224 031142 000435              BR      ACTME1
5225 031144 012737 000001 006516 ACTMS1: MOV      #1,MSGTYP      ;SET MESSAGE TYPE = ALL ONES
5226 031152 000431              BR      ACTME1
5227 031154 012737 000002 006516 ACTMS2: MOV      #2,MSGTYP      ;SET MESSAGE TYPE = ONES & ZEROS
5228 031162 000425              BR      ACTME1
5229 031164 012737 000003 006516 ACTMS3: MOV      #3,MSGTYP      ;SET MESSAGE TYPE = ZEROS & ONES
5230 031172 000421              BR      ACTME1
5231 031174 012737 000004 006516 ACTMS4: MOV      #4,MSGTYP      ;SET MESSAGE TYPE = CCITT
5232 031202 000415              BR      ACTME1
5233 031204 012737 000005 006516 ACTMS5: MOV      #5,MSGTYP      ;SET MESS TYPE = QUICK FOX
5234 031212 013737 002162 006520      MOV      MSG5C,CURCC ;SETUP DEFAULT SIZE FOR THIS TYPE
5235 031220 000430              BR      ACTMEX
5236 031222 012737 000006 006516 ACTMS6: MOV      #6,MSGTYP      ;SET MESSAGE TYPE = ALPHA/NUM
5237 031230 013737 002164 006520      MOV      MSG6C,CURCC ;SETUP DEFAULT SIZE FOR THIS TYPE
5238
5239 031236 012737 000100 006520 ACTME1: MOV      #64.,CURCC ;SETUP DEFAULT SIZE FOR MSG0-4
5240 031244 000416              BR      ACTMEX      ;BRANCH TO EXIT
5241
5242
5243 031246 022737 000010 003010 ACTSEX: ;REV B EC
5244 031254 001404              CMP      #SETEXP,KEYWD1 ;DID WE GET HERE FROM 'SET E='COMMAND?
5245 031256 112737 000001 003147      BEQ      10$          ;YES,BRANCH
5246 031264 000406              MOV      #1,PSGDBD      ;SET ERROR FLAG
5247 031266 004737 023506              BR      ACTMEX          ;GO EXIT SUBROUTINE
5248 031272 012737 000060 003010 10$: JSR      PC,FACSIMILE ;GO COPY TRANSMIT LIST TO EXPECT LIST
5249 031300 000400              MOV      #SETET,KEYWD1 ;SET FLAG TO BE USED IN T1::
5250              BR      ACTMEX          ;EXIT SUBROUTINE
5251 031302 105037 003146      ACTMEX: CLRB     PSNUF      ;CLEAR NOT-ENOUGH FLAG
5252 031306 000207              RTS      PC
5253

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 129  
ACTION TABLE AND ROUTINES

5254	031310	012737	000003	006566	ACTATV: MOV	#ACT,MODTYP	;MODE = ACTIVE
5255	031316	000432			BR	ACTM2X	
5256							
5257	031320	012737	000002	006566	ACTPAS: MOV	#PAS,MODTYP	;MODE = PASSIVE
5258	031326	105037	003146		CLRB	PSNNUF	;CLEAR NOT-ENOUGH FLAG
5259	031332	005037	006570		CLR	MLTYP	;CLEAR MAINT LOOP TYPE
5260	031336	000207			RTS	PC	
5261							
5262	031340	005037	006566		ACTREC: CLR	MODTYP	;MODE = RECEIVE
5263	031344	000417			BR	ACTM2X	
5264							
5265	031346	012737	000006	006566	ACTLIS: MOV	#LIS,MODTYP	;MODE = LISTEN
5266	031354	000413			BR	ACTM2X	
5267							
5268	031356	012737	000004	006566	ACTDLL: MOV	#DOW,MODTYP	;MODE = DOWNLINE LOAD
5269	031364	000407			BR	ACTM2X	
5270							
5271	031366	012737	000001	006566	ACTTRA: MOV	#TRA,MODTYP	;MODE = TRANSMIT
5272	031374	000403			BR	ACTM2X	
5273							
5274	031376	012737	000005	006566	ACTTAL: MOV	#TAL,MODTYP	;MODE = TALK
5275							
5276	031404	042737	000004	006574	ACTM2X: BIC	#ECHOB,PARAM	;DISABLE /ECHO (ALL BUT PASSIVE MODE)
5277	031412	105037	003146		CLRB	PSNNUF	;CLEAR NOT-ENOUGH FLAG
5278	031416	005037	006570		CLR	MLTYP	;CLEAR MAINT LOOP TYPE
5279	031422	000207			RTS	PC	
5280							

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 130  
ACTION TABLE AND ROUTINES

```

5281 031424 012737 000036 003012 ACTNO: MOV #NO,QUALFG
5282 031432 000207 RTS PC
5283
5284 031434 022737 000036 003012 ACTECH: CMP #NO,QUALFG
5285 031442 001422 BEQ 1$
5286 031444 052737 000004 006574 BIS #ECHOB,PARAM
5287 031452 022737 000002 006566 CMP #PAS,MODTYP ;BE SURE IN PASSIVE MODE IF
5288 031460 001416 BEQ 2$ ;IF TRYING TO SET /ECHO
5289 031462 PRINTF #CLINPS
5290 031462 012746 011764 MOV #CLINPS, -(SP)
5291 031466 012746 000001 MOV #1, -(SP)
5292 031472 010600 MOV SP,RO
5293 031474 104417 TRAP C$PNTF
5294 031476 062706 000004 ADD #4,SP
5295 031502 112737 177777 003147 MOVB #-1,PSGDBD
5296 031510 042737 000004 006574 1$: BIC #ECHOB,PARAM
5297 031516 005037 003012 2$: CLR QUALFG ;CLEAR 'NO' OUT OF QUALIFIER FLAG
5298 031522 000501 BR ACTLXX
5299
5300 031524 012701 000002 ACTCHK: MOV #DATCKB,R1 ;SET DATA CHECK BIT
5301 031530 000413 BR ACTQFG
5302
5303 031532 012701 000001 ACTSTS: MOV #STATB,R1 ;SET THE STATUS BIT
5304 031536 000410 BR ACTQFG
5305
5306 031540 012701 000020 ACTCRC: MOV #CRCB,R1 ;SET THE CRC BIT
5307 031544 000405 BR ACTQFG
5308
5309 031546 012701 000010 ACTMOS: MOV #MOCHK,R1 ;SET THE MODEM BIT
5310 031552 000402 BR ACTQFG
5311
5312 031554 012701 000040 ACTPRO: MOV #PROTOB,R1 ;SET THE PROTOCOL BIT
5313
5314 031560 050137 006574 ACTQFG: BIS R1,PARAM
5315 031564 022737 000036 003012 CMP #NO,QUALFG
5316 031572 001002 BNE 1$
5317 031574 040137 006574 BIC R1,PARAM
5318 031600 005037 003012 1$: CLR QUALFG ;CLEAR 'NO' OUT OF QUALIFIER FLAG
5319 031604 000450 BR ACTLXX
5320
5321 031606 013737 003142 006576 ACTRPS: MOV PSNUM,RPASS ;GET NUMBER OF 'RUN PASSES'
5322 031614 000444 BR ACTLXX
5323
5324 031616 012737 000005 006570 ACTMOP: MOV #5,MLTYP
5325 031624 000417 BR ACTLPX
5326 031626 012737 000001 006570 ACTTLP: MOV #1,MLTYP
5327 031634 000413 BR ACTLPX
5328 031636 012737 000002 006570 ACTCLP: MOV #2,MLTYP
5329 031644 000407 BR ACTLPX
5330 031646 012737 000003 006570 ACTLLP: MOV #3,MLTYP
5331 031654 000403 BR ACTLPX
5332 031656 012737 000004 006570 ACTRLP: MOV #4,MLTYP
5333
5334 031664 022737 000003 006566 ACTLPX: CMP #ACT,MODTYP ;BE SURE IN ACTIVE IF TRYING TO SET LOOP
5335 031672 001415 BEQ ACTLXX ; BR IF IN ACTIVE
5336 031674 112737 177777 003147 MOVB #-1,PSGDBD

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 131  
ACTION TABLE AND ROUTINES

5337 031702 005037 006570  
5338 031705  
5339 031706 012746 011722  
5340 031712 012746 000001  
5341 031716 010600  
5342 031720 104417  
5343 031722 062706 000004  
5344 031726 105037 003146  
5345 031732 000207  
5346

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

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 132  
ACTION TABLE AND ROUTINES

```

5347
5348
5349 031734 005737 006570      ;REV B BY EC
5350 031740 001422
5351 031742 032737 000002 006574 GTR9:  TST      MLTYP      ;LOOP MODE ?
5352 031750 001416
5353 031752 023737 006446 006462      BEQ      10$      ;NO,BRANCH
5354 031760 001412
5355 031762
5356 031762 012746 012125
5357 031766 012746 000001
5358 031772 010600
5359 031774 104417
5360 031776 062706 000004
5361 032002 000137 026762      CMP      CMPTOT, TXMTOT ;TX = EX ?
5362
5363
5364
5365 032006 012737 006150 006442 10$:  MOV      #PTRTAB, TXPTR ;INIT TRANSMIT MESSAGE POINTER
5366 032014 012737 006244 006444      MOV      #PTR13, CMPPTR ;INIT COMPARE MESSAGE POINTER
5367 032022 012737 006340 006440      MOV      #PTR23, RXPTR  ;INIT RECEIVE MESSAGE POINTER
5368
5369 032030 013737 006446 006476      MOV      CMPTOT, RXMTOT ;MAKE COMPARE AND RX MESSAGE COUNTS EQUAL
5370
5371
5372 032036 005037 006600      GTREX: CLR      FLAG      ;CLEAR FLAG
5373 032042 005037 006502      CLR      OPVAR      ;CLEAR OPTIONAL VARIABLE COUNTER
5374 032046 005037 006504      CLR      PSCNT      ;CLEAR PASS COUNT
5375 032052 005037 006506      CLR      ERRCNT      ;CLEAR ERROR COUNT
5376 032056 005037 011520      CLR      MGLCNT      ;CLEAR GLITCH COUNT
5377 032062 005037 011522      CLR      MHRCNT      ;CLEAR HARD ERR. COUNT
5378 032066 005037 006500      CLR      LNCNT      ;CLEAR LINE COUNTER
5379 032072 012737 000626 011510      MOV      #626, SYNCW ;SET UP SYNCW FOR 226 SYNC +TSOM
5380 032100 052737 000200 011472      BIS      #BIT7, DPVP1 ;SET UP PARAM WORD FOR 226 RX SYNC
5381 032106 005737 011524      TST      RNODE
5382 032112 001406
5383 032114 042737 000200 011472      BEQ      1$
5384 032122 012737 000426 011510      BIC      #BIT7, DPVP1 ;SET UP FOR 26 SYNC WORD ON RX.
5385 032130 004737 020176      MOV      #426, SYNCW ;ELSE SET UP SYNC FOR 26 AND TSOM
5386 032134 004737 034304      JSR      PC, LOGDVI  ;LOG ABOUT TO INIT DEVICE
5387
5388 032140 012737 001000 006520 GTRX2: MOV      #BUFLIM, CURCC ;SET CHAR COUNT TO 'BUFLIM' NO. OF BYTES
5389 032146 012737 004150 006526      MOV      #RXBUF, CURADD ;SET UP RX BUFFER AS CURRENT ADD.
5390 032154 013737 006440 006524      MOV      RXPTR, CPTR
5391 032162 012737 000010 006516      MOV      #10, MSGTYP ;SET UP FOR 33 TO FILL RX BUFFERS
5392 032170 004737 023362      JSR      PC, BLDBUF  ;CLEAR RX BUFFER
5393 032174 013702 006566      MOV      MODTYP, R2
5394 032200 006302
5395 032202 000172 006602      ASL      R2
5396
5397
5398
5399
5400
5401
5402
5403
5404
5405
5406
5407
5408
5409
5410
5411
5412
5413
5414
5415
5416
5417
5418
5419
5420
5421
5422
5423
5424
5425
5426
5427
5428
5429
5430
5431
5432
5433
5434
5435
5436
5437
5438
5439
5440
5441
5442
5443
5444
5445
5446
5447
5448
5449
5450
5451
5452
5453
5454
5455
5456
5457
5458
5459
5460
5461
5462
5463
5464
5465
5466
5467
5468
5469
5470
5471
5472
5473
5474
5475
5476
5477
5478
5479
5480
5481
5482
5483
5484
5485
5486
5487
5488
5489
5490
5491
5492
5493
5494
5495
5496
5497
5498
5499
5500

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 70A(1052) 23-MAR-82 16:43 PAGE 133  
RECEIVE MODE SECTION

.SBTTL RECEIVE MODE SECTION

..++  
..: FUNCTIONAL DESCRIPTION:  
..: RECEIVE-ONLY (OR ONE-WAY-IN) ROUTINE  
..: IN THIS MODE OF TESTING THE DEVICE'S RECEIVER IS ENABLED IN EXPECTATION  
..: OF RECEIVING A MESSAGE. 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.

..: SUBORDINATE ROUTINES USED:  
..: 'ALLTR'

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

..: RXONLY:

RXON2: MOV RXPTR,CPTRR  
MOV RXMTOT,DVRCT ;SET UP MESSAGE COUNT  
BIS #QRX+#ERX,FLAG ;SET UP RX QUE  
CLR CPTR ;CLEAR THE TX POINTER  
JMP ALLTR ;GO RX.

5397  
5398  
5399  
5400  
5401  
5402  
5403  
5404  
5405  
5406  
5407  
5408  
5409  
5410  
5411  
5412  
5413 032206  
5414 032206 013737 006440 006522  
5415 032214 013737 006476 006474  
5416 032222 052737 000104 006600  
5417 032230 005037 006524  
5418 032234 000137 032376  
5419



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 134  
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  
:--

5420  
5421  
5422  
5423  
5424  
5425  
5426  
5427  
5428  
5429  
5430  
5431  
5432  
5433  
5434  
5435  
5436  
5437  
5438  
5439  
5440  
5441

032240 042737 000002 006574  
032246 013737 006442 006524  
032254 013737 006462 006460  
032262 052737 000210 006600  
032270 005037 006522  
032274 000137 032376

TXONLY: BIC #DATCKB,PARAM ;SET NOCHECK  
TXON2: MOV TXPTR,CPTR  
MOV TXMTOT,DVTCT ;COPY COUNTER FOR THIS PASS  
BIS #QTX+#ETX,FLAG ;SET THE QUE TX FLAG  
CLR CPTRR ;CLEAR RX POINTER  
JMP ALLTR ;GO TX.

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 135  
PASSIVE MODE SECTION

.SBTTL PASSIVE MODE SECTION

5442  
5443  
5444  
5445  
5446  
5447  
5448  
5449  
5450  
5451  
5452  
5453  
5454  
5455  
5456  
5457  
5458  
5459  
5460  
5461  
5462  
5463  
5464  
5465  
5466

:+  
: 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

:--

032300  
032300 013737 006462 006460  
032306 013737 006442 006524  
032314 013737 006440 006522  
032322 052737 000104 006600  
032330 000137 032376

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

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 136  
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

:--

5467  
5468  
5469  
5470  
5471  
5472  
5473  
5474  
5475  
5476  
5477  
5478  
5479  
5480  
5481  
5482  
5483  
5484  
5485  
5486  
5487  
5488  
5489  
5490  
5491  
5492  
5493  
5494

032334 013737 006462 006460  
032342 013737 006442 006524  
032350 013737 006476 006474  
032356 013737 006440 006522  
032364 052737 000314 006600  
032372 000137 032376

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

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 137  
TRANSMIT - RECEIVE FOR ALL STANDARD MODES

.SBTTL TRANSMIT - RECEIVE FOR ALL STANDARD MODES

5495  
5496  
5497  
5498  
5499  
5500  
5501  
5502  
5503  
5504  
5505  
5506  
5507  
5508  
5509  
5510  
5511  
5512  
5513  
5514  
5515  
5516  
5517  
5518  
5519  
5520  
5521  
5522  
5523  
5524  
5525  
5526  
5527  
5528  
5529  
5530  
5531  
5532  
5533  
5534  
5535  
5536  
5537  
5538  
5539  
5540  
5541  
5542  
5543  
5544  
5545  
5546  
5547  
5548  
5549  
5550

++  
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  
--

032376 ALLTR:  
032376 032737 000004 006600 ALCK5: BIT #QRX, FLAG  
032404 001424 BEQ ALCK1 ;IF NOT RX GO TO TX'S  
032406 013702 006522 MOV CPTRR, R2  
032412 011237 006540 MOV (R2), TEMP2  
032416 012237 006470 MOV (R2)+, DVRXA  
032422 011237 006542 MOV (R2), TEMP3  
032426 011237 006472 MOV (R2), DVRCC  
032432 010237 006522 MOV R2, CPTRR  
032436 004737 020132 JSR PC, LOGRXQ ;LOG REC QUED  
032442 032737 000040 006574 10\$: BIT #PROTOB, PARAM ;'/PROTOCOL/ ?  
032450 001002 BNE ALCK1 ;YES, BRANCH

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 179  
TRANSMIT - RECEIVE FOR ALL STANDARD MODES

```

5551 032452 004737 035166          JSR      PC,DVRXQ          ;GO QUE RX BUFFERS & ENABLE RX
5552 032456 032737 000010 006600  ALCK1:  BIT      #QTX,FLAG          ;
5553 032464 001416                   BEQ      ALCK2            ;IF NO TX'S GO TO 2
5554 032466 013702 006524          MOV      CPTR,R2
5555 032472 011237 006540          MOV      (R2),TEMP2
5556 032476 012237 006454          MOV      (R2)+,DVTXA
5557 032502 011237 006542          MOV      (R2),TEMP3
5558 032506 012237 006456          MOV      (R2)+,DVTCC
5559 032512 010237 006524          MOV      R2,CPTR
5560 032516 004737 020076          JSR      PC,LOGTXQ
5561
5562 032522 032737 000040 006574  ALCK2:  BIT      #PROTOB,PARAM      ;'/PROTOCOL'?
5563 032530 001410                   BEQ      10$             ;NO,BRANCH
5564 032532 004737 040702                   CALL     PROTOCOL        ;GO DO DDCMP MESSAGE PROCESSING
5565 032536 032737 000200 006574  BIT      #ABORT,PARAM      ;PROTOCOL ABORT?
5566 032544 001404                   BEQ      20$             ;NO,BRANCH
5567 032546 000137 026642                   JMP      GTRA5           ;ABORT!!AND RETURN TO 'DCLT>' PROMPT
5568
5569 032552 004737 035270          10$:   JSR      PC,DVTXRX      ;GO TO TX AND RX SUB ROUT.
5570
5571 032556 032737 000004 006600  20$:   BIT      #QRX,FLAG          ;CHECK FOR REC. MSG.
5572 032564 001514                   BEQ      ALCK3
5573 032566 013737 006470 006540  MOV      DVRXA,TEMP2
5574 032574 013737 006472 006542  MOV      DVRCC,TEMP3
5575 032602 004737 020150          JSR      PC,LOGRXC        ;LOG REC COMPLETE
5576 032606 032737 000004 006574  UPTABL: BIT      #ECHOB,PARAM      ;IS THIS ECHO MODE(PASSIVE)
5577 032614 001406                   BEQ      UPTA4           ;IF NOT GO TO 4
5578 032616 013702 006524          MOV      CPTR,R2         ;ELSE SET R2 TO PRESENT TX TABL
5579 032622 013722 006540          MOV      TEMP2,(R2)+     ;STORE OFF RX ADD
5580 032626 013712 006542          MOV      TEMP3,(R2)     ;AND CC
5581 032632 032737 000002 006574  UPTA4: BIT      #DATCKB,PARAM      ;IS DATA CHECKING ASKED FOR
5582 032640 001015                   BNE     UPTA1           ;IF SO GO TO 1
5583 032642 012737 000001 006474  MOV      #01,DVRCT       ;ELSE SET DVRCT TO A 1
5584 032650 013737 006440 006522  MOV      RXPTR,CPTRR     ;RESET POINTER
5585 032656 022737 000003 006566  CMP      #ACT,MODTYP     ;IS THIS ACTIVE
5586 032664 001002                   BNE     UPTA3
5587 032666 005237 006474          INC      DVRCT           ;IF YES BUMP COUNT
5588 032672 000424          UPTA3: BR
5589 032674 013702 006522          UPTA1: MOV      CPTRR,R2
5590 032700 011237 006534          MOV      (R2),TEMP
5591 032704 163737 006542 006534  SUB      TEMP3,TEMP      ;LOAD TEMP WITH PREV. COUNT
5592 032712 013722 006542          MOV      TEMP3,(R2)+   ;LOAD TEMP WITH PREV.COUNT-CURRENT
5593 032716 063737 006542 006540  ADD      TEMP3,TEMP2
5594 032724 013722 006540          MOV      TEMP2,(R2)+   ;STORE OF NEW ADD
5595 032730 013712 006534          MOV      TEMP,(R2)     ;AND NEW CC
5596 032734 162702 0000J2          SUB      #2,R2         ;PUT POINTER BACK TO ADDR.
5597
5598 032740 010237 006522          MOV      R2,CPTRR      ;AND RESTORE IT.
5599
5600 032744          UPTEX:
5601 032744 022737 000002 006566  CMP      #PAS,MODTYP
5602 032752 001007                   BNE     ALCK2A         ;IF NOT PASSIVE LOOP THEN GO TO 2A
5603 032754 042737 000104 006600  BIC     #QRX+#ERX,FLAG   ;CLEAR BOTH EXPECTED AND COMPLETED FLAGS
5604 032762 052737 000210 006600  BIS     #QTX+#ETX,FLAG   ;SET THE TX FLAGS
5605 032770 000632                   BR
5606

```



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 140  
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

UBORDINATE ROUTINES USED:

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

CALLING SEQUENCE:

JMP CMPSR ;JUMP TO DATA COMPARISON CODE

--

5674	033164	032737	000002	006574	CMPSR:	BIT	#DATCKB,PARAM	:IS DATA CHECKING TO BE DONE
5675	033172	001522				BEQ	CMPSX	:IF NOT THEN EXIT
5676	033174	013737	006440	006524		MOV	RXPTR,CPTR	:PUT START OF RX POINTERS TO CPTR
5677	033202	013737	006444	006522		MOV	CMPPTR,CPTRR	: AND START OF COMPARE POINTS TO CPTRR
5678	033210	013737	006476	006474		MOV	RXMTOT,DVRCT	
5679								
5680	033216				CMPS3:			
5681	033216	013702	006524			MOV	CPTR,R2	:MOVE CURRET RX PT.TO R2
5682	033222	011237	006540			MOV	(R2),TEMP2	:MOVE RX ADD TO EVENT LOG
5683	033226	012201				MOV	(R2)+,R1	:SET R1 TO START ADD OF RX
5684	033230	012237	006542			MOV	(R2)+,TEMP3	:SET CHAR COUNT TO EVENT LOG
5685	033234	010237	006524			MOV	R2,CPTR	:RESTORE RX POINT
5686								
5687	033240	013702	006522			MOV	CPTRR,R2	:PUT R2 AT COMPARE TABLE
5688	033244	012203				MOV	(R2)+,R3	:SET R3 TO COMPARE ADD
5689	033246	012204				MOV	(R2)+,R4	:SET R4 TO COMP CC
5690	033250	010237	006522			MOV	R2,CPTRR	:RESTORE POINTER
5691	033254	010437	006544			MOV	R4,TEMP4	
5692	033260	004737	020244			JSR	PC,LOGCMP	:LOG COMPARE START.
5693								
5694	033264	020437	006542			CMP	R4,TEMP3	:IS COMPARE COUNT = TO RX COUNT
5695	033270	001410				BEQ	CMPS7	:IF SO GO TO 7
5696	033272	005237	006506			INC	ERRCNT	
5697	033276					ERRSOFT	1,EDDLE,ERR10	:PRINT ERROR

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 141  
DATA COMPARISON CODE

5698	033276	104457							TRAP	C\$ERSOFT
5699	033300	000001							.WORD	1
5700	033302	015322							.WORD	EDDLE
5701	033304	017552							.WORD	ERR10
5702	033306	004737	020262		JSR	PC,LOGCML				
5703										
5704	033312	005037	006544		CMPS7:	CLR	TEMP4			
5705	033316	012737	000001	006532		MOV	#1,OFSET			
5706	033324	122123			CMPS1:	CMPB	(R1)+,(R3)+			
5707	033326	001422				BEQ	CMPS6			
5708										
5709	033330	005237	006544		CMPS2:	INC	TEMP4			
5710	033334	023727	006544	000005		CMP	TEMP4,#5			
5711	033342	101014				BHI	CMPS6			
5712	033344	114337	006554			MOVB	-(R3),GOOD			
5713	033350	114137	006555			MOVB	-(R1),BAD			
5714	033354	005237	006506			INC	ERRCNT			
5715	033360					ERRSOFT	2,EDDDE,ERR1			
5716	033360	104457								
5717	033362	000002							TRAP	C\$ERSOFT
5718	033364	015357							.WORD	2
5719	033366	017462							.WORD	EDDDE
5720	033370	005201							.WORD	ERR1
5721	033372	005203				INC	R1			
5722	033374	005237	006532		CMPS6:	INC	R3			
5723	033400	005304				INC	OFSET			
5724	033402	001350				DEC	R4			
5725	033404	005737	006544			BNE	CMPS1			
5726	033410	001410				TST	TEMP4			
5727	033412	005237	006506			BEQ	CMPS5A			
5728	033416					INC	ERRCNT			
5729	033416	104457				ERRSOFT	3,EDDDE,ERR2			
5730	033420	000003								
5731	033422	015357							TRAP	C\$ERSOFT
5732	033424	017524							.WORD	3
5733	033426	004737	020300		CMPS5:	JSR	PC,LOGCMD			
5734	033432				CMPS5A:				.WORD	EDDDE
5735	033432	005337	006474			DEC	DVRCT		.WORD	ERR2
5736	033436	001267				BNE	CMPS3			
5737										

;LOG LENGTH ERROR  
;CLEAR BAD BYTE COUNTER  
;SET OFSET BYTE COUNT TO 1  
;COMPARE RX WITH EXPETED  
;IF EQUAL THEN GO TO 6

;INC BAD COL'NT  
;IS IT MORE THEN 5  
;IF SO GO FOR MORE  
;STORE GOOD BYTE FOR ERROR  
;STORE BAD BYTE FOR ERROR

;REPORT COMPARISON FAILURE TO OPR.

;INC OFFSET  
;ELSE DEC CHAR COUNT AND SEE IF 0  
;IF NOT GO BACK  
;SEE IF ANY CMP ERRS FOR THIS MSG  
;BR IF NONE

;REPORT # OF MISMATCHES FOR MESSAGE

;LOG DATA ERROR IN COMPARE

;IF NOT ALL DONE GO BACK



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 142  
MODEM CHANGE REPORTS

.SBTTL MODEM CHANGE REPORTS

..++  
:..FUNCTIONAL DESCRIPTION:  
:..THIS SECTION REPORTS THE NUMBER OF MOMDEM STATUS CHANGES  
:..THAT OCCUR ON EACH PASS. THE ERROR IS ONLY REPORTED IF  
:..THERE WERE ANY CHANGES IN OTHER WORDS A COUNT OF ZERO IS  
:..NOT REPORTED. THE CHANGES ARE REPORTED IN TWO CLASSES ..  
:..HARD ERRORS AND GLITCHES. HARD ERRORS ARE WHEN THE DEVICE  
:..IS ABLE TO LATCH UP THE BAD MODEM STATUS. GLITCHES OCCUR  
:..WHEN THE MODEM STATUS CHANGES TO CAUSE A DATA SET CHANGE  
:..INTERRUPT BUT THE CHANGE DOES NOT OCCUR LONG ENOUGH FOR  
:..THE DEVICE TO LATCH THE DATA

..:..INPUTS:  
:.. 'MGLCNT'' - CONTAINS NUMBER OF GLITCH ERRORS  
:.. 'MHRCNT'' - CONTAINS NUMBER OF HARD ERRORS

..:..OUTPUTS:  
:.. 'MGLCNT'' -ZEROED BY THIS SECTION  
:.. 'MHRCNT'' -ZEROED BY THIS SECTION

..:..--

5738  
5739  
5740  
5741  
5742  
5743  
5744  
5745  
5746  
5747  
5748  
5749  
5750  
5751  
5752  
5753  
5754  
5755  
5756  
5757  
5758  
5759  
5760  
5761  
5762  
5763 033440 005737 011520  
5764 033444 001003  
5765 033446 005737 011522  
5766 033452 001412  
5767  
5768  
5769  
5770 033454 005237 006506  
5771 033460  
5772 033460 104457  
5773 033462 000004  
5774 033464 014756  
5775 033466 017602  
5776 033470 005037 011520  
5777 033474 005037 011522  
5778

CMPSEX: TST MGLCNT ;CHECK FOR ANY GLITCH ERRORS  
BNE MCREP ;IF NON ZERO REPORT THEM  
TST MHRCNT ;CHECK FOR ANY HARD ERRORS  
BEQ ENDPS ;IF NONE GO TO END OF PASS

:..REPORT ANY MODEM ERRORS HERE

MCREP: INC ERRCNT ;BUMP ERROR COUNT  
ERRSOFT 4, MSCMS, ERR4

TRAP CSERSOFT  
.WORD 4  
.WORD MSCMS  
.WORD ERR4

CLR MGLCNT ;CLEAR GLITCH COUNT  
CLR MHRCNT ;CLEAR THE HARD COUNT

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 143  
INTERNAL END OF PASS CODE

.SBTTL INTERNAL END OF PASS CODE

++  
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 PROMT  
IN NOT = TO 0 THEN GO BACK TO MODE DISPATCHER

SUBORDINATE ROUTINES USED:  
-----  
'LOGEOP' - LOG END OF PASS TO EVENT LOG

5779  
5780  
5781  
5782  
5783  
5784  
5785  
5786  
5787  
5788  
5789  
5790  
5791  
5792  
5793  
5794  
5795  
5796  
5797  
5798  
5799  
5800  
5801  
5802  
5803  
5804  
5805  
5806  
5807  
5808  
5809  
5810

```

033500 005237 006504      ENDPS:  INC      PSCNT          ;BUMP PASS COUNT
033504 013737 006502 006544      MOV      OPVAR,TEMP4
033512 013737 006504 006540      MOV      PSCNT,TEMP2
033520 013737 006506 006542      MOV      ERRCNT,TEMP3
033526 004737 020316      JSR      PC,LOGEOP          ;LOG END OF PASS
033532 022737 177777 006576      CMP      #-1,RPASS        ;SEE IF RPASS=-1
033540 001403                        BEQ      1$                ;IF IT IS DON'T DECRMNT, LOOP FOREVER
033542 005337 006576      DEC      RPASS            ;DEC PASS COUNT
033546 001402                        BEQ      2$                ;IF DONE EXIT TEST
033550 000137 032140      1$:  JMP      GTRX2            ;ELSE GO BACK AND DISPATCH
033554 042777 000120 155670      2$:  BIC      #RINTEN!RXENA,@RXCSR ;TURN OFF RX
033562 000137 026642      JMP      GTRAS            ;WHEN RPASS=0 GO BACK TO 'DCLT>'

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 144  
DOWN-LINE-LOAD SECTION

5811  
5812  
5813  
5814  
5815  
5816  
5817  
5818  
5819  
5820  
5821  
5822  
5823  
5824  
5825  
5826  
5827  
5828  
5829  
5830

.SBTTL DOWN-LINE-LOAD SECTION

..++  
: FUNCTIONAL DESCRIPTION:  
: DOWN LINE LOAD IS NOT SUPPORTED BY THIS DEVICE..  
: IF THIS MODE IS CALLED BY THE COMMAND LINE INTERPRETER  
: THEN A MESSAGE WILL BE PRINTED .... THAT SAYS DOWN LINE  
: LOAD IS NOT!! SUPPORTED BY THIS DEVICE.  
:--

DLL:

PRINTF #DLLCM

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

JMP GTRAS

033566  
033566  
033566 012746 014122  
033566 012746 000001  
033576 010600  
033600 104417  
033602 062706 000004  
033606 000137 026642

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 145  
TALK MODE SECTION

.SBTTL TALK MODE SECTION

FUNCTIONAL DESCRIPTION:  
TALK MODE SECTION  
IN THIS MODE, THE 'TALK' END OF THE LINK TRANSMITS OPERATOR  
SPECIFIED MESSAGES UNTIL A 'EXIT' MESSAGE IS TYPE. AT THAT POINT,  
THIS END OF THE LINK GOES INTO 'LISTEN' MODE.

SUBORDINATE ROUTINES USED:

'LOGTXQ' - LOG TX BUFFER QUED TO EVENT LOG  
'DVTXRX' - QUE TX BUFFER TO DEVICE AND WAIT FOR COMPLETE  
'LOGTXC' - LOG TX COMPLETE TO EVENT LOG

CALLING SEQUENCE:

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

TALCK:

5831  
5832  
5833  
5834  
5835  
5836  
5837  
5838  
5839  
5840  
5841  
5842  
5843  
5844  
5845  
5846  
5847  
5848  
5849  
5850 033612  
5851 033612 042737 000002 006574  
5852 033620 012702 002520  
5853 033624 012722 177777  
5854 033630 022702 002642  
5855 033634 001373  
5856 033636  
5857 033636 104443  
5858 033640 000406  
5859 033642 002520  
5860 033644 000142  
5861 033646 014056  
5862 033650 177777  
5863 033652 000001  
5864 033654 000110  
5865 033656  
5866 033656 005002  
5867 033660 122762 000377 002520  
5868 033666 001402  
5869 033670 005202  
5870 033672 000772  
5871 033674 010237 002166  
5872  
5873 033700 012737 002520 006454  
5874 033706 012737 002520 006540  
5875 033714 013737 002166 006542  
5876 033722 013737 002166 006456  
5877 033730 004737 020076  
5878 033734 052737 000210 006600  
5879 033742 005037 006522  
5880  
5881  
5882 033746 032737 000040 006574  
5883 033754 001406  
5884 033756 042737 000004 006600  
5885 033764 004737 040702  
5886 033770 000402

BIC #DATCKB,PARAM ;SET NOCHECK  
MOV #OPBUF,R2  
1\$: MOV #-1,(R2)+ ;CLEAR OUT OPBUFFER FIRST  
CMP #OPEND,R2  
BNE 1\$  
GMANID OPRMM,OPBUF,A,-1,1,72.,NO ;GET TALK MESSAGE  
TRAP CSGMAN  
BR 10001\$  
.WORD OPBUF  
.WORD T\$CODE  
.WORD OPRMM  
.WORD -1  
.WORD T\$LOLIM  
.WORD T\$HILIM  
10001\$:  
CLR R2 ;NOW GET CHAR COUNT  
2\$: CMPB #377,OPBUF(R2)  
BEQ 3\$  
INC R2  
BR 2\$  
3\$: MOV R2,OPCNT  
MOV #OPBUF,DVTXA ;SET UP TX ADDR.  
MOV #OPBUF,TEMP2  
MOV OPCNT,TEMP3  
MOV OPCNT,DVTCC ;SET UP TX CC  
JSR PC,LOGTXQ  
5878 BIS #QTX+METX,FLAG ;SET UP FLAGS  
5879 CLR CPTRR ;CLEAR RX POINTER  
::THIS CODE ADDED FOR PROTOCOL  
5882 BIT #PROTOB,PARAM ;'/PROTOCOL' ?  
5883 BEQ 20\$ ;NO BRANCH  
5884 BIC #RXQ,FLAG ;CLEAR RX BIT  
5885 CALL PROTOCOL ;DO DDCMP TRANSMIT  
5886 BR 25\$ ;BRANCH

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 146  
TALK MODE SECTION

5887								
5888	033772	004737	035270		20\$:	JSR	PC,DVTRX	
5889	033776	013737	006454	006540	25\$:	MOV	DVTXA,TEMP2	
5890	034004	013737	006456	006542		MOV	DVTCC,TEMP3	
5891	034012	004737	020114			JSR	PC,LOGTXC	
5892	034016	022737	054105	002520		CMP	#'EX,OPBUF	;CHECK FOR EXIT
5893	034024	001272				BNE	TALCK	
5894	034026	022737	052111	002522		CMP	#'IT,OPBUF+2	
5895	034034	001266				BNE	TALCK	
5896	034036	042737	000210	006600		BIC	#QTX+#ETX,FLAG	;CLEAR THE TX BITS
5897	034044	012737	000006	006566		MOV	#LIS,MODTYP	;CHANGE TO LISTEN MODE
5898	034052	000137	032140			JMP	GTRX2	;AND GO BACK TO DISPATCH

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 147  
LISTEN MODE SECTION

.SBT.L 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

--

5899  
5900  
5901  
5902  
5903  
5904  
5905  
5906  
5907  
5908  
5909  
5910  
5911  
5912  
5913  
5914  
5915  
5916  
5917  
5918  
5919  
5920  
5921  
5922  
5923  
5924  
5925  
5926  
5927  
5928  
5929  
5930  
5931  
5932  
5933  
5934  
5935  
5936  
5937  
5938  
5939  
5940  
5941  
5942  
5943  
5944  
5945  
5946  
5947  
5948  
5949  
5950  
5951  
5952  
5953  
5954

034056 042737 000002 006574  
034064  
034064 012746 014045  
034070 012746 000001  
034074 010600  
034076 104417  
034100 062706 000004  
034104 012737 002520 006470  
034112 012737 002520 006540  
034120 012737 000122 006472  
034126 012737 000122 006542  
034134 052737 000104 006600  
034142 005037 006524  
  
034146 032737 000040 006574  
034154 001007  
  
034156 004737 035166  
034162 004737 020132  
034166 004737 035270  
034172 000402  
034174 004737 040702  
034200 013737 006470 006540  
034206 013737 006472 006542  
034214 004737 020150  
034220 063737 006470 006472  
034226 105077 152240  
034232  
034232 012746 002514  
034236 012746 000001  
034242 010600  
034244 104417  
034246 062706 000004  
034252 022737 054105 002520  
034260 001311

LISCK: BIC #DATCKB,PARAM ;CLEAR CHECK BIT  
PRINTF #LISP ;PRINT PROMPT FOR OPR.  
  
MOV #LISP,-(SP)  
MOV #1,-(SP)  
MOV SP,R0  
TRAP C\$PNTF  
ADD #4,SP  
  
LISCKA: MOV #OPBUF,DVRXA ;SET DEVICE UP TO REC AT OPBUF  
MOV #OPBUF,TEMP2  
MOV #82.,DVRCC ;SET UP CHAR COUNT TO 82.  
MOV #82.,TEMP3  
BIS #QRX+#ERX,FLAG ;SET UP FLAG  
CLR CPTR ;CLEAR THE TX.  
  
;: WAS PROTOCOL SELECTED ?  
BIT #PROTOR,PARAM ;'/PROTOCOL' ?  
BNE 20\$ ;YES,BRANCH  
  
JSR PC,DVRXQ ;QUE RX  
JSR PC,LOGRXQ  
JSR PC,DVTXRX ;GO TO DEVICE RX. SUBROUTINE  
BR 25\$ ;SKIP PROTOCOL  
20\$: CALL PROTOCOL ;GO DDCMP PROTOCOL  
25\$: MOV DVRXA,TEMP2  
MOV DVRCC,TEMP3 ;SET UP ADDR.AND CC.  
JSR PC,LOGRXC ;LOG COMPLETED  
ADD DVRXA,DVRCC  
CLRB @DVRCC  
PRINTF #OPBFPT  
  
MOV #OPBFPT,-(SP)  
MOV #1,-(SP)  
MOV SP,R0  
TRAP C\$PNTF  
ADD #4,SP  
  
CMP #'EX,OPBUF ;COMPARE FOR EX OF 'EXIT'  
BNE LISCKA ;IF NOT EXIT THEN GO BACK

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 148  
LISTEN MODE SECTION

5955 034262 022737 052111 002522  
5956 034270 001305  
5957 034272 012737 000005 006566  
5958 034300 000137 032140  
5959  
5960

CMP #'IT,OPBUF+2 ;IF FIRST HALF OK CHECK NEXT PART  
BNE LISCKA ;IF NOT EXIT THE GO BACK  
MOV #TAL,MODTYP ;CHANGE MODE TO TALK  
JMP GTRX2 ;RETURN TO DISPATCHER

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 149  
DEVICE FUNCTION SUBROUTINES

.SBTTL DEVICE FUNCTION SUBROUTINES

.SBTTL DEVICE INIT SUBROUTINE

```

:++
: FUNCTIONAL DESCRIPTION:
: DVINIT- DEVICE INIT ROUTINE
: THIS ROUTINE IS DEVICE DEPENDENT CODE THAT INITIS
: THE DEVICE BEING TESTED.
: IT SETS THE DEVICE UP TO THE MODE IT IS TO RUN IN AND
: INITIATES THE START,STACK,ACK SEQUENCE IF THE 'RNODE'(REMOTE
: NODE)INPUT INDICATES THE REMOTE NODE IS NON-ITEP.
:
: INPUTS:      'FHDPLX' INDICATES IF MODE IS FULL OR HALF DUPLEX. (1=FULL)
:              ADDRESS POINTERS (SELO,..) ALREADY POINT TO DEVICE'S REG.S
:
:              'MLTYP' INDICATES THE LOOP TYPE (1=TTL,2=CAB,3=RM,4=LM)
:              'RNODE' INDICATES THE TYPE OF REMOTE NODE (ITEP=1,NON-ITEP=0)
:
: SUBORDINATE ROUTINES USED:
:
:              'CTSSR' - CLEAR TO SEND SUB ROUTINE
:              'DVIN31' - SEND CONTROL AND REC OR TIME OUT
:              'CLRRTS' - CLEAR REQUEST TO SEND ROUTINE
:              'LGDVE' - LOG DEVICE ERROR TO EVENT LOG
:
: CALLING SEQUENCE:
:              JSR      PC,DVINIT
:--

```

DVINIT:

```

;MASTER CLEAR DEVICE
MOV      #RESET,@TXCSR      ;DO A MASTER CLEAR
TSTB    @RXCSR              ;SEE IF IT WORKED
BEQ     DVIN1                ;BRANCH IF OK
BREAK
TRAP    CSBRK

;REPORT ERROR IF RESET
;DOES NOT WORK

MOV      #DVEMO,TEMP2
MOV      @RXCSR,TEMP3
MOV      @TXCSR,TEMP4      ;LOAD UP ERRM. AND REG OUTPUTS
JSR     PC,LGDVE           ;LOG TIME OUT WAITING FOR RUN
INC     ERRCNT
ERRSOFT 5,DVEMO,ERR13
TRAP    CSERSOFT
        .WORD 5
        .WORD DVEMO

```

```

5961
5962
5963
5964
5965
5966
5967
5968
5969
5970
5971
5972
5973
5974
5975
5976
5977
5978
5979
5980
5981
5982
5983
5984
5985
5986
5987
5988
5989
5990
5991
5992
5993
5994
5995 034304
5996
5997
5998 034304 012777 000001 155146
5999
6000 034312 105777 155134
6001 034316 001423
6002 034320
6003 034320 104422
6004
6005
6006
6007
6008 034322 012737 016747 006540
6009 034330 017737 155116 006542
6010 034336 017737 155116 006544
6011 034344 004737 020160
6012 034350 005237 006506
6013 034354
6014 034354 104457
6015 034356 000605
6016 034360 016747

```



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 150  
DEVICE INIT SUBROUTINE

```

6017 034362 017634
6018 034364 000747          BR DVINIT          ;GO BACK AND TRY MSTR CLR AGAIN IF ERROR
6019
6020                          ;SET TTL LOOP IF REQU'D
6021
6022 034366 042737 000003 006600 DVIN1: BIC      #3,FLAG          ;CLEAR INPUT AND OUTPUT INT FLAGS
6023 034374 042777 000010 155056      BIC      #TTL,@TXCSR      ;CLEAR INTERNAL LOOP
6024 034402 022737 000001 006570      CMP      #TTL,MLTYP      ;IS TTL SELECTED
6025 034410 001004          BNE      DVIN3          ; IF NOT GO TO 3
6026 034412 052777 000010 155040      BIS      #TTL,@TXCSR      ;ELSE SET INTERNAL LOOP
6027 034420 000455          BR       DVIN37
6028
6029 034422 022737 000002 006570 DVIN3: CMP      #CABLE,MLTYP
6030 034430 001451          BEQ      DVIN37          ;IF CABLE LOOP SKIP CHECK
6031                          ;FOR MODEM READY
6032
6033 034432 022737 000004 006566          CMP      #DOW,MODTYP      ;CHECK IF DLL
6034 034440 001002          BNE      DVIN3A          ;BRANCH IF NOT DLL
6035 034442 000137 035102          JMP      DVINEX          ;ELSE EXIT
6036
6037 034446 012777 000002 154776 DVIN3A: MOV      #DTR,@RXCSR      ;SET UP DTR.
6038
6039 034454 012737 002000 006640 DVIN38: MOV      #2000,TIMER1
6040 034462 005737 006640          TST      TIMER1
6041 034466 001022          BNE      DVIN39          ;IF TIMER NOT OUT GO TO 39
6042
6043                          ;SET ERROR FOR NO MODEM READY
6044
6045 034470 012737 017375 006540          MOV      #DVEM6,TEMP2
6046 034476 017737 154750 006542          MOV      @RXCSR,TEMP3
6047 034504 017737 154750 006544          MOV      @TXCSR,TEMP4
6048 034512 004737 020160          JSR      PC,LGDVE
6049 034516 005237 006506          INC      ERRCNT
6050 034522          ERRSOFT 11,DVEM6,ERR13
6051 034522 104457          TRAP    CSERSOFT
6052 034524 000013          .WORD  11
6053 034526 017375          .WORD  DVEM6
6054 034530 017634          .WORD  ERR13
6055 034532 000745
6056 034534          DVIN39: BR      DVIN3A          ;THEN TRY TO SET DTR AGAIN
6057 034534 104422          TRAP    CSBRK
6058 034536 017737 154710 011476          MOV      @RXCSR,IRXCSR      ;GET COPY OR RXCSR
6059 034544 032737 001000 011476          BIT      #BIT9,IRXCSR      ;IS MODEM READY SET
6060 034552 001743          BEQ      DVIN38
6061 034554 013777 011472 154672 DVIN37: MOV      DPVP1,@PCASAR      ;SET UP PCASAR
6062 034562 005737 011524          TST      RMODE          ;CHECK REMOTE MODE
6063 034566 001145          BNE      DVINEX          ;EXIT IF ITEP
6064 034570 005737 006572          TST      FHDPLX          ;IS THIS FULL DUPLEX
6065 034574 001542          BEQ      DVINEX          ;BANCH IF NOT
6066 034576 032737 000040 006574          BIT      #PROTOB,PARAM      ;'/PROTOCOL' ?
6067 034604 001136          BNE      DVINEX          ;YES,EXIT
6068
6069          ;;THIS START-STACK ROUTINE USED IN NON PROTOCOL,NON ITEP,FULL DUPLEX MODE
6070          ;SET UP TO SEND STRT
6071 034606 112737 000005 002645          MOVB    #5,HDMSG+1          ;SET UP ENQ
6072 034614 052737 000060 006600          BIS      #RXM!TXM,FLAG      ;SET FLAG WORD

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 151  
DEVICE INIT SUBROUTINE

```

6073 034622 012737 000074 006644      MOV      #60.,TIMERS      ;SET TIMER FOR 1 MINUTE
6074 034630 004737 036574              JSR      PC,CTSSR        ;SET CTS IF NESC.
6075 034634 012737 000006 002646  DVIN41: MOV      #6.,HDMCC      ;SET UP STRT CODE
6076 034642 004737 036444              JSR      PC,DVIN31      ;GO TX STRT AND CHK FOR RX.
6077 034646 005737 006644              TST      TIMERS
6078 034652 001466              BEQ      DVIN81        ;IF TIMER EXPIERED EXIT
6079
6080 034654 022737 000006 002660  DVIN4:  CMP      #6.,PHDMCC     ;IS THE RCVD=STRT
6081 034662 001441              BEQ      DVIN8         ;IF SO GO TO ASTRT
6082 034664 022737 000007 002660      CMP      #7.,RDMCC     ;IS IT A STACK
6083 034672 001360              BNE      DVIN41       ;IF NOT STACK ETIHER GO BACK
6084
6085 034674 004737 036574      DVIN9:  JSR      PC,CTSSR     ;SET REQUEST TO SEND
6086 034700 042737 001010 006600      BIC      #QTX!PAD,FLAG ;CLEAR TX COMPT FLAG.
6087 034706 012737 000001 002646      MOV      #1.,HDMCC     ;SET UP ACK
6088 034714 012737 002645 011502      MOV      #HDMMSG+1,MSGPTR ;SET UP POINTER
6089 034722 013737 002654 011504      MOV      HDMC,MSGCC
6090 034730 012737 000010 011506      MOV      #8.,SYNCC     ;SET UP SYNC COUNT
6091 034736 052777 000129 154514      BIS      #TXENA!TINTEN,@TXCSR
6092 034744 032737 000710 006600  DIVN91: BIT      #QTX,FLAG
6093 034752 001053              BNE      DVINEX       ;EXIT IF ACK SENT
6094 034754
6095 034754 104422              TRAP     CSBRK
6096 034756 005737 006644      TST      TIMERS
6097 034762 001370              BNE      DIVN91       ;IF NOT TIMER EXPIRED RECHK TX.
6098 034764 000421              BR       DVIN81       ;IF TIMER OUT REPORT IT
6099
6100 034766 012737 000007 002646  DVIN8:  MOV      #7.,HDMCC     ;SET PO:INTER TO STACK
6101 034774 004737 036444              JSR      PC,DVIN31     ;AND GO SEND STACK
6102 035000 005737 006644              TST      TIMERS
6103 035004 001411              BEQ      DVIN81       ;REPORT ERROR IF TIME OUT
6104 035006 022737 000001 002660      CMP      #1.,RDMCC     ;IS IT ACK RCVD?
6105 035014 001432              BEQ      DVINEX       ;IF SO EXIT
6106 035016 022737 000007 002660      CMP      #7.,RDMCC     ;IS IT STACK RCVD
6107 035024 001723              BEQ      DVIN9        ;IF SO SEND ACK
6108 035026 000757              BR       DVIN8        ;IF NEITHER SEND ANOTHER ACK
6109
6110              ;DO ERROR AND REPEAT
6111
6112 035030 012737 017311 006540  DVIN81: MOV      #DVEM5,TEMP2
6113 035036 013737 002660 006542      MOV      RDMCC,TEMP3
6114 035044 013737 002646 006544      MOV      #DMCC,TEMP4
6115 035052 004737 020160              JSR      PC,LGDVE
6116 035056 005237 006506              INC      ERRCNT
6117 035062              ERRSOFT 10.,DVEM5,ERR13
6118 035062 104457              TRAP     CSERSOFT
6119 035064 000012              .WORD   10
6120 035066 017311              .WORD   DVEM5
6121 035070 017634              .WORD   ERR13
6122 035072 005237 006502      INC      OPVAR
6123 035076 000137 034304      JMP      DVINIT       ;COUNT HOW MANY TIMES WE DO THIS.
6124              ;TRY ALL OVER AGAIN
6125 035102 004737 037006  DVINEX: JSR      PC,CLRRTS
6126 035106 042737 173777 006600      BIC      #173777,FLAG ;CLEAR FLAG WORD
6127 035114 052737 002000 006600      BIS      #INOV,FLAG   ;SET THE INITT OVER FLAG
6128 035122 000207              RTS      PC           ;RETURN TO CALLER
    
```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 152  
DEVICE INIT SUBROUTINE

6129  
6130

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 153  
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,,
:   FOUND IN THE DEPENDENT PORTION OF THE GLOBAL EQUATES SECTION.
:
: OUTPUTS:
:   CURRENT MODEM SIGNAL VALUES IN 'MODS'
:
: CALLING SEQUENCE:
:   JSR PC,DVMODS
:--

```

6131  
6132  
6133  
6134  
6135  
6136  
6137  
6138  
6139  
6140  
6141  
6142  
6143  
6144  
6145  
6146  
6147  
6148  
6149  
6150  
6151  
6152  
6153  
6154  
6155  
6156  
6157  
6158  
6159

```

035124 017737 154322 007554 DVMODS: MOV @RXCSR,MODS
035132 042737 000040 007554 BIC #BIT5,MODS ;CLEAR BIT 5
035140 032777 000040 154312 BIT #BIT5,@TXCSR ;SEE IT TM OR SQ SET
035146 001403 BEQ DVMEX ;IF NOT EXIT
035150 052737 000040 007554 BIS #BIT5,MODS ;IF SET SET BIT 5 IN MODS
035156 042737 106720 007554 DVMEX: BIC #106720,MODS ;CLEAR ALL UNUSED BITS
035164 000207 RTS PC ;RETURN TO CALLER

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 154  
DEVICE QUEUE RECEIVE SPACE SUBROUTINE

6160  
6161  
6162  
6163  
6164  
6165  
6166  
6167  
6168  
6169  
6170  
6171  
6172  
6173  
6174  
6175  
6176  
6177  
6178  
6179  
6180  
6181  
6182  
6183  
6184  
6185  
6186  
6187  
6188  
6189  
6190  
6191  
6192  
6193  
6194  
6195  
6196  
6197  
6198  
6199

```
.SBTTL                DEVICE QUEUE RECEIVE SPACE SUBROUTINE

:++
:  FUNCTIONAL DESCRIPTION:
:    DVRXQ - THIS SUBROUTINE QUEUES THE RECIEVER 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
:
:  CALLING SEQUENCE:
:    JSR      PC,DVRXQ
:--

DVRXQ:
  BIT      #QRX,FLAG
  BEQ      DVREX                ;IF NOT RX THEN EXIT
                                ;ELSE QUE RX
  BIC      #QRX+#BCC+#RXM,FLAG ;CLEAR FLAG FOR RX
  TST     RNODE                ;IF NON ITEP GO TO 2
  BEQ     DVRX2
  BIS     #RXM+#BCC,FLAG       ;GET JUST THE DATA NO CRC.
  MOV     DVRXA,RMSGPT
  MOV     #72,RMSGCC           ;SET UP RX TO GET ITEP MSG.
  MOV     #70,DVRCC
  BR      DVRX3

                                ;ENABLE RX, RX INTERRUPTS,AND DATA SET INTERRUPTS
DVRX2:  MOV     #RHMSG+1,RMSGPT ;SET UP POINTER
        MOV     HDMC,RMSGCC     ;AND CC
DVRX3:  BIS     #RINTEN!RXENA!#DSITEN,#QRXCSR
DVREX:  PTS     PC              ;RETURN TO CALLER
```

```
035166
035166 032737 000004 006600
035174 001434
035176 042737 000444 006600
035204 005737 011524
035210 001415
035212 052737 000440 006600
035220 013737 006470 011512
035226 012737 000072 011514
035234 012737 000070 006472
035242 000406
035244 012737 002657 011512
035252 013737 002654 011514
035260 052777 000160 154164
035266 000207
```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 155  
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 OUTPUT INTERRUPT IS RECIEVED BEFORE  
60 SECONDS. AFTER REPORTING ERROR TIMER IS RE STARTED  
AND DEVICE WILL CONTINUE TO WAIT FOR INTERRUPT.

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 ROUTINFS USED:  
'LGDVE' - LOG DEVICE ERROR TO EVENT LOG

CALLING SEQUENCE:  
JSR PC,DVTXRX

--

6200  
6201  
6202  
6203  
6204  
6205  
6206  
6207  
6208  
6209  
6210  
6211  
6212  
6213  
6214  
6215  
6216  
6217  
6218  
6219  
6220  
6221  
6222  
6223  
6224  
6225  
6226  
6227  
6228  
6229  
6230  
6231  
6232  
6233  
6234  
6235  
6236  
6237  
6238  
6239  
6240  
6241  
6242  
6243  
6244  
6245  
6246  
6247  
6248  
6249  
6250  
6251  
6252  
6253  
6254  
6255

035270	032737	000010	006600	DVTXRX: BIT	#QTX,FLAG	:ANY TX TO QUE
035276	001444			BEQ	DVTR3	:IF NOT GO WAIT FOR OUPUT
035300	042737	C71030	006600	BIC	#QTX+#TXM+PAD,FLAG	:CLEAR FLAG
035306	004737	036574		JSR	PC,CTSSR	:GO SET CTS
035312	005737	011524		TST	RNODE	
035316	001412			BEQ	DVTR1	:IF NON-ITEP GO TO 1
035320	052737	000020	006600	BIS	#TXM,FLAG	:SET THE BODY BIT
035326	013737	006454	011502	MOV	DVTXA,MSGPTR	
035334	013737	006456	011504	MOV	DVTCC,MSGCC	:AND SET UP FOR ACTUAL DATA
035342	000414			BR	DVTR2	
					:ENABLE TX AND TX INTER.	
035344	112737	700201	002645	DVTR1: MOV	#201,HDMSG+1	:SET UP SOH
035352	012737	002645	011502	MOV	#HDMSG+1,MSGPTR	:SET POINTER TO HEADER
035360	013737	006456	002646	MOV	DVTCC,HDMCC	
035366	013737	002654	011504	MOV	HDMC,MSGCC	:SET CC FOR HEADER
035374	012737	000177	011506	DVTR2: MOV	#177,SYNCC	:SET UP FOR 177 SYNC.
035402	052777	000120	154050	BIS	#TXENA!#TINTEN,@TXCSR	

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 156  
DEVICE TRANSMIT AND RECEIVE SUBROUTINE

```

6256 035410 012737 000074 006644 DVTR3: MOV #60.,TIMERS ;SET TIMER FOR 60 SECS
6257
6258 035416 DVTR8: BREAK
6259 035416 104422 TRAP CSBRK
6260 035420 005737 006644 TST TIMERS ;IS TIMER EXPIRED
6261 035424 001022 BNE TOINOT
6262
6263 ;LOG ERROR TIME OUT RX OR TX NOT COMPLETED
6264
6265 035426 012737 017110 006540 MOV #DVEM2,TEMP2
6266 035434 017737 154012 006542 MOV @RXCSR,TEMP3
6267 035442 017737 154012 006544 MOV @TXCSR,TEMP4
6268 035450 004737 020160 JSR PC,LGDVE
6269 035454 005237 006506 INC ERRCNT
6270 035460 ERRSOFT 7,DVEM2,EKR13
6271 035460 104457 TRAP CSERSOFT
6272 035462 000007 .WORD 7
6273 035464 017110 .WORD DVEM2
6274 035466 017634 .WORD ERR13
6275 035470 000747 BR DVTR3 ;RETURN TO CHECK TIMER
6276
6277 035472 032737 000010 006600 TOINOT: BIT #QTX,FLAG ;IS IT TX COMPL?
6278 035500 001406 BEQ DVTR4 ;BRANCH IF TX NOT DONE.
6279 035502 004737 037006 JSR PC,CLRRTS
6280 035506 032737 000100 006600 BIT #ERX,FLAG ;ARE WE EXPECTING TO RX
6281 035514 001416 BEQ DVTREX ;BRANCH IF NOT.
6282
6283 035516 032737 000004 006600 DVTR4: BIT #QRX,FLAG ;IS RX DONE
6284 035524 001734 BEQ DVTR8 ;GO BACK AND TIME IF NOT
6285
6286 035526 032737 000200 006600 BIT #ETX,FLAG ;ARE WE EXPECTG TO TX.
6287 035534 001406 BEQ DVTREX ;BRANCH IF NOT.
6288
6289 035536 032737 000010 006600 BIT #QTX,FLAG ;IS IT TX COMPLETED
6290 035544 001724 BEQ DVTR8 ;GO BACK AND TIME OUT
6291 035546 004737 037006 JSR PC,CLRRTS ;CLEAR RTS IF NESC.
6292 035552 000207 DVTREX: RTS PC ;AND EXIT
6293

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 157  
DEVICE TRANSMIT AND RECEIVE SUBROUTINE

: DEVICE DEPENDENT SUBROUTINES

6294  
6295  
6296  
6297  
6298  
6299  
6300  
6301  
6302  
6303  
6304  
6305  
6306  
6307  
6308  
6309  
6310  
6311  
6312  
6313  
6314  
6315  
6316  
6317  
6318  
6319  
6320  
6321  
6322  
6323  
6324  
6325  
6326  
6327  
6328  
6329  
6330  
6331  
6332  
6333  
6334  
6335  
6336  
6337  
6338  
6339  
6340  
6341  
6342  
6343  
6344  
6345  
6346  
6347  
6348  
6349

.SBTTL DEVICE INTERRUPT SERVICE ROUTINES

++  
: FUNCTIONAL DESCRIPTION:  
: RECEIVER INTERRUPT ROUTINE. WHEN A RX INT. OCCURS  
: THIS ROUTINE DECIDES IF IT IS A RX STATUS, DATA SET  
: CHANGE OR DATA INTERRUPT. IF IT IS A DATA SET CHANGE  
: INTERRUPT IT PUTS THE STATUS IN "CMODS" AND COMPARES  
: THAT STATUS TO THE OLD STATUS IN "MODS". IF THEY ARE  
: THE SAME THAT MEANS THE INTERRUPT WAS CAUSED BY A GLITCH  
: ON ONE OF THE LINES. IF THEY ARE DIFFERENT THEN A HARD  
: MODEM ERROR HAS OCCURED. IN ANY EVENT THE MODEM STATUS  
: CHANGE IS LOGGED.  
: IF A DATA INT. OCCURS THE ROUTINE PUTS THE DATA AWAY  
: IN A BUFFER POINTED TO BY 'RMSGPT' THE MSG. COUNT IS  
: DECREMENTED BY ONE BYTE. IF COUNT IS EQUAL TO ZERO AND  
: 'BCC' BIT AND 'RXM' BIT IS SET THEN RX IS DISABLED AND  
: 'ORX' BIT IS SET. IF COUNT IS ZERO AND 'BCC' BIT IS SET  
: BUT 'RXM' BIT IS NOT SET THEN MSG COUNT IS SET TO LENGHT  
: RECD IN HEADER AND 'RMSGPT' IS SET TO RX BUFFER LOCATION  
: AND 'RXM' BIT IS SET.  
: IF COUNT IS EQUAL TO ZERO AND 'BCC' IS NOT SET THEN  
: COUNT IS SET TO 2 AND 'RMSGPT' IS SET TO 'BCCW' AND  
: 'BCC' BIT IS SET.

IF A STATUS INTERRUPT OCCURS THEN OVERRUN ERROR BIT IS CHECKED.  
AN ERROR IS LOGGED AND 'ORX' IS SET AND THE RX IS DISABLED.

INPUTS:  
RMSGPT - ADDRESS OF RX BUFFER  
RMSCC - COUNT OF DATA TO BE RXED.

SUBORDINATE ROUTINES USED:  
'LOGMSC' - LOG MODEM STATUS CHANGE  
'LGDVE' - LOG DEVICE ERROR

--  
BGNSRV DVRXI DVRXI::  
MOV R2, -(SP) ;SAVE R2  
MOV @RXCSR, IRXCSR ;MOV RX CSR TO IMAGE  
BIT #MOCHK, PARAM ;ANY MODEM CHANGES TO REPORT  
BEQ RXIN21 ;IF NOT IGNORE DS CHANGE.  
BIT #INUVR, FLAG ;IS INIT OVER  
BEQ RXIN21 ;NO THEN IGNORE DS CHANGE.  
TST IRX SR  
BPL RXIN21 ;IF DATA SET CHANGE IS NOT SET BR  
MOV IRX SR, CMODS ;MOV THE NEW MODFM STATUS IN  
BIC #105760, CMODS

035554  
035554 010246  
035556 017737 153670 011476  
035564 032737 000010 006574  
035572 001456  
035574 032737 002000 006600  
035602 001452  
035604 005737 011476  
035610 100047  
035612 013737 011476 011474  
035620 042737 106760 ^11474



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 158  
DEVICE INTERRUPT SERVICE ROUTINES

```

6350 035626 032777 000040 153624      BIT      #TM,@TXCSR
6351 035634 001403                    BEQ      RXIN2          ;IF TEST MODE SET
6352 035636 052737 000040 011474      BIS      #TM,CMODS      ;SET IT IN NEW STATUS
6353 035644 013737 011474 006542  RXIN2:  MOV      CMODS,TEMP3
6354 035652 013737 007554 006544      MOV      MODS,TEMP4
6355 035660 023737 006544 006542      CMP      TEMP4,TEMP3    ;COMPARE OLD TO CURRENT
6356 035666 001406                    BEQ      GLINC          ;INC GLITCH COUNT
6357 035670 005237 011522                    INC      MHRCNT         ;INC HARD COUNT
6358 035674 012737 016717 006540      MOV      #HRDMSG,TEMP2 ;SET UP HARD MESG.
6359 035702 000405                    BR       RXIN1
6360 035704 005237 011520      GLINC:  INC      MGLCNT         ;INC GLITCH COUNT
6361 035710 012737 016671 006540      MOV      #GLMSG,TEMP2  ;SET UP GLITCH
6362 035716 004737 020334      RXIN1:  JSR      PC,LOGMSC     ;GO LOG MODEM STATUS CHANGE
6363 035722 013737 011474 007554      MOV      CMODS,MODS    ;MOVE CURRENT TO OLD
6364
6365      ;TEST FOR STATUS OR DATA
6366
6367 035730 032737 002200 011476  RXIN21: BIT      #RSTARY!RDATRY,IRXCSR
6368 035736 001544                    BEQ      RXINEX         ;IF NEITHER EXIT
6369 035740 017737 153512 011500      MOV      @RDSR,IRDSR
6370 035746 032737 000200 011476      BIT      #RDATRY,IRXCSR ;IS THIS DATA
6371 035754 001455                    BEQ      RXIN3         ;IF NOT GO TO 3
6372
6373      ;GET HERE WITH GOOD DATA
6374
6375 035756 013702 011512      RXIN4:  MOV      RMSGPT,R2
6376 035762 113722 011500      MOV      IRDSR,(R2)+   ;STORE DATA AWAY
6377 035766 010237 011512      MOV      R2,RMSGPT    ;PUT POINTER BACK
6378
6379
6380 035772 005337 011514      DEC      RMSGCC
6381 035776 001124                    BNE     RXINEX         ;GET OUT IF NOT ALL DONE
6382 036000 032737 000400 006600      BIT      #BCC,FLAG     ;IS THE BCC FLAG ALREADY SE
6383 036006 001066                    BNE     RXIN5         ;BRANCH IF YES.
6384 036010 032737 100000 011500      BIT      #RERR,IRDSR   ;IS THE ERR CHK BIT SET INDICATING
6385                                ;GOOD BCC.
6386                                ;BRANCH IF GOO
6386 036016 001022                    BNE     RXIN6
6387 036020 013737 011500 006542      MOV      IRDSR,TEMP3
6388 036026 013737 011476 006544      MOV      IRXCSR,TEMP4
6389 036034 012737 017205 006540      MOV      #DVEM3,TEMP2
6390 036042 004737 020160      JSR      PC,LGDVE
6391 036046 005237 006506      INC      ERRCNT
6392 036052                    ERRSOFT 8,DVEM3,ERR13
6393 036052 104457                                TRAP    CSERSOFT
6394 036054 000010                                .WORD  8
6395 036056 017205                                .WORD  DVEM3
6396 036060 017634                                .WORD  ERR13
6397
6398 036062 000467                    BR       RXIN8         ;DISABLE INTERRUPTS AND EXIT
6399
6400 036064 052737 000400 006600  RXIN6:  BIS      #BCC,FLAG     ;SET FLAG
6401 036072 012737 000002 011514      MOV      #2,RMSGCC     ;SET THE COUNT TO 2
6402 036100 012737 011516 011512      MOV      #BCCW,RMSGPT ;SET POINTER TO BCC WORD
6403 036106 000460                    BR       RXINEX
6404
6405                                ;STATUS CHECK

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 159  
DEVICE INTERRUPT SERVICE ROUTINES

```

6406
6407 036110 032737 002000 011476 RXIN3: BIT #RSTARY,IRXCSR ;IS THIS A STATUS INT.
6408 036116 001454 BEQ RXINEX ;EXIT IF NOT
6409
6410 ;LOG OVERRUN ERROR
6411
6412 036120 012737 017245 006540 MOV #DVEM4,TEMP2
6413 036126 013737 011500 006542 MOV IRDSR,TEMP3
6414 036134 013737 011476 006544 MOV IRXCSR,TEMP4
6415 036142 004737 020160 JSR PC,LGDVE
6416 036146 005237 006506 INC ERRCNT
6417 036152 ERRSOFT 9,DVEM4,ERR13
6418 036152 104457 TRAP C$ERSOFT
6419 036154 000011 .WORD 9
6420 036156 017245 .WORD DVEM4
6421 036160 017634 .WORD ERR13
6422 036162 000424 BR RXIN7
6423
6424 036164 032737 000040 006600 RXIN5: BIT #RXM,FLAG ;IS THE RX M BODY BIT SET
6425 036172 001020 BNE RXIN7 ;IF YES THEN ALL DONE
6426 036174 052737 000040 006600 BIS #RXM,FLAG
6427 036202 042737 000400 006600 BIC #BCC,FLAG ;CLEAR BCC AND SET RXM
6428 036210 013737 006470 011512 MOV DVRXA,RMSGPT ;MOVE ADDRESS TO POINTER
6429 036216 013737 002660 011514 MOV RHDACC,RMSGCC ;MOVE THE CHAR COUNT IN
6430 036224 013737 002660 006472 MOV RHDACC,DVRCC ;SET THE CC TO AMOUNT IN HEADER
6431 036232 000406 BR RXINEX ;AND FINISH.
6432
6433 036234 052737 000004 006600 RXIN7: BIS #QRX,FLAG ;SET FLAG BIT
6434
6435 036242 042777 000120 153202 RXIN8: BIC #RINTEN+RXENA,@RXCSR ;CLEAR INTAND RX ENABLE
6436
6437 036250 012602 RXINEX: MOV (SP)+,R2 ;RESTORE R2
6438 036252 ENDSRV
6439 036252 L10020:
6440 036252 000002 RT!
    
```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 160  
DEVICE TRANSMIT INTERRUPT ROUTINE

6441  
6442  
6443  
6444  
6445  
6446  
6447  
6448  
6449  
6450  
6451  
6452  
6453  
6454  
6455  
6456  
6457  
6458  
6459  
6460  
6461  
6462  
6463  
6464  
6465  
6466  
6467  
6468  
6469  
6470  
6471  
6472  
6473  
6474  
6475  
6476  
6477  
6478  
6479  
6480  
6481  
6482  
6483  
6484  
6485  
6486  
6487  
6488  
6489  
6490  
6491  
6492  
6493  
6494  
6495  
6496

.SBTTL DEVICE TRANSMIT INTERRUPT ROUTINE

++  
FUNCTIONAL DESCRIPTION:  
DEVICE TRANSMIT INT. ROUTINE

WHEN A TRANSMIT BUFFER EMPTY CAUSES AN INTERRUPT TO OCCUR  
THE PROGRAM COMES TO THIS ROUTINE.  
IF THE SYNC COUNT 'SYNCC' IS NOW ZERO TSOM IS SET  
A SYNC CHAR IS LOADED TO TDSR AND THE SYNC COUNT IS  
DECREMENTED.

IF THE SYNC COUNT IS ZERO TSOM AND TEOM ARE RESET  
AND THE 'PAD' BIT IN FLAG WORD IS CHECKED IF IT IS  
SET THEN A PAD(377) CHAR IS LOADED TO TDSR AND TX  
INTERRUPT ENABLE IS CLEARD.

IF THE SYNC COUNT IS ZERO AND THE 'PAD' FLAG IS  
CLEAR THEN A BYTE IS PUT IN TDSR FROM THE ADDRESS  
IN MSGPTR AND THE MSG COUNT IS DECREMENTED

IF THE MSG COUNT GOES TO ZERO THE 'TXM' BIT IS  
CHECKED IF IT IS SET THE 'PAD' FLAG IS SET  
IF IT IS CLEAR THEN IT GETS SET AND MSGPTR IS  
LOADED WITH THE ADDRESS OF TXBUFF AND THE MSG  
COUNT IS LOADED WITH THE COUNT OF THE MSG TO  
BE TRANSMITTED.

INPUTS:

MSGPTR - IS SET TO THE ADDRESS OF THE MSG OR HEADER TO BE TX'D  
MSGCC - IS SET TO THE COUNT OF MSG TO BE TX'D

OUTPUTS:

QTX - THIS BIT IS SET WHEN MSG IS TX'D OK.

--

BGNSRV DVTXI

DVTXI::

```

MOV R2,-(SP)      ;SAVE R2
TST SYNCC         ;ANY SYNCs TO SEND
BEQ TXIN1        ;IF NOT GO TO 1
MOV SYNCW,@TDSR  ;ELSE SET TSOM AND SYNC WORD
DEC SYNCC        ;DEC SYNC COUNT
BNE TXINEX       ;IF NOT ZERO EXIT
TXIN1: BIC #TEOM!TSOM,@TDSR ;IS THE PAD BIT SET
      BIT #PAD,FLAG    ;GO TO 2 IF NOT SET
      BEQ TXIN2        ;LOAD FF TO TX DATA REG.
      MOV #377,@TDSR  ;CLEAR TX INT ENABLE
      BIC #TINTEN,@TXCSR ;SET THE TX COMPLETE IN FLAG
      BIS #QTX,FLAG   ;TELL PROTOCOL MODULE THAT WE ARE DONE
      INC TXREADY     ;AND EXIT
      BR TXINEX
TXIN2: MOV MSGPTR,R2 ;LOAD R2 WITH TX ADDR.
      MOV (R2)+,@TDSR ;LOAD DATA BYTE
      MOV R2,MSGPTR  ;RESTORE POINTER
      DEC MSGCC      ;DEC CC
      BNE TXINEX
    
```

036254  
036254  
036254 010246  
036256 005737 011506  
036262 001406  
036264 013777 011510 153170  
036272 005337 011506  
036276 001060  
036300 042777 001400 153154 TXIN1:  
036306 032737 001000 006600  
036314 001414  
036316 012777 000377 153136  
036324 042777 000100 153126  
036332 052737 000010 006600  
036340 005237 037122  
036344 000435  
036346 013702 011502 TXIN2:  
036352 112277 153104  
036356 010237 011502  
036362 005337 011504  
036366 001024

CVCL4C DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 161  
DEVICE TRANSMIT INTERRUPT ROUTINE

6497	036370	052777	001000	153064	BIS	#TEOM,@TDSR	
6498	036376	032737	000020	006600	BIT	#TXM,FLAG	;IS THIS THE END OF DATA MSG.
6499	036404	001012			BNE	TXIN3	;IF SO SET THE PAD BIT
6500	036406	052737	000020	006600	BIS	#TXM,FLAG	;IF NOT MUST BE END OF HEADER
6501	036414	013737	006454	011502	MOV	DVTXA,MSGPTR	;SO SET UP MSGPTR FOR MSG
6502	036422	013737	006456	011504	MOV	DVTCC,MSGCC	;AND THE CC FOR MSG.
6503	036430	000403			BR	TXINEX	
6504	036432	052737	001000	006600	TXIN3: BIS	#PAD,FLAG	;SET THE PAD BIT
6505							
6506	036440	012602			TXINEX: MOV	(SP)+,R2	;RESTORE R2
6507	036442				ENDSRV		
6508	036442						L10021:
6509	036442	000002					RTI

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 162  
DEVICE TRANSMIT CONTROL MSG

DEVICE TRANSMIT CONTROL MSG

.SBTTL

..++

FUNCTIONAL DESCRIPTION:

THIS ROUTINE DOES THE FOLLOWING  
QUES A RX SPACE AT RHDMSG+1  
QUES A TX MSG FROM HDMSG+1  
CHECKS FOR A TIMER EXPIRED  
IF EXPIRED RETURN TO CALLER  
ELSE CHECK FOR A TX MSG COMPLETED  
IF TX COMPLETED CHECK FOR RX COMPLETED  
ELSE RECHECK TIMER AND TX COMPLETED UNTIL  
EITHER TX COMPLETE OR TIME OUT  
IF TX COMPLETE AND RX NOT COMPLETE THEN  
REQUE TX MSG.  
ELSE IF RX COMPLETE RETURN.

INPUTS:

TXM - SET IN FLAG WORD  
HDMSG+2 - TYPE OF CONTROL MSG..

SUBORDINATE ROUTINES USED:

"CLRRTS" - CLEAR REQUEST TO SEND IF HALF DUP.

CALLING SEQUENCE:

JSR PC,DVIN31

RETURN:

RETURN TO CALLER IF SOMETHING RX'D OR TIMER OUT.

..--

6510  
6511  
6512  
6513  
6514  
6515  
6516  
6517  
6518  
6519  
6520  
6521  
6522  
6523  
6524  
6525  
6526  
6527  
6528  
6529  
6530  
6531  
6532  
6533  
6534  
6535  
6536  
6537  
6538  
6539 036444 042737 000004 006600  
6540  
6541 036452 012737 002657 011512  
6542 036460 013737 002654 011514  
6543  
6544  
6545 036466 052777 000160 152756  
6546  
6547  
6548  
6549 036474 004737 036574  
6550 036500 042737 001010 006600  
6551 036506 012737 002645 011502  
6552 036514 013737 002654 011504  
6553 036522 012737 000010 011506  
6554 036530 052777 000120 152722  
6555  
6556  
6557  
6558 036536  
6559 036535 104422  
6560 036540 005737 006644  
6561 036544 001412  
6562 036546 032737 000010 006600  
6563 036554 001770  
6564 036556 004737 037006  
6565 036562 032737 000004 006600

DVIN31: BIC #QRX,FLAG ;CLEAR RX COMPLE.  
MOV #RHDMSG+1,RMSGPT ;SET UP POINTER  
MOV HDMC,RMSGCC ;AND CC  
;ENABLE RCVR.  
BIS #RINTEN!RXENA!DSITEN,@RXCSR  
;SET UP TRANSMITTER TO SEND  
DVIN32: JSR PC,CTSSR ;SET RTS  
BIC #QTX!PAD,FLAG ;CLEAR TX COMPT FLAG.  
MOV #HDMSG+1,MSGPTR ;MOVE THE CURRENT POINTER TO MSGPTR.  
MOV HDMC,MSGCC  
MOV #8,SYNCC ;SET UP SYNC COUNT  
BIS #TXENA!TINTEN,@TXCSR  
;NOW WAIT FOR TIME OUT OR TX COMPLETE  
DVIN35: BREAK TRAP CSBRK  
TST TIMERS ;IS IT TIMED OUT  
BEQ DVIN34 ;IF YES EXIT  
BIT #QTX,FLAG ;IS TX DONE  
BEQ DVIN35 ;IF NOT GO BACK AND CK TIME OUT  
JSR PC,CLRRTS ;GO CLEAR RTS IF NESC.  
BIT #QRX,FLAG ;DID WE RX ANYTHING

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 163  
DEVICE TRANSMIT CONTROL MSG

6566 036570 001741  
6567 036572 000207  
6568

DVIN34: BEQ  
RTS

DVIN32  
PC

:IF NOT RETRANSMIT LAST  
:RETURN TO CALLER

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P' 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 164  
DEVICE RTS TO CTS DELAY

6569  
6570  
6571  
6572  
6573  
6574  
6575  
6576  
6577  
6578  
6579  
6580  
6581  
6582  
6583  
6584  
6585  
6586  
6587  
6588  
6589  
6590  
6591  
6592  
6593  
6594  
6595  
6596  
6597  
6598  
6599  
6600  
6601  
6602  
6603  
6604  
6605  
6606  
6607  
6608  
6609  
6610  
6611  
6612  
6613  
6614  
6615  
6616  
6617  
6618  
6619  
6620  
6621  
6622  
6623  
6624

```

.SBTTL                DEVICE RTS TO CTS DELAY
:++
: FUNCTIONAL DESCRIPTION:
:   CTSSR--THIS ROUTINE SETS REQUEST TO SEND TO MODEM
:   AND CHECKS FOR CLEAR TO SEND TO COME BACK
:   IF CTS DOES NOT COME BACK BEFORE TIMER EXPIRES
:   AND ERRC: IS REPORTED AND WE TRY AGAIN.
:   THE ROUTINE IS SKIPPED IF INTERNAL LOOP IS SET.
:
:
: OUTPUTS:
:
: SUBORDINATE ROUTINES USED:
:   'LGDVE' - LOG DEVICE ERROR
:
: CALLING SEQUENCE:
:   JSR     PC,CTSSR
:--

CTSSR:  CMP     #1,MLTYP      ;IS THIS TTL LOOP
        BEQ     DVTXR9      ;BR IF YES
        ;SET RTS AND WAIT FOR CTS

DVTXR3: BIT     #FIRST,FLAG
        BNE     CTSS3      ;IF NOT FIRST TIME SKIP DELY
        MOV     #-1,TEMP
CTSS4:  INC     TEMP
        BREAK

        TST     TEMP
        BNE     CTSS4      ;IF NOT ZERO GO BACK
        BIS     #FIRST,FLAG ;SET FIRST FLAG.
        MOV     #1000.,TIMER1 ;1000 TICKS
        TST     FHDPLX     ;FULL DUPLEX ?
        BNE     CTSS7      ;YES,BRANCH
        TRAP    CSBRK

: CHECK FOR CARRIER
10$:   CALL    DVMODS      ;GET MODEM STATUS
        BIT     #DCD,MODS  ;CARRIER PRESENT?
        BEQ     CTSS7      ;NO,BRANCH
        TST     TIMER1     ;TIME DONE?
        BEQ     CTSS7      ;YES,BRANCH
        BR     10$        ;DO IT AGAIN

CTSS7:  BIS     #RTS,@RXCSR ;SET REQUEST TO SEND
        MOV     #1000.,TIMER1 ;SET UP TIMER
DVTXR2: BREAK

        TRAP    CSBRK

        BIT     #CTS,@RXCSR ;IS CLEAR TO SEND BACK
        BNE     DVTXR1     ;BR. IF CTS IS SET
        TST     TIMER1     ;ELSE TEST IF TIME EXPIRED
        BNE     DVTXR2     ;BR IF TIME NOT EXPRIED.

        ;SET ERROR FOR NO CTS
    
```

CVCLPC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 165  
DEVICE RTS TO CTS DELAY

6625	036740	012737	017026	006540
6626	036746	017737	152500	006542
6627	036754	017737	152500	006544
6628	036762	004737	020160	
6629	036766	005237	006506	
6630	036772			
6631	036772	104457		
6632	036774	000006		
6633	036776	017026		
6634	037000	017634		
6635	037002	000700		
6636	037004			
6637	037004	000207		

```

MOV #DVEM1,TEMP2
MOV @RXCSR,TEMP3
MOV @TXCSR,TEMP4
JSR PC,LGDVE
INC ERRCNT
ERRSOFT 6,DVEM1,ERR13

```

```

TRAP CSERSOFT
.WORD 6
.WORD DVEM1
.WORD ERR13

```

```

BR DVTXR3 ;THEN TRY TO SET RTS AGAIN
DVTXR1:
DVTXR9: RTS PC ;

```





CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 167  
DEVICE CLEAR REQUEST TO SEND

6659  
6660  
6661  
6662  
6663  
6664  
6665  
6666  
6667  
6668  
6669  
6670  
6671  
6672  
6673 037046 000000  
6674  
6675  
6676  
6677  
6678  
6679  
6680  
6681  
6682  
6683  
6684  
6685  
6686 037050 000000  
6687 037052 000000  
6688  
6689 037054 000  
6690  
6691 037055 000  
6692  
6693  
6694 037056 000  
6695 037057 000  
6696  
6697 037060 000  
6698 037061 000  
6699  
6700  
6701 037062 000  
6702 037063 000  
6703  
6704 037064 000  
6705 037065 000  
6706  
6707 037066 000  
6708 037067 000

```
.SBTTL DDCMP PROTOCOL MODULE
:*****
:
: DCLT DDCMP PROTOCOL MODULE:
: THIS CODE WAS WRITTEN TO BE USED ONLY WITH DCLT.
:
: .EVEN
:: LOCAL STORAGE
:
:: TABLE OF STATISTICS AND ERRORS
::: NOTE: KEEP THE VARIABLES TOGETHER AND IN SEQUENCE
::: OTHERWISE THE RPT> ROUTINE WILL PRINT WRONG INFO.
PRSTAT: .WORD 0
:STATUS FLAGS
:BIT0 = BCCOK
:BIT1 = BCCBAD
:BIT2 = SMAK
:BIT3 = SACK
:BIT4 = SDATA
:SPARE
:BIT6 = RXD
:BIT7 = SPARE
:BIT8 = NAKRX
:BIT9 = MYDATA
:BIT10 = SSTACK
:BIT11 = SSTART
:TOTAL DATA MESSAGES TRANSMITTED(16 BIT COUNTER)
:TOTAL DATA MESSAGES RECEIVED(16 BIT COUNTER)
:
:# OF HIGHEST SEQUENTIAL DATA MESSAGE TRANS
:: MITTED BY THIS STATION
:# OF THE HIGHEST SEQUENTIAL DATA MESSAGE
:: THAT HAS BEEN ACKNOWLEDGE TO THIS STATION
:
:# OF THE NEXT DATA MESSAGE TO BE TRANSMITTED
:LAST MESSAGE NUMBER TRANSMITTED
:
:LAST MESSAGE RECEIVED
:TRIB ADDRESS PT TO PT = 1
:
:: ERROR COUNTERS
REMTMO: .BYTE 0
GLOBCC: .BYTE 0
:
:REASON FOR LAST NAK SENT
:SELECTION THRESHOLD ERROR
:
:RECEIVE THRESHOLD ERRORS
:TRANSMIT THRESHOLD ERRORS
```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 168  
DDCMP PROTOCOL MODULE

6709					
6710	037070	000	DEROUT: .BYTE 0	: DATA ERRORS OUTBOUND (NAKS RECEIVED	
6711	037071	000	OUTMASK: .BYTE 0	: REASONS = 1,2,OR 3)	
6712				: MASK VALUES -- BIT0 = HEADER CRC ERROR	
6713				: -- BIT1 = DATA FIELD CRC ERROR	
6714				: -- BIT2 = REP RESPONSE NUM<>R	
6715					
6716	037072	000	DERIN: .BYTE 0	: DATA ERRORS INBOUND (NAKS TRANSMITTED	
6717	037073	000	INMASK: .BYTE 0	: REASONS = 1,2,OR 3)	
6718				: MASK VALUES -- BIT0 = HEADER CRC ERROR	
6719				: -- BIT1 = DATA FIELD CRC ERROR	
6720				: -- BIT2 = REP RESPONSE NUM<>R	
6721					
6722	037074	000	LBUFFER: .BYTE 0	: LOCAL BUFFER ERRORS (NAKS SENT	
6723	037075	000	LBMASK: .BYTE 0	: REASONS = 8. OR 16.)	
6724				: MASK VALUES -- BIT0 = BUFFER NOT AVAILABLE	
6725				: -- BIT1 = MESSAGE TOO LONG	
6726					
6727	037076	000	RBUFFER: .BYTE 0	: REMOTE BUFFER ERRORS (NAKS RECEIVED	
6728	037077	000	RBMASK: .BYTE 0	: REASONS 8. OR 16.)	
6729				: MASK VALUES -- BIT0 = BUFFER NOT AVAILBLE	
6730				: -- BIT1 = MESSAGE TOO LONG	
6731					
6732	037100	000	RMSTER: .BYTE 0	: REMOTE STATION ERRORS (NAKS RECEIVED	
6733	037101	000	RMMASK: .BYTE 0	: REASON 9. OR 17.)	
6734				: MASK VALUES-- BIT0 = RECEIVER OVERRUN	
6735				: BIT1 = FORMAT ERROR	
6736					
6737	037102	000	LOSTER: .BYTE 0	: LOCAL STATION ERRORS (NAKS SENT	
6738	037103	000	LSMASK: .BYTE 0	: REASON 9. OR 17.)	
6739				: MASK VALUES -- BIT0 = RECEIVER OVERRUN	
6740				: -- BIT1 = FORMAT ERROR	
6741					
6742	037104	000000	RXTXTE: .WORD 0	: RX AND TX THRESHOLD ERRORS (OVERFLOWS)	
6743	037106	000	SPARE0: .BYTE 0		
6744	037107	000	SPARE1: .BYTE 0		
6745	037110	000000	PROEND: .WORD 0	: END OF PROTOCOL COUNTERS	
6746	037112	000000	IMFLAG: .WORD 0	: IMAGE OF MAIN CODE FLAG WORD	
6747	037114	000000	RXPRC: .WORD 0	: -1 = MESSAGE RX'ED & 'ACK' SENT	
6748	037116	000000	TXPRC: .WORD 0	: -1 = MESSAGE TX'ED & 'ACK' RECEIVED	
6749	037120	000000	ASTRT: .WORD 0	: -1 = STACK SENT	
6750	037122	000000	TXREADY: .WORD 0	: 1 = READY TO SEND ANOTHER MESSAGE	
6751	037124	000000	PRUN: .WORD 0	: 1 = PROTOCOL RUNNING. USED IN THIS MODULE	
6752	037126	000000	MPPTP: .WORD 0	: 1 = MULTI POINT NETWORK	
6753	037130	000000	SELECT: .WORD 0	: 1 = THIS STATION CAN NOW TRANSMIT (HALF/DUPLEX)	
6754	037132	000000	IMPRSTAT: .WORD 0	: COPY OF PROTOCOL STATUS WORD	
6755	037134	000000	PRFLAG: .WORD 0	: USED TO COMMUNICATE WITH RX INTER. ROUTINE	
6756	037136	000000	HDXMTP: .WORD 0	: 1 = HALF DUPLEX OR MULTI-POINT	
6757	037140	000000	PRTEMP: .WORD 0	: TEMPORARY WORK LOCATION	
6758	037142	000000	TURNON: .WORD 0	: 1 = RECEIVER IS ALREADY ON	
6759	037144	000000	TIMEOUT: .WORD 0	: 20 = PRINT 'TX OR RX NOT COMPLETE'	
6760					

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 169  
DDCMP PROTOCOL MODULE

```

6761
6762
6763
6764
6765      000001      HEADBCC = 1      ;HEADER BCC ERROR
6766      000002      DATABCC = 2      ;DATA BCC ERROR
6767      000003      RESENT = 3      ;REP RESPONSE
6768      000010      BUFFNA = 10     ;BUFFER TEMPORARILY NOT AVAILABLE
6769      000011      RXOVRUN = 11    ;RECEIVER OVERRUN
6770      000020      MESLONG = 20    ;MESSAGE TOO LONG
6771      000021      FORMERR = 21    ;HEADER FORMAT ERROR
6772
6773
6774
6775
6776      000004      REPMSK = BIT2     ;REPLY RESPONSE
6777      000001      RXOVMSK= BIT0     ;RECEIVER OVERRUN
6778      000002      FMTMSK = BIT1     ;FORMAT ERROR
6779      000002      MTLMSK = BIT1     ;MESSAGE TOO LONG
6780      000001      BNAMSK = BIT0     ;BUFFER NOT AVAILABLE
6781
6782
6783
6784      000201      SOH = 201         ;DATA MESSAGE
6785      000144      MAINT = 144       ;MAINTENANCE MESSAGE
6786      000005      ENQ = 5          ;CONTROL MESSAGE
6787
6788
6789
6790
6791      000001      ACK = 1           ;ACKNOWLEDGE MESSAGE
6792      000002      NAK = 2         ;NEGATIVE ACKNOWLEDGE MESSAGE
6793      000003      REP = 3         ;REPLY TO MESSAGE NUMBER
6794      000006      STRT = 6        ;START MESSAGE
6795      000007      STACK = 7       ;START ACKNOWLEDGE MESSAGE
6796
6797
6798
6799
6800      000001      BCCOK = BIT0      ;BCC CHECKED GOOD
6801      000002      BCCBAD = BIT1    ;BCC CHECKED BAD
6802      000004      SACK = BIT2      ;SEND ACK
6803      000010      SNAK = BIT3      ;SEND NAK
6804      000020      SDATA = BIT4     ;SEND DATA
6805      000100      RXD = BIT6       ;RECEIVER DONE
6806      000400      NAKRX = BIT8     ;NAK RECEIVED
6807      001000      MYDATA = BIT9    ;MY DATA
6808      002000      SSTACK = BIT10   ;SEND START ACKNOWLEDGE
6809      004000      SSTART = BIT11  ;SEND START
6810

```

CVCLHC DPV-11 DATA COMM. L'NK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 170  
DDCMP PROTOCOL MODULE

6811  
6812  
6813  
6814  
6815  
6816  
6817  
6818  
6819 037146 037256  
6820 037150 037305  
6821 037152 037343  
6822 037154 037377  
6823 037156 037471  
6824 037160 037555  
6825 037162 037635  
6826 037164 037721  
6827 037166 040703  
6828 037170 040765  
6829 037172 040162  
6830 037174 040156  
6831 037176 040354  
6832 037200 040452  
6833 037202 040440  
6834 037204 040425  
6835  
6836  
6837  
6838  
6839  
6840  
6841  
6842 037206 021640  
6843 037210 021640  
6844 037212 021640  
6845 037214 021666  
6846 037216 021666  
6847 037220 021666  
6848 037222 021666  
6849 037224 021666  
6850 037226 021666  
6851 037230 021724  
6852 037232 021724  
6853 037234 021724  
6854 037236 021724  
6855 037240 021724  
6856 037242 021724  
6857 037244 021740  
6858  
6859 037246 000000  
6860 037250 000000  
6861 037252 000000  
6862 037254 000000  
6863

\*\*\*\*\*  
: THE BELOW TABLES AND ASCII MESSAGES ARE USED IN DCLT  
: REPORTING OF ERROR COUNTERS. THEY MUST REMAIN IN THE  
: CURRENT SEQUENCE ELSE WE'LL BE REPORTING ERRONEOUS  
: DATA.  
:\*\*\*\*\*

STALST: .WORD STA0A ; POINTER FOR OFFSET 0 ASCII  
          .WORD STA1A ; POINTER FOR OFFSET 1 ASCII  
          .WORD STA2A ; POINTER FOR OFFSET 2 ASCII  
          .WORD STA3A ; POINTER FOR OFFSET 3 ASCII  
          .WORD STA4A ; POINTER FOR OFFSET 4 ASCII  
          .WORD STA5A ; POINTER FOR OFFSET 5 ASCII  
          .WORD STA6A ; POINTER FOR OFFSET 6 ASCII  
          .WORD STA7A ; POINTER FOR OFFSET 7 ASCII  
          .WORD STA10A ; POINTER FOR OFFSET 10 ASCII  
          .WORD STA11A ; POINTER FOR OFFSET 11 ASCII  
          .WORD STA12A ; POINTER FOR OFFSET 12 ASCII  
          .WORD STA13A ; POINTER FOR OFFSET 13 ASCII  
          .WORD STA14A ; POINTER FOR OFFSET 14 ASCII  
          .WORD STA15A ; POINTER FOR OFFSET 15 ASCII  
          .WORD STA16A ; POINTER FOR OFFSET 16 ASCII  
          .WORD STA17A ; POINTER FOR OFFSET 17 ASCII

: TABLE FOR PRINT ROUTINES  
: PRIW: WORD ROUTINE  
: PRIBB: BYTE/BYTF ROUTINE  
: PRIBS: BYTE SPECIAL ROUTINE

STAIND: .WORD PRIW  
          .WORD PRIW  
          .WORD PRIW  
          .WORD PRIBB  
          .WORD PRIBB  
          .WORD PRIBB  
          .WORD PRIBB  
          .WORD PRIBB  
          .WORD PRIBB  
          .WORD PRIBB  
          .WORD PRIBS  
          .WORD PRIBS  
          .WORD PRIBS  
          .WORD PRIBS  
          .WORD PRIBS  
          .WORD PRIBS  
          .WORD PRIBS  
          .WORD PRIW

LAST: .WORD 0 ; LAST MESSAGE TO PRINT  
FIF: .WORD 0 ; FIRST MESSAGE TO PRINT  
MES: .WORD 0 ; HOLDS MESSAGE  
ME^DATA: .WORD 0 ; DATA PART OF MESSAGE

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 171  
DDCMP PROTOCCL MODULE

6864  
6865  
6866  
6867  
6868

\*\*\*\*\*  
: THE BELOW ASCIZ MESSAGES USED IN 'RPT>' LEVEL OF DCLT  
:

037256	047045	047445	022466
037305	045	022516	033117
037343	045	022516	033117
037377	045	022516	031517
037471	045	022516	031517
037555	045	022516	031517
037635	045	022516	031517
037721	045	022516	031517
040003	045	022516	031517
040065	045	022516	031517
040162	047045	047445	022463
040256	047045	047445	022463
040354	047045	047445	022463
040452	047045	047445	022463
040540	047045	047445	022463
040625	045	022516	033117

```

.NLIST BEX
STA0A: .ASCIZ /%N%06%S2%ASTATUS FLAGS/
STA1A: .ASCIZ /%N%06%S2%ADATA MSGS. TX'MITTD/
STA2A: .ASCIZ /%N%06%S2%ADATA MSGS. RX'CVD/
STA3A: .ASCIZ /%N%03%S5%AHIGHEST MSG # TX'D%N%03%S5%AHIGHEST MSG # ACK'D/
STA4A: .ASCIZ /%N%03%S5%ANEXT MSG # TO TX%N%03%S5%ALAST MSG # TX'D/
STA5A: .ASCIZ /%N%03%S5%AHIGH-EST MSG # RX'D%N%03%S5%ATRIB ADDR/
STA6A: .ASCIZ /%N%03%S5%AREMO. TIME OUTS%N%03%S5%AGLOBAL CRC ERRS/
STA7A: .ASCIZ /%N%03%S5%ANAK REASON%N%03%S5%ASELECT THRESH. ERRS/
STA10A: .ASCIZ /%N%03%S5%ARX THRESH ERRS%N%03%S5%ATX THRESH. ERRS/
STA11A: .ASCIZ /%N%03%S5%ADATA ERRORS OUT%N%S8%AHBCC %01%A BCC %01%A REP %01/
STA12A: .ASCIZ /%N%03%S5%ADATA ERRORS IN%N%S8%AHBCC %01%A BCC %01%A REP %01/
STA13A: .ASCIZ /%N%03%S5%ALOCAL BUFFER ERRS%N%S8% NO BUFF %01%A TOO BIG %01/
STA14A: .ASCIZ /%N%03%S5%AREMOTE BUFFER ERRS%N%S8% NO BUFF %01%A TOO BIG %01/
STA15A: .ASCIZ /%N%03%S5%AREMOTE STA ERRS%N%S8%AQVRN %01%A FORMAT %01/
STA16A: .ASCIZ /%N%03%S5%ALOCAL STA ERRS%N%S8%AQVRN %01%A FORMAT %01/
STA17A: .ASCIZ /%N%06%S2%ATX & RX THRESHOLD ERRORS(OVERFLOW)/

```

6869  
6870  
6871  
6872  
6873  
6874  
6875  
6876  
6877  
6878  
6879  
6880

.EVEN  
.LIST BEX  
\*\*\*\*\*

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 172  
DDCMP PROTOCOL MODULE

6881  
6882  
6883  
6884  
6885  
6886  
6887  
6888  
6889  
6890  
6891  
6892  
6893  
6894  
6895  
6896  
6897  
6898  
6899  
6900  
6901  
6902  
6903  
6904  
6905  
6906  
6907  
6908  
6909  
6910  
6911  
6912  
6913  
6914  
6915  
6916  
6917  
6918  
6919  
6920  
6921  
6922  
6923  
6924  
6925  
6926  
6927  
6928  
6929  
6930  
6931  
6932  
6933  
6934  
6935  
6936

```
*****
: PROTOCOL ROUTINE:
:
: DESCRIPTION: IF THE USER SPECIFIES THE '/PROTOCOL' SWITCH THIS
: ROUTINE WILL BE CALLED. THIS ROUTINE DECIDES IF
: WE ARE TRANSMITTING AND/OR RECEIVING AND CALLS
: THE NECESSARY DDCMP PROTOCOL ROUTINES.
:
:*****
```

```
PROT0C: MOV FLAG,IMFLAG ;SAVE COPY OF MAIN CODE 'FLAG' VARIABLE
MOV #1,TXREADY ;INIT TRANSMITTER DONE FLAG
CLR RXPRC ;INIT RX PROCOTOL DONE
CLR TXPRC ;INIT TX PROCOTOL DONE
CLR TIMEOUT ;INIT PRINT TIMER
BIT #PRORUN,PARAM ;PROTOCOL RUNNING ?
BNE 7$ ;YES,BRANCH

:: PROTOCOL NOT RUNNING -- SO FIRE UP THE LINK
SETVEC INVEC,#PRRXI,#PRI04 ;LOAD RX PROTOCOL INTERRUPT ROUTINE
MOV #PRI04,-(SP)
MOV #PRRXI,-(SP)
MOV INVEC,-(SP)
MOV #3,-(SP)
TRAP C$SVEC
ADD #10,SP

CLR HDXMTP ;INIT HALF DUPLEX/MULTI-POINT FLAG
TST FHDPLX ;HALF DUPLEX ?
BEQ 2$ ;YES,BRANCH
TST MPPTP ;MULTI POINT ?
BEQ 3$ ;NO,BRANCH
MOV #1,HDXMTP ;SET HALF DUPLEX/MULTI-POINT

3$: MOV #30.,TIMERS ;30 SECONDS TO START
MOV #1,SELECT ;INIT SELECT
CLR TURNON ;INIT YET ANOTHER FLAG
CLR PRUN ;INIT ANOTHER FLAG
CLR ASTRT ;INIT 'STACK SENT' FLAG
CLR PRSTAT ;INIT STATUS WORD
JSR PC,PROINT ;INIT PROTOCOL COUNTERS AND VARIABLES
TST MPPTP ;MULTI - POINT MODE ?
BNE 4$ ;YES,BRANCH
BIS #SSTART,PRSTAT ;TELL TX ROUTINE TO SEND 'START'
JSR PC,TXPROTO ;GO SEND IT
4$: JSR PC,RXPROTO ;GO WAIT FOR 'STACK' OR 'START'
BIT #PRORUN,PARAM ;DID PROTOCOL START ?
BEQ 3$ ;NO,TRY AGAIN
MOV #1,PRUN ;THIS FLAG USED IN RXPROTO ROUTINE

:: IF HALF DUPLEX OR MULTI POINT, WE MUST MANAGE THE LINK DIFFERENTLY
7$: MOV #3.,TIMERS ;SET UP TIMER
TST HDXMTP ;HALF DUPLEX OR MULTI - POINT?
BNE PROHDX ;YES,BRANCH
```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 173  
DDCMP PROTOCOL MODULE

```

6937
6938 041134 022737 000003 006566
6939 041142 001440
6940
6941
6942
6943 041144 032737 000010 037112
6944 041152 001414
6945 041154 052737 000020 037046
6946 041162 004737 045350
6947 041166 004737 042100
6948 041172 005737 037116
6949 041176 001766
6950 041200 005237 037050
6951
6952 041204 005737 037114
6953 041210 001011
6954 041212 032737 000004 037112
6955 041220 001002
6956 041222 000137 041670
6957
6958
6959 041226 004737 042100
6960 041232 000764
6961 041234 005237 037052
6962 041240 000137 041670
6963
6964
6965
6966
6967 041244 004737 041774
6968 041250 052737 000020 037046
6969 041256 004737 045350
6970 041262 004737 042100
6971 041266 005737 037116
6972 041272 001766
6973 041274 005737 037114
6974 041300 001770
6975 041302 005237 037052
6976 041306 005237 037050
6977
6978
6979 041312 005737 037122
6980 041316 001775
6981 041320 004737 041774
6982 041324 000137 041670
6983
6984
6985
6986
6987 041330
6988 041330 005737 006572
6989 041334 001072
6990 041336 032737 000010 037112
6991 041344 001424
6992 041346 005737 037130

:: IF FULL DUPLEX AND ACTIVE MODE-- JUMP
      CMP      #ACT,MODTYP      :ACTIVE MODE?
      BEQ      200$             :YES, BRANCH

:: PROTOCOL IS RUNNING -- LINK IS HOT SO SEND DATA
10$:  BIT      #QTX,IMFLAG      :TRANSMITTING A MESSAGE ?
      BEQ      100$             :NO, BRANCH
20$:  BIS      #SDATA,PRSTAT    :SEND DATA FLAG
      CALL     TXPROTO          :GO SEND THE MESSAGE
      CALL     RXPROTO          :CHECK THE REPLY
      TST      TXPRC           :MESSAGE TRANSMITTED & 'ACK'ED'?
      BEQ      20$             :NO, BRANCH
      INC      TMESTX          :BUMP 'TOTAL MESSAGES TRANSMITTED' COUNTER

100$: TST      RXPRC           :RECEIVE PROTOCOL FINISHED ?
      BNE      110$            :YES, BRANCH
      BIT      #QRX,IMFLAG      :RECEIVING A MESSAGE ?
      BNE      105$            :YES, BRANCH
      JMP      PROTEX          :EXIT

105$: CALL     RXPROTO          :GO PROCESS INCOMING MESSAGE
      BR       100$            :SEE IF RECEIVE PROTOCOL COMPLETE
110$: INC      TMESRX          :BUMP 'TOTAL MESSAGES RECEIVED' COUNTER
      JMP      PROTEX          :EXIT

:: ACTIVE MODE (FULL DUPLEX AND POINT TO POINT LINKS)
200$: CALL     RXON            :TURN ON RECEIVER
210$: BIS      #SDATA,PRSTAT    :SEND DATA FLAG
      CALL     TXPROTG         :DO SEND DATA MESSAGE
215$: CALL     RXPROTO          :GO PROCESS INCOMING MESSAGE
      TST      TXPRC           :TX PROTOCOL DONE ?
      BEQ      210$            :NO, BRANCH
      TST      RXPRC           :RX PROTOCOL DONE ?
      BEQ      215$            :NO, BRANCH
      INC      TMESRX          :BUMP 'TOTAL MESSAGES RECEIVED'
      INC      TMESTX          :BUMP 'TOTAL MESSAGE SENT' COUNTER

:: TXREADY SET IN TX INTERRUPT ROUTINE
220$: TST      TXREADY         :MESSAGE SENT ?
      BEQ      220$            :NO, BRANCH
      CALL     RXON            :TURN ON RECEIVER
      JMP      PROTEX          :EXIT

::: THIS ROUTINE(PROHDX) IS USE IN HALF-DUPLEX PT-PT & MTP
PROHDX:
10$:  TST      FHDPLX          :FULL DUPLEX ?
      BNE      PROFDX         :YES, BRANCH
      BIT      #QTX,IMFLAG      :TRANSMITTING ?
      BEQ      100$            :NO, BRANCH
20$:  TST      SELECT          :DO WE HAVE THE SELECT BIT ?

```



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 174  
DDCMP PROTOCOL MODULE

```

6993 041352 001005          BNE      30$      ;YES,BRANCH
6994 041354 004737 041774   CALL     RXON     ;TURN ON RX
6995 041360 004737 042104   25$:    CALL     RXWAIT ;TURN ON RX AND WAIT FOR SELECT BIT
6996 041364 000770          BR       20$      ;DID WE GET THE SELECT BIT ?
6997 041366 052737 000020 037046 30$:    BIS      #SDATA,PRSTAT ;SEND DATA FLAG
6998 041374 004737 045350   CALL     TXPROTO ;GO SENT IT
6999 041400 004737 042100   CALL     RXPROTO ;CHECK REPLY
7000 041404 005737 037116   TST     TXPRC    ;TX PROTOCOL DONE ?
7001 041410 001756          BEQ     20$      ;NO,BRANCH
7002 041412 005237 037050   INC     TME TX   ;BUMP TOTAL MESSAGES SENT
7003 041416 012737 000001 037116 100$:   MOV     #1,TXPRC ;SET TX PROTOCOL DONE
7004 041424 005737 037114   103$:   TST     RXPRC    ;RX PROTOCOL DONE ?
7005 041430 001026          BNE     150$     ;YES,BRANCH
7006 041432 032737 000004 037112   BIT     #QRX,IMFLAG ;RECEIVING ?
7007 041440 001002          BNE     110$     ;YES,BRANCH
7008 041442 000137 041670   JMP     PROTEX   ;EXIT
7009          ;:WAS THE BALL TOSSED BACK IN OUR COURT ?
7010 041446 005737 037130   110$:   TST     SELECT   ;HAVE WE RECEIVED THE SELECT BIT YET?
7011 041452 001005          BNE     130$     ;YES,BRANCH
7012 041454 004737 041774   CALL     RXON     ;TURN ON RECEIVER
7013 041460 004737 042104   115$:   CALL     RXWAIT   ;PROCESS DATA
7014 041464 000757          BR       103$    ;TRY AGAIN
7015 041466 052737 000004 037046 130$:   BIS      #SACK,PRSTAT ;SEND ACK TO TURN THE LINE AROUND
7016 041474 004737 045350   CALL     TXPROTO ;SEND IT
7017 041500 004737 042100   CALL     RXPRCTO ;GO RECEIVE THE PENDING MESSAGE
7018 041504 000747          BR       103$    ;BRANCH
7019 041506 005237 037052   150$:   INC     TMESRX   ;BUMP 'RECIEVED MESSAGE COUNTER'
7020 041512 004737 041774   CALL     RXON     ;TURN ON RX
7021 041516 000137 041670   JMP     PROTEX   ;EXIT
7022
7023          ;:THIS ROUTINE(PROFDX:) USED WITH FULL DUPLEX-MULTI POINT LINKS
7024
7025 041522 032737 000010 037112 PROFDX: BIT     #QTX,IMFLAG ;TRANSMITTING ?
7026 041530 001003          BNE     10$      ;YES,BRANCH
7027 041532 012737 000001 037116   MOV     #1,TXPRC ;SET TRANSMIT PROTOCOL COMPLETE
7028 041540 005737 037114   10$:    TST     RXPRC    ;WAS THE 1ST MESSAGE RX'ED DURING STARTUP?
7029 041544 001015          BNE     30$      ;YES,BRANCH
7030 041546 032737 000004 037112   BIT     #QRX,IMFLAG ;RECEIVING ?
7031 041554 001004          BNE     20$      ;YES,BRANCH
7032 041556 012737 000001 037114   MOV     #1,RXPRC ;SET RECEIVE PROTOCOL COMPLETE
7033 041564 000410          BR       100$    ;BRANCH
7034 041566 004737 042100   20$:    CALL     RXPROTO ;PROCESS INCOMING MESSAGE
7035 041572 005737 037114   TST     RXPRC    ;DONE ?
7036 041576 001773          BEQ     20$      ;NO,BRANCH
7037 041600 005237 037052   30$:    INC     TMESRX   ;BUMP RX MESSAGE COUNT
7038 041604 000400          BR       100$    ;BRANCH
7039
7040 041606 005737 037116   100$:   TST     TXPRC    ;ANYTHING TO SEND ?
7041 041612 001024          BNE     135$     ;NO,BRANCH
7042
7043 041614 005737 037130   120$:   TST     SELECT   ;DO WE HAVE PERMISSION TO SEND ?
7044 041620 001005          BNE     130$     ;YES,BRANCH
7045 041622 004737 041774   CALL     RXON     ;TURN ON TX
7046 041626 004737 042104   125$:   CALL     RXWAIT   ;WAIT ON SELECT BIT
7047 041632 000770          BR       120$    ;TRY AGAIN
7048 041634 052737 000020 037046 130$:   BIS      #SDATA,PRSTAT ;SEND DATA FLAG

```





CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 177  
DDCMP PROTOCOL MODULE

7114  
7115  
7116  
7117  
7118  
7119  
7120  
7121  
7122  
7123  
7124  
7125  
7126  
7127  
7128  
7129  
7130  
7131 042100  
7132 042100 004737 041774  
7133  
7134  
7135 042104  
7136 042104  
7137 042104 104422  
7138 042106 105737 002657  
7139 042112 001007  
7140 042114 005737 006644  
7141 042120 001371  
7142 042122 004737 043726  
7143 042126 000137 043724  
7144  
7145  
7146  
7147 042132 123727 002657 000005  
7148 042140 001003  
7149 042142 052737 000040 037134  
7150  
7151  
7152 042150 032737 000003 037046  
7153 042156 001021  
7154 042160 005737 006644  
7155 042164 001004  
7156 042166 004737 043726  
7157 042172 000137 042100

\*\*\*\*\*  
RECEIVER PROTOCOL ROUTINE:  
  
DESCRIPTION: THIS ROUTINE WILL PROCESS AN INCOMING MESSAGE  
AND DETERMINE IF IT'S A VALID CONTROL OR DATA  
MESSAGE. IF AN ERROR IS DETECTED THE APPROPRIATE  
ERROR COUNTERS WILL BE UPDATED BY THE ERROR  
ROUTINE.  
  
SUBORDINATE ROUTINES USED: 'TXPROTO'  
'ERROR PROCESSOR'  
\*\*\*\*\*

RXPROTO:  
CALL RXON ;TURN ON RECEIVER  
  
:: WAIT FOR FIRST CHARACTER TO APPEAR IN RX BUFFER  
RXWAIT:  
20\$: BREAK ;CHECK FOR ^C TRAP CSBRK  
  
TSTB RHD MID ;FIRST CHARACTER READ ?  
BNE 30\$ ;YES, BRANCH  
TST TIMERS ;60 SECONDS ELAPSED ?  
BNE 20\$ ;NO, BRANCH  
JSR PC,ERRPRC ;CALL ERROR PROCESSOR  
JMP RXPREX ;EXIT  
  
:: IF A CONTROL MESSAGE THEN TELL RX INTR. TO PROCESS HEADER ONLY  
30\$: CMPB RHD MID,#ENQ ;CONTROL MESSAGE ?  
BNE 40\$ ;NO, BRANCH  
BIS #RXM,PRFLAG ;PROCESS HEADER ONLY  
  
:: WAIT FOR CRC TO BE CHECKED  
40\$: BIT #BCCOK!BCCBAD,PRSTAT ;CRC CHECKED ?  
BNE 50\$ ;YES, BRANCH  
TST TIMERS ;60 SECONDS ELAPSED ?  
BNE 45\$ ;NO, BRANCH  
JSR PC,ERRPRC ;GO PROCESS ERROR  
JMP RXPROTO ;TRY AGAIN

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 178  
DDCMP PROTOCOL MODULE

```

7158
7159
7160 042176 032737 000010 037046 45$:  CHECK THAT RX WAS SERVICED QUICK ENOUGH(DETERMINED BY RX INTER. ROUTINE)
7161 042204 001761          BIT      #SNAK,PRSTAT  ;RX OVERRUN ?
7162 042206 004737 043726    BEQ      40$          ;NO,BRANCH
7163 042212 004737 045350    JSR     PC,ERRPRC   ;GO PROCESS ERROR
7164 042216 000137 042100    JSR     PC,TXPROTO  ;GO SEND NAK
7165                                     JMP     RXPROTO     ;TRY AGAIN
7166
7167 042222 032737 000002 037046 50$:  IF HEADER CRC ERROR THEN LOG IT AND SEND NAK
7168 042230 001430          BIT      #BCCBAD,PRSTAT ;CRC ERROR ?
7169 042232 052737 000010 037046    BEQ      60$          ;NO,BRANCH
7170 042240 152737 000001 037073    BIS     #SNAK,PRSTAT ;SET SNAK (SEND NAK)
7171 042246 112737 000001 037064    BISB   #HEADBCC,INMASK ;SET THE MASK
7172 042254 105237 037072    MOVB   #HEADBCC,REANAK ;NAK REASON = 1
7173 042260 001003          INCB   DERIN        ;LOG DATA ERROR INBOUND
7174 042262 112737 000377 037072    BNE     55$          ;BRANCH IF NOT OVERFLOW
7175 042270 004737 043726    MOVB   #377,DERIN   ;LATCH COUNTER AT 256.
7176 042274 012737 000001 037130 55$:  JSR     PC,ERRPRC   ;GO PROCESS ERROR
7177 042302 004737 045350    MCV    #1,SELECT    ;ASSUME S-BIT WAS SET IN FAULTY MESSAGE
7178 042306 000137 042100    JSR     PC,TXPROTO  ;GO SEND NAK
7179                                     JMP     RXPROTO     ;TRY AGAIN
7180
7181 042312 123737 037061 002664 60$:  NOW CHECK THE ADDRESS OF THE MESSAGE- IS IT FOR ME ?
7182 042320 001422          CMPB   TRIBN,RHDADR ;MY ADDRESS ?
7183                                     BEQ     70$          ;YES, BRANCH
7184
7185 042322 042737 001000 037046 62$:  ITS NOT FOR ME, BUT COUNT IT OUT TO KEEP RX IN SYNC
7186 042330 032737 000100 037046    BIC     #MYDATA,PRSTAT ;MESSAGE NOT FOR ME
7187 042336 001003          BIT      #RXD,PRSTAT  ;RECEIVER DONE ?
7188 042340 005737 006644    BNE     65$          ;YES,BRANCH
7189 042344 001366          TST     TIMERS      ;HAVE WE DAWDLED LONG ENOUGH ?
7190                                     BNE     62$          ;NO,BRANCH
7191 042346 032737 000001 037046 65$:  BIT      #BCCOK,PRSTAT ;DATA CRC OK ?
7192 042354 001002          BNE     67$          ;YES,BRANCH
7193 042356 105237 037063    INCB   GLOBCC       ;LOG GLOBAL CRC ERROR
7194 042362 000137 042100    JMP     RXPROTO     ;GO RE-QUE BUFFER
7195
7196
7197
7198
7199 042366 105037 037066          ;; IS IT A CONTROL MESSAGE ? IF IT IS PROCESS IT
7200 042372 122737 000005 002657 70$:  CLRB   RXTHER       ;INIT RX THRESHOLD ERROR COUNTER
7201 042400 001402          CMPB   #ENQ,RHDMIC  ;CONTROL MESSAGE ?
7202 042402 000137 043252    BEQ     75$          ;YES,BRANCH
7203                                     JMP     200$        ;GO PROCESS DATA MESSAGE
7204
7205
7206
7207
7208
7209
7210
7211
7212
7213
7204 042406 122737 000002 002660 75$:  IS IT A NAK ?
7205 042414 001022          CMPB   #NAK,RHDTYP  ;NAK?
7206 042416 001022          BNE     90$          ;NO,BRANCH
7207 042416 032737 000100 006574    BIT     #PRORUN,PARAM ;PROTOCOL RUNNING ?
7208 042424 001002          BNE     80$          ;YES,BRANCH
7209 042426 000137 042100    JMP     RXPROTO     ;IGNORE THIS MESSAGE
7210 042432 052737 000400 037046 80$:  BIS     #NAKRX,PRSTAT ;FLAG NAK RECEIVED
7211 042440 004737 043726    JSR     PC,ERRPRC   ;GO LOG NAK REASON
7212 042444 052737 000020 037046    BIS     #SDATA,PRSTAT ;SEND DATA
7213 042452 004737 045350    JSR     PC,TXPROTO  ;GO RE-TRANSMIT PREVIOUS MESSAGE

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 179  
DDCMP PROTOCOL MODULE

7214 042456 000137 042100

JMP RXPROTO ;GO RE-QUE RX

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(105?) 23-MAR-82 16:43 PAGE 180  
DDCMP PROTOCOL MODULE

```

7215
7216
7217 042462 122737 000001 002660 90$:  CMPB  #ACK,RHDTYP  :ACK ?
7218 042470 001057  BNE  100$      :NO,BRANCH
7219 042472 032737 000100 006574  BIT  #PRORUN,PARAM :PROTOCOL RUNNING ?
7220 042500 001004  BNE  93$      :YES,BRANCH
7221 042502 052137 000100 006574  BIS  #PRORUN,PARAM :TELL THE WORLD THAT LINK HAS STARTED
7222 042510 000445  BR   97$      :EXIT
7223 042512 123737 037056 002662 93$:  CMPB  T,RHDREP  :CORRECT MESSAGE # ACKNOWLEDGED ?
7224 042520 001005  BEQ  95$      :YES,BRANCH
7225 042522 055737 037136  TST  HDXMTP    :HALF DUPLEX/MULTI -POINT ?
7226 042526 001036  BNE  97$      :YES,BRANCH
7227 042530 000137 042100  JMP  RXPROTO   :TRY AGAIN
7228 042534 105037 037067 95$:  CLRB  TXTHER   :INIT. TX THRESHOLD COUNTER
7229 042540 113737 037056 037054  MOVB T,N       :HIGHEST SEQUENTIAL MESSAGE # SENT
7230 042546 113737 037056 037057  MOVB T,X       :HIGHEST MESSAGE # SENT
7231 042554 113737 002662 037055  MOVB RHDREP,A  :HIGHEST MESSAGE # ACKNOWLEDGED TO THIS STATION
7232 042562 105237 037056  T     :# OF NEXT DATA MESSAGE TO BE TRANSMITTED
7233 042566 012737 177777 037116  MOV  #-1,TXPRC :TRANSMIT PROTOCOL COMPLETE
7234 042574 022737 000003 006566  CMP  #ACT,MODTYP :ACTIVE MODE ?
7235 042602 001010  BNE  97$      :NO,BRANCH
7236 042604 005737 037114  TST  RXPRC    :RX PROTOCOL COMPLETE?
7237 042610 001005  BNE  97$      :YES,BRANCH
7238 042612 005737 006572  TST  FHDPLX   :HALF DUPLEX?
7239 042616 001402  BEQ  97$      :YES,BRANCH
7240 042620 000137 042100  JMP  RXPROTO   :GO PROCESS INCOMING MESSAGE
7241
7242 042624 000137 043724 97$:  JMP  RXPREX   :EXIT
7243
7244  :: IS IT A REP ?
7245 042630 122737 000003 002660 100$: CMPB  #REP,RHDTYP  :REP ?
7246 042636 001054  BNE  150$     :NO,BRANCH
7247
7248  :: NUM = R ?
7249 042640 032737 000100 006574  BIT  #PRORUN,PARAM :PROTOCOL RUNNING ?
7250 042646 001002  BNE  110$     :YES,BRANCH
7251 042650 000137 042100  JMP  RXPROTO   :IGNORE MESSAGE- TRY AGAIN
7252 042654 123737 002663 037060 110$: CMPB  RHDNUM,R  :HAVE WE RECEIVED THIS MESSAGE ?
7253 042662 001015  BNE  120$     :NO, BRANCH
7254 042664 052737 000004 037046  BIS  #SACK,PRSTAT :SET SEND ACK
7255 042672 105237 037062  INCB REMTMO    :BUMP REMOTE TIME OUT COUNTER
7256 042676 001003  BNE  115$     :BRANCH IF NOT OVERFLOW
7257 042700 112737 000377 037062  MOVB #377,REMTMO :LATCH COUNTER AT 256.
7258 042706 004737 045350 115$: JSR  PC,TXPROTO :GO SEND ACK
7259 042712 000137 042100  JMP  RXPROTO   :TRY AGAIN
7260
7261  :: NUM <> R
7262 042716 052737 000010 037046 120$: BIS  #SNAK,PRSTAT :SET SEND NAK
7263 042724 112737 000003 037064  MOVB #RESENT,REANAK :SET REASON FOR NAK
7264 042732 105237 037072  INCB DERIN     :BUMP DATA ERROR INBOUND
7265 042736 001003  BNE  125$     :BRANCH IF NOT OVERFLOW
7266 042740 112737 000377 037072  MOVB #377,DERIN  :LATCH AT 256.
7267 042746 152737 000004 037073 125$: BISB #REPMSK,INMASK :ERROR REASON IS REMOTE TIME OUT
7268 042754 004737 043726  JSR  PC,ERRPRC :PROCESS NAK
7269 042760 004737 045350  JSR  PC,TXPROTO :GO SEND NAK
7270 042764 000137 042100  JMP  RXPROTO   :TRY AGAIN

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 181  
DDCMP PROTOCOL MODULE

```

7271
7272
7273 042770 122737 000006 002660 150$:  CMPB  #STRT,RHD TYP  ;START ?
7274 042776 001071          BNE    170$          ;NO, BRANCH
7275 043000 032737 000100 006574  BIT    #PRORUN,PARAM ;PROTOCOL RUNNING ?
7276 043006 001007          BNE    160$          ;YES, BRANCH
7277 043010 052737 002000 037046  BIS    #SSTACK,PRSTAT ;SEND START ACKNOWLEDGE
7278 043016 004737 045350  JSR    PC,TXPROTO    ;GO SEND STACK
7279 043022 000137 042100  JMP    RXPROTO       ;GO TO RX ROUTINE AND EXPECT ACK OR DATA
7280
7281
7282 043026 052737 000200 006574 160$:  BIS    #ABORT,PARAM  ;TELL MAIN CODE TO ABORT!!
7283 043034 012737 177777 037114  MOV    #-1,RXPRC     ;RECEIVE PROTOCOL DONE
7284 043042 012737 177777 037116  MOV    #-1,TXPRC     ;TRANSMIT PROTOCOL DONE
7285 043050          PRINTF #165$      ;FATAL ERROR
7286 043050 012746 043074          MOV    #165$,-(SP)
7287 043054 012746 000001          MOV    #1,-(SP)
7288 043060 010600          MOV    SP,R0
7289 043062 104417          TRAP  C$PNTF
7290 043064 062706 000004          ADD   #4,SP
7291 043070 000137 043724          JMP    RXPREX        ;EXIT
7292
7293 043074 047045 040445 052123 .NLIST BEX
165$:  .ASCIZ  /%N%ASTART RECEIVED WITH PROTOCOL RUNNING--ABORTING!!/
       .EVEN
       .LIST BEX
7294
7295
7296
7297 043162 122737 000007 002660 170$:  CMPB  #STACK,RHD TYP  ;STACK ?
7298 043170 001012          BNE    180$          ;NO, BRANCH
7299 043172 052737 000004 037046  BIS    #SACK,PRSTAT  ;TELL TX ROUTINE TO SEND ACK
7300 043200 004737 045350  JSR    PC,TXPROTO    ;SEND ACK
7301 043204 052737 000100 006574  BIS    #PRORUN,PARAM ;SET 'PROTOCOL RUNNING' FLAG
7302 043212 000137 043724  JMP    RXPREX        ;EXIT
7303
7304
7305
7306 043216 052737 000010 037046 180$:  BIS    #SNAK,PRSTAT  ;SET SEND NAK FLAG
7307 043224 105237 037102          INCB  LOSTER        ;LOCAL STATION ERROR
7308 043230 152737 000021 037103  BISB  #FORMERR,LSMASK ;FORMAT ERROR
7309 043236 004737 043726  JSR    PC,ERRPRC    ;PROCESS ERROR
7310 043242 004737 045350  JSR    PC,TXPROTO    ;SEND NAK
7311 043246 000137 042100  JMP    RXPROTO       ;TRY AGAIN
7312
7313
7314
7315

```



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 182  
DDCMP PROTOCOL MODULE

```

7316
7317
7318
7319 043252 005737 037114 200$: TST RXP RC ;ALREADY PROCESSED A MESSAGE?
7320 043256 001432 BEQ 215$ ;NO,BRANCH
7321 043260 042737 001000 037046 BIC #MYDATA,PRSTAT ;TELL RX INTERRUPT ROUTINE NOT TO STORE THIS
7322 043266 005737 037116 TST TXPRC ;TX PROTOCOL COMPLETE ?
7323 043272 001037 BNE 220$ ;YES,BRANCH
7324
7325 043274 123737 037056 002662 :: SEE IF IMPLICIT ACK IMBEDDED IN THIS MESSAGE
7326 043302 001033 CMPB T,RHDREP ;RESP = MESSAGE SENT?
7327 043304 113737 037056 037054 BNE 220$ ;NO,BRANCH
7328 043312 113737 037056 037057 MOVB T,N ;HIGHEST # SENT
7329 043320 113737 037056 037055 MOVB T,X ;HIGHEST # SENT
7330 043326 105237 03705 INCB T,A ;HIGHEST MESSAGE ACK'ED
7331 043332 012737 177777 037116 MOV T ;NEXT MESSAGE TO SEND
7332 043340 000137 043724 JMP #-1,TXPRC ;TX PROTOCOL FINISHED
7333
7334 043344 105237 037060 215$: INCB R ;EXPECTED #?
7335 043350 123737 037060 002663 CMPB R,RHDNUM ;CORRECT MESSAGE #?
7336 043356 001423 BEQ 300$ ;YES,PROCESS IT
7337 043360 105337 037060 DECB R ;SUBTRACT 1
7338 043364 042737 001000 037046 BIC #MYDATA,PRSTAT ;JUST COUNT OUT MESSAGE-DON'T PUT IN BUFFER
7339 043372 032737 000100 037046 220$: BIT #RXD,PRSTAT ;WAIT FOR DONE
7340 043400 001003 BNE 250$ ;BRANCH
7341 043402 005737 006644 TST TIMERS ;TIME OUT?
7342 043406 001371 BNE 220$ ;NO,BRANCH
7343
7344
7345 043410 052737 000004 037046 ::SEND AN 'ACK'
7346 043416 004737 045350 250$: BIS #SACK,PRSTAT ;SEND ACK
7347 043422 000137 042100 CALL TXPROTO ;GO SEND IT
7348
7349
7350 043426 032737 000100 037046 :: IS DATA PART OF MESSAGE COMPLETE ?
7351 043434 001021 300$: BIT #RXD,PRSTAT ;MESSAGE COMPLETE ?
7352
7353
7354 043436 005737 006644 :: IS THE LINE DEAD ?
7355 043442 001004 TST TIMERS ;TIMED-OUT ?
7356 043444 004737 043726 BNE 305$ ;NO,BRANCH
7357 043450 000137 042100 JSR PC,ERRPRC ;GO PROCESS TIMER ERROR
7358
7359
7360 043454 032737 000010 037046 :: CHECK FOR RECEIVER OVERRUN OR BUFFER PROBLEM
7361 043462 001761 305$: BIT #SNAK,PRSTAT ;DID RX INTERRUPT SET THIS ?
7362
7363
7364 043464 004737 043726 ::RX ERROR SEND A NAK AND TRY AGAIN
7365 043470 004737 045350 JSR PC,ERRPRC ;GO PROCESS ERROR
7366 043474 000137 042100 JSR PC,TXPROTO ;SEND NAK
7367
7368
7369 043500 032737 000001 037046 ::CHECK FOR DATA CRC ERROR
7370 043506 001022 330$: BIT #BCCOK,PRSTAT ;DATA CRC GOOD ?
7371

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

YACY1 30A(1052) 23-MAR-82 16:43 PAGE 183  
DDCM- PROTOCOL MODULE

```

7372
7373 043510 052737 000010 037046  :: LOG CRC ERROR AND SEND A NAK
7374 043516 105237 037072          BIS      #SNAK,PRSTAT  ;SET SEND NAK FLAG
7375 043522 001003          INCB     DERIN      ;BUMP DATA ERROR INBOUND COUNTER
7376 043524 112737 000377 037072          BNE      340$      ;BRANCH IF NOT OVERFLOW
7377 043532 152737 000002 037073 340$:  MOVB     #377,DERIN ;LATCH AT 256.
7378 043540 004737 043726          BISB     #DATABCC,INMASK ;SET DATA CRC BIT
7379 043544 004737 045350          JSR      PC,ERRPRC  ;GO PROCESS ERROR
7380 043550 000137 042100          JSR      PC,TXPROTO ;GO SEND NAK
7381                                     JMP      RXPROTO    ;TRY AGAIN
7382
7383                                     :: WE HAVE A GOOD MESSAGE !!! SO ACKNOWLEDGE IT
7384 043554 032737 000100 006574 400$:  BIT      #PRORUN,PARAM ;PROTOCOL RUNNING?
7385 043562 001007          BNE      420$      ;YES,BRANCH
7386 043564 005737 037120          TST      ASTRT     ;DID WE SEND A STACK?
7387 043570 001001          BNE      415$      ;YES,BRANCH
7388 043572 000454          BR       RXPREX    ;EXIT
7389
7390                                     :: NOTE: DMV/DPM WILL SEND 'START - STACK - DATA' FOR STARTUP SEQUENCE
7391 043574 052737 000100 006574 415$:  BIS      #PRORUN,PARAM ;SET PROTOCOL RUNNING
7392
7393                                     :: CHECK FOR AN IMPLICIT 'ACK'
7394 043602 123737 037056 002662 420$:  CMPB     T,RHDREP   ;RESP = MESSAGE SENT ?
7395 043610 001016          BNE      450$      ;NO,BRANCH
7396 043612 113737 037056 037054          MOVB     T,N       ;HIGHEST SEQ MESSAGE # SENT
7397 043620 113737 037056 037057          MOVB     T,X       ;HIGHEST MESSAGE SENT
7398 043626 113737 037056 037055          MOVB     T,A       ;HIGHEST MESSAGE 'ACK'E)'
7399 043634 105237 037056          INCB     T         ;NEXT MESSAGE # TO TRANSMIT
7400 043640 012737 177777 037116          MOV      #-1,TXPRC ;SET TRANSMIT PROTOCOL COMPLETE
7401 043646 052737 000004 037076 450$:  BIS      #SACK,PRSTAT ;SET SEND ACK FLAG
7402 043654 004737 045350          JSR      PC,TXPROTO ;SEND ACK
7403 043660 012737 177777 037114          MOV      #-1,RXPRC ;RECEIVE MESSAGE PROTOCOL FINISHED
7404 043666 005737 037124          TST      PRUN     ;PROTOCOL RUNNING ?
7405 043670 001414          BEQ      RXPREX   ;NO,BRANCH
7406 043674 005737 037136          TST      HDXMTPT  ;FULL DUPLEX PT-PT?
7407 043700 001011          BNE      RXPREX   ;NO,BRANCH
7408 043702 022737 000003 006566          CMP      #ACT,MODTYP ;ACTIVE MODE ?
7409 043710 001005          BNE      RXPREX   ;NO,BRANCH
7410 043712 005737 037116          TST      TXPRC    ;TRANSMIT PROTOCOL COMPLETE ?
7411 043716 001002          BNE      RXPREX   ;YES,BRANCH
7412 043720 000137 042100          JMP      RXPROTO   ;GO PROCESS MESSAGE
7413
7414 043724 000207          RXPRES: RETURN    ;DONE !!
7415

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 5:43 PAGE 184  
DDCMP PROTOCOL MODULE

7416  
7417  
7418  
7419  
7420  
7421  
7422  
7423  
7424  
7425  
7426  
7427  
7428  
7429  
7430  
7431  
7432  
7433  
7434  
7435  
7436  
7437  
7438  
7439  
7440  
7441  
7442  
7443  
7444  
7445  
7446  
7447  
7448  
7449  
7450  
7451  
7452  
7453  
7454  
7455  
7456  
7457  
7458  
7459  
7460  
7461  
7462  
7463  
7464  
7465  
7466  
7467  
7468  
7469  
7470  
7471

043726 005737 006644  
043732 001075  
043734 032737 000100 006574  
043742 001034  
  
043744 005037 006542  
043750 005037 006544  
043754 012737 017311 006540  
043762 113737 002660 006542  
043770 113737 002646 006544  
043776 004737 020160  
044002 005237 006506  
044006 104457  
044010 000012  
044012 017311  
044014 017634  
044016 005237 006502  
044022 012737 000036 006644  
044030 000137 044502  
  
044034 005237 037144  
044040 022737 000024 037144  
044046 001023  
044050 012737 017110 006540  
044056 017737 145370 006542  
044064 017737 145370 006544  
044072 004737 020160  
044076 005237 006506  
044102 104457  
044104 000007

```
*****
ERROR PROCESSING ROUTINE (ERRPRC):
DESCRIPTION: THIS ROUTINE IS USED TO PROCESS INBOUND AND
OUTBOUND ERRORS. ALSO THE 60 SECOND 'WATCHDOG'
TIMER IS CHECKED.

THE MAJORITY OF THE CODE IS USED IN PROCESSING
OUTBOUND ERRORS (NAKS RECEIVED). THE NAK REASON
TYPE IS DETERMINED AND THE APPROPRIATE ERROR
COUNTER IS INCREMENTED. IF THE TRANSMIT THRESHOLD
COUNTER (TXTHER) OR RECEIVE THRESHOLD COUNTER
REACHES 7, IT IS CLEARED AND THE CUMULATIVE
RECEIVE/TRANSMIT THRESHOLD ERROR (RXTXTE) COUNTER
IS BUMPED.
*****
```

::CHECK THE WATCHDOG TIMER

```
ERRPRC: TST     TIMERS           ;60 SECONDS ELAPSED
        BNE     10$              ;NO,BRANCH
        BIT     #PRORUN,PARAM    ;PROTOCOL RUNNING ?
        BNE     7$               ;YES,BRANCH
```

:: INFORM USER OF 'START - STACK' TIMEOUT

```
CLR     TEMP3           ;INIT IT
CLR     TEMP4           ;INIT IT
MOV     #DVEM5,TEMP2    ;'TIME OUT IN START-STACK SEQUENCE'
MOVB   RDMCC,TEMP3     ;RECEIVED DATA
MOVB   HDMCC,TEMP4     ;TRANSMITTED DATA
JSR    PC,LGDVE        ;LOG TIME OUT IN EVENT LOG
INC    ERRCNT          ;BUMP ERROR COUNT
ERRSOFT 10.,DVEM5,ERR13 ;PRINT ERROR
```

```
TRAP    CSERSOFT
.WORD   10
.WORD   DVEM5
.WORD   ERR13
```

```
INC    OPVAR           ;BUMP ERROR COUNTER
MOV    #30.,TIMERS     ;RE-INIT TIMER
JMP    ERREXT          ;EXIT
```

7\$: INFORM USER OF 'DATA MESSAGE' TIMEOUT

```
INC    TIMEOUT         ;BUMP COUNTER
CMP    #20.,TIMEOUT    ;60 SECONDS ?
BNE    9$              ;NO,BRANCH
MOV    #DVEM2,TEMP2    ;'TIME OUT WAITING FOR RX OR TX TO COMPLETE'
MOV    @RXCSR,TEMP3    ;RECEIVER ADDRESS
MOV    @TXCSR,TEMP4    ;TRANSMIT ADDRESS
JSR    PC,LGDVE        ;LOG ERROR
INC    ERRCNT          ;BUMP ERROR COUNT
ERRSOFT 7.,DVEM2,ERR13 ;PRINT ERROR
```

```
TRAP    CSERSOFT
.WORD   7
```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 185  
DDCMP PROTOCOL MODULE

						.WORD	DVEM2
						.WORD	ERR13
7472	044106	017110					
7473	044110	017634					
7474	044112	005037	037144		CLR	TIMEOUT	;INIT TIMEOUT
7475							
7476	044116	012737	000003	006644	9\$:	MOV	#3, TIMERS ;SET UP TIMER
7477	044124	000566				BR	ERRXT ;EXIT
7478							
7479							
7480							
7481	044126	032737	000400	037046	10\$:	BIT	#NAKRX,PRSTAT ;NAK RECEIVED?
7482	044134	001542				BEQ	100\$ ;NO, BRANCH
7483							
7484							
7485	044136	122737	000007	037067			::IF TRANSMIT THRESHOLD COUNTER = 7 THEN BUMP CUMULATIVE TXRX COUNTER
7486	044144	001403				CMPB	#7, TXTHER ;THRESHOLD REACHED?
7487	044146	105237	037067			BEQ	20\$ ;YES, BRANCH
7488	044152	000404				INCB	TXTHER ;BUMP TRANSMIT THRESHOLD
7489	044154	005237	037104			BR	30\$ ;BRANCH
7490	044160	105037	037067		20\$:	INC	RXTXTE ;BUMP TRANSMIT/RECEIVE THRESHOLD COUNTER
7491						CLRB	TXTHER ;SET TRANSMIT COUNTER TO ZERO
7492							
7493							
7494							::: DETERMINE THE 'NAK' REASON
7495	044164	042737	140000	002660	30\$:	BIC	#BIT15!BIT14,RHDTP
7496	044172	122737	000001	002661		CMPB	#HEADBCC,RHDTP+1 ;CLEAR SELECT & QS FLAG
7497	044200	001012				BNE	35\$ ;HEADER CRC ERROR?
7498	044202	105237	037070			INCB	DEROUT ;NO, BRANCH
7499	044206	001003				BNE	32\$ ;LOG ERROR
7500	044210	112737	000377	037070		MOVB	#377, DEROUT ;BRANCH IF NOT OVERFLOW
7501	044216	152737	000001	037071	32\$:	BISB	#HEADBCC,OUTMASK ;LATCH AT 256.
7502	044224	000526				BR	ERRXT ;SET MASK
7503							;EXIT
7504							
7505	044226	122737	000002	002661	35\$:	CMPB	#DATABCC,RHDTP+1 ;DATA CRC ERROR ?
7506	044234	001012				BNE	40\$ ;NO, BRANCH
7507	044236	105237	037070			INCB	DEROUT ;LOG ERROR
7508	044242	001003				BNE	37\$ ;BRANCH IF NOT OVERFLOW
7509	044244	112737	000377	037070		MOVB	#377, DEROUT ;LATCH AT 256.
7510	044252	152737	000002	037071	37\$:	BISB	#DATABCC,OUTMASK ;SET MASK
7511	044260	000510				BR	ERRXT ;EXIT
7512							
7513							
7514	044262	122737	000010	002661	40\$:	CMPB	#BUFFNA,RHDTP+1 ;BUFFER NOT AVAILABLE?
7515	044270	001012				BNE	45\$ ;NO, BRANCH
7516	044272	105237	037076			INCB	RBUFER ;LOG ERROR
7517	044276	001003				BNE	43\$ ;BRANCH IF NOT OVERFLOW
7518	044300	112737	000377	037076		MOVB	#377, RBUFER ;LATCH AT 256.
7519	044306	152737	000001	037077	43\$:	BISB	#BNAMSK,RBMSK ;SET MASK
7520	044314	000472				BR	ERRXT ;EXIT
7521							
7522							
7523	044316	122737	000011	002661	45\$:	CMPB	#RXOVRUN,RHDTP+1 ;RECEIVER OVERRUN?
7524	044324	001012				BNE	50\$ ;NO, BRANCH
7525	044326	105237	037100			INCB	RMSTER ;LOG ERROR
7526	044332	001003				BNE	47\$ ;BRANCH IF NO OVERFLOW
7527	044334	112737	000377	037100		MOVB	#377,RMSTER ;LATCH AT 256.

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 186  
DDCMP PROTOCOL MODULE

```

7528 044342 152737 000001 037101 47$: BISB #RXOVMSK,RMMASK :SET MASK
7529 044350 000454 BR ERREXT :EXIT
7530
7531
7532 044352 122737 000020 002661 ::REMOTE STATION MESSAGE TOO LONG?
50$: CMPB #MESLONG,RHDTYP+1 :MESSAGE TOO LONG?
7533 044360 001012 BNE 55$ :NO,BRANCH
7534 044362 105237 037076 INCB RBUFER :LOG REMOTE STATION BUFFER ERROR
7535 044366 001003 BNE 52$ :BRANCH IF NO OVERFLOW
7536 044370 112737 000377 037076 MOVB #377,RBUFER :LATCH AT 256.
7537 044376 152737 000002 037077 52$: BISB #MTLMSK,RBMASK :SET MASK
7538 044404 000436 BR ERREXT :EXIT
7539
7540
7541 044406 122737 000021 002661 ::REMOTE STATION FORMAT ERROR?
55$: CMPB #FORMERR,RHDTYP+1 :REMOTE STATION FORMAT ERROR?
7542 044414 001012 BNE 100$ :NO,BRANCH
7543 044416 105237 037100 INCB RMSTER :LOG ERROR
7544 044422 001003 BNE 57$ :BRANCH IF NO OVERFLOW
7545 044424 112737 000377 037100 MOVB #377,RMSTER :LATCH AT 256.
7546 044432 152737 000002 037101 57$: BISB #FMTMSK,RMMASK :SET MASK
7547 044440 000420 BR ERREXT :EXIT
7548
7549
7550
7551
7552 044442 032737 000010 037046 :: IF SEND NAK (SNAK=1) THEN BUMP RECEIVER THRESHOLD ERROR COUNTER
100$: BIT #SNAK,PRSTAT :SEND NAK ?
7553 044450 001414 BEQ ERREXT :NO, BRANCH
7554
7555 044452 122737 000007 037066 CMPB #7,RXOTHER :RECEIVER THRESHOLD = 7?
7556 044460 001403 BEQ 120$ :YES,BRANCH
7557 044462 105237 037066 INCB RXOTHER :BUMP COUNTER
7558 044466 000405 BR ERREXT :BRANCH
7559
7560 044470 005237 037104 120$: INC RXTXTE :BUMP CUMULATIVE COUNTER
7561 044474 105037 037066 CLRB RXOTHER :INIT RECEIVER THRESHOLD COUNTER
7562 044500 000400 BR ERREXT :EXIT
7563
7564
7565
7566 044502 000207 ERREXT: RETURN
7567

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 187  
DDCMP PROTOCOL MODULE

.SBTTL RECEIVER PROTOCOL INTERRUPT ROUTINE

++  
FUNCTIONAL DESCRIPTION:  
THIS ROUTINE IS USED ONLY WHEN THE "/PROTOCOL" SWITCH  
IS SPECIFIED BY THE USER.

WHEN A RX INT. OCCURS THIS ROUTINE DECIDES IF IT IS A DATA SET  
CHANGE OR DATA INTERRUPT. IF IT IS A DATA SET CHANGE  
INTERRUPT IT PUTS THE STATUS IN "CMODS" AND COMPARES  
THAT STATUS TO THE OLD STATUS IN "MODS". IF THEY ARE  
THE SAME THAT MEANS THE INTERRUPT WAS CAUSED BY A GLITCH  
ON ONE OF THE LINES. IF THEY ARE DIFFERENT THEN A HARD  
MODEM ERROR HAS OCCURED. IN ANY EVENT THE MODEM STATUS  
CHANGE IS LOGGED.

IF A DATA INTERRUPT, THE ROUTINE CHECK FOR AN OVERRUN  
CONDITION AND IF SET

INPUTS:  
RMSGPT - ADDRESS OF RX BUFFER  
RMSCC - COUNT OF DATA TO BE RXED.

SUBORDINATE ROUTINES USED:  
"LOGMSC" - LOG MODEM STATUS CHANGE  
"LGDVE" - LOG DEVICE ERROR

7568  
7569  
7570  
7571  
7572  
7573  
7574  
7575  
7576  
7577  
7578  
7579  
7580  
7581  
7582  
7583  
7584  
7585  
7586  
7587  
7588  
7589  
7590  
7591  
7592  
7593  
7594  
7595  
7596  
7597 044504  
7598 044504  
7599 044504 010246  
7600 044506 017737 144740 011476  
7601 044514 032737 000010 006574  
7602 044522 001462  
7603 044524 032737 002000 037112  
7604 044532 001456  
7605 044534 032737 004000 037112  
7606 044542 001452  
7607 044544 005737 011476  
7608 044550 100047  
7609 044552 013737 011476 011474  
7610 044560 042737 106760 011474  
7611 044566 032777 000040 144664  
7612 044574 001403  
7613 044576 052737 000040 011474  
7614 044604 013737 011474 006542 PRIN2:  
7615 044612 013737 007554 006544  
7616 044620 023737 006544 006542  
7617 044626 001406  
7618 044630 005237 011522  
7619 044634 012737 016717 006540  
7620 044642 000405  
7621 044644 005237 011520 10\$:  
7622 044650 012737 016671 006540  
7623 044656 004737 020334 PRIN1:

BGNSRV PRRXI  
PRRV!::  
MOV R2,-(SP) ;SAVE R2  
MOV @RXCSR,IRXCSR ;MOV RX CSR TO IMAGE  
BIT #MOCHK,PARAM ;ANY MODEM CHANGES TO REPORT  
BEQ PRIN2 ;IF NOT IGNORE DS CHANGE.  
BIT #INOV,IMFLAG ;IS INIT OVER  
BEQ PRIN2 ;NO THEN IGNORE DS CHANGE.  
BIT #FIRST,IMFLAG ;FIRST TIME HERE?  
BEQ PRIN2 ;YES,BRANCH  
TST IRXCSR ;DATA SET CHANGE ?  
BPL PRIN2 ;IF DATA SET CHANGE IS NOT SET BR  
MOV IRXCSR,CMODS ;MOV THE NEW MODEM STATUS IN  
BIC #106760,CMODS ;CLEAR BITS NOT RELATING TO MODEM STATUS  
BIT #TM,@TXCSR ;TEST MODE?  
BEQ PRIN2 ;NO,BRANCH  
BIS #TM,CMODS ;SET TM MODE IN CHANGE STATUS  
PRIN2: MOV CMODS,TEMP3  
MOV MODS,TEMP4  
CMP TEMP4,TEMP3 ;COMPARE OLD TO CURRENT  
BEQ 10\$ ;INC GLITCH COUNT  
INC MHRCNT ;INC HARD COUNT  
MOV #HRDMSG,TEMP2 ;SET UP HARD MMSG.  
BR PRIN1  
10\$: INC MGLCNT ;INC GLITCH COUNT  
MOV #GLMSG,TEMP2 ;SET UP GLITCH  
PRIN1: JSR PC,LOGMSC ;GO LOG MODEM STATUS CHANGE

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 188  
RECEIVER PROTOCOL INTERRUPT ROUTINE

```

7624 044662 013737 011474 007554      MOV      CMODS,MODS      ;MOVE CURRENT TO OLD
7625
7626      ;;TEST FOR DATA
7627
7628 044670 032737 002200 011476  PRIN21: BIT      #RSTARY!RDATRY,IRXCSR      ;RX DONE OR STATUS AVAILABLE ?
7629 044676 001002                BNE      10$              ;YES,BRANCH
7630 044700 000137 045344                JMP      PRINEX           ;EXIT
7631 044704 017737 144546 011500 10$:  MOV      @RDSR,IRDSR      ;SAVE A COPY OF STATUS & DATA
7632 044712 032737 004000 011500  BIT      #RXOVER,IRDSR    ;OVERRUN ERROR ?
7633 044720 001414                BEQ      PRIN4           ;NO,BRANCH
7634      ;;IF AN OVERRUN THEN LOG ERROR,SET NAK REASON,TURN OFF RX & EXIT
7635 044722 052737 000010 037046  BIS      #SNAK,PRSTAT    ;TELL MAIN CODE ABOUT OVERRUN ERROR
7636 044730 105237 037102                INCB    LOSTER           ;LOG LOCAL STATION ERROR
7637 044734 152737 000001 037103  BISB    #RXOVMSK,LSMASK  ;SET RX OVERRUN MASK BIT
7638 044742 112737 000011 037064  MOVB    #RXOVRUN,REANAK ;SET REASON FOR SENDING NAK
7639 044750 000570                BR       PRIN8           ;GO TURN OFF RX AND EXIT
7640
7641
7642      ;;:IF IN MULTI-POINT MODE AND NOT MY ADDRESS THEN JUST BUMP CHAR COUNT
7643
7644      ;;STORE AWAY DATA
7645 044752 032737 001000 037046  PRIN4:  BIT      #MYDATA,PRSTAT ;STORE THIS DATA ?
7646 044760 001406                BEQ      10$              ;NO,BRANCH
7647 044762 013702 011512                MOV     RMSGPT,R2        ;SET RX MESSAGE POINTER
7648 044766 113722 011500                MOVB   IRDSR,(R2)+      ;STORE DATA AWAY
7649 044772 010237 011512                MOV     R2,RMSGPT      ;SAVE UPDATED MESSAGE POINTER
7650
7651      ;;DECREMENT CHARACTER COUNT
7652 044776 005337 011514 10$:  DEC     RMSGCC          ;ALL DATA RECEIVED ?
7653 045002 001160                BNE    PRINEX           ;NO,BRANCH
7654 045004 032737 000400 037134  BIT     #BCC,PRFLAG     ;CRC ALREADY CHECKED?
7655 045012 001022                BNE    PRIN5           ;YES,BRANCH
7656 045014 032737 100000 011500  BIT     #CRCOK,IRDSR    ;CRC GOOD ?
7657 045022 001004                BNE    PRIN6           ;YES,BRANCH
7658 045024 052737 000002 037046  BIS     #BCCBAD,PRSTAT  ;TELL MAIN CODE ABOUT CRC ERROR
7659 045032 000537                BR     PRIN8           ;DISABLE INTERRUPTS AND EXIT
7660
7661      ;;: READ 2 MORE CHARACTERS TO FLUSH CRC
7662 045034 052737 000400 037134  PRIN6:  BIS     #BCC,PRFLAG ;SET CRC ALREADY CHECKED FLAG
7663 045042 012737 000002 011514  MOV     #2,RMSGCC       ;COUNT TWO CHARACTERS
7664 045050 012737 011516 011512  MOV     #BCCW,RMSGPT   ;CRC STORAGE ADDRESS
7665 045056 000532                BR     PRINEX           ;EXIT
7666
7667 045060 052737 000001 037046  PRIN5:  BIS     #BCCOK,PRSTAT ;TELL MAIN CODE CRC HAS BEEN CHECKED
7668 045066 123737 037061 002664  CMPB   TRIBN,RHDADR    ;MY MESSAGE
7669 045074 001404                BEQ     5$              ;YES,BRANCH
7670 045076 042737 001000 037046  BIC    #MYDATA,PRSTAT  ;DON'T STORE IT
7671 045104 000407                BR     7$              ;BRANCH
7672
7673 045106 032737 100000 002660  5$:  BIT     #BIT15,RHDMCC  ;SELECT BIT SET?
7674 045114 001403                BEQ     7$              ;NO,BRANCH
7675 045116 012737 000001 037130  MOV     #1,SELECT      ;WE NOW HAVE THE RIGHT TO TRANSMIT,IF HALF-DUPL
7676
7677 045124 032737 000040 037134  7$:  BIT     #RXM,PRFLAG    ;READ DATA MESSAGE ?
7678 045132 001071                BNE    PRIN7           ;NO,BRANCH
7679

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 189  
RECEIVER PROTOCOL INTERRUPT ROUTINE

```

7680
7681 045134 042737 000003 037046
7682 045142 052737 000040 037134
7683 045150 042737 000400 037134
7684 045156 042737 140000 002660
7685
7686
7687 045164 023727 002660 001000
7688 045172 003414
7689
7690
7691 045174 105237 037074
7692 045200 152737 000002 037075
7693 045206 112737 000020 037064
7694 045214 152737 000010 037046
7695 045222 000443
7696
7697
7698
7699 045224 005737 037114
7700 045230 001420
7701 045232 105237 037074
7702 045236 001003
7703 045240 012737 000377 037074
7704 045246 152737 000001 037075
7705 045254 112737 000010 037064
7706 045262 152737 000010 037046
7707 045270 000412
7708
7709 045272 013737 006470 011512
7710 045300 013737 002660 011514
7711 045306 013737 002660 006472
7712 045314 000413
7713
7714
7715 045316 052737 000004 037134
7716 045324 052737 000100 037046
7717
7718 045332 005037 037142
7719 045336 042777 000120 144106
7720
7721 045344 012602
7722 045346
7723 045346
7724 045346 000002
7725
7726
7727

```

```

::SET UP TO READ IN DATA PART OF MESSAGE
BIC #BCCOK!BCCBAD,PRSTAT ;CLEAR FLAGS (USED IN PROTOCOL CODE)
BIS #RXM,PRFLAG ;SET DATA MESSAGE READ FLAG
BIC #BCC,PRFLAG ;CLEAR CRC CHECKED FLAG(USED BY THIS ROUTINE)
BIC #BIT15!BIT14,RHDMCC ;CLEAR SELECT & QS BITS

::IS ALLOCATED BUFFER SPACE LARGE ENOUGH FOR MESSAGE?
CMP RHDMCC,#512. ;WILL MESSAGE FIT IN MAX BUFFER SPACE
BLE 10$ ;YES,BRANCH

::MESSAGE TOO LONG !! LOG ERROR
INCB LBUFER ;LOG LOCAL BUFFER ERROR
BISB #MTLMSK,LBMASK ;SET MESSAGE TOO LONG BIT
MOVB #MESLONG,REANAK ;SET REASON FOR NAK
BISB #SNAK,PRSTAT ;SET SEND NAK FLAG
OR PRIN8 ;TURN OFF RX & EXIT

:: IF A NEW BUFFER IS AVAILABLE
::SET BUFFER AND CHARACTER COUNT FOR MESSAGE
10$: TST RXPRC ;IS RX PROTOCOL DONE?
BEQ 15$ ;NO,BRANCH
INCB LBUFER ;LOCAL BUFFER ERROR
BNE 12$ ;OVERFLOW?
MOV #377,LBUFER ;LATCH A 256.
12$: BISB #BNAMSK,LBMASK ;SET MASK
MOVB #BUFFNA,REANAK ;SET NAK REASON
BISB #SNAK,PRSTAT ;SET "SEND NAK FLAG"
BR PRIN7 ;EXIT

15$: MOV DVRXA,RMSGPT ;MESSAGE BUFFER ADDRESS
MOV RHDMCC,RMSGCC ;CHARACTER COUNT OF MESSAGE
MOV RHDMCC,DVRCC ;TELL MAIN CODE HOW LARGE MESSAGE IS
BR PRINEX ;EXIT

::MESSAGE COMPLETE
PRIN7: BIS #QRX,PRFLAG ;SET MESSAGE COMPLETE FLAG(USED BY MAIN CODE)
BIS #RXD,PRSTAT ;MESSAGE COMPLETE(USED BY PROTOCOL MODULE)

PRIN8: CLR TURNON ;RX NOT ON
BIC #RINTEN+RXENA,@RXCSR ;TURN OFF RECEIVER

PRINEX: MOV (SP)+,R2 ;RESTORE R2
ENDSRV

```

L10022:  
RTI



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 190  
RECEIVER PROTOCOL INTERRUPT ROUTINE

.SBTTL PROTOCOL TRANSMIT ROUTINE

::+  
::: FUNCTIONAL DESCRIPTION:  
::: THIS ROUTINE IS USED TO SETUP EITHER CONTROL MESSAGES OR  
::: DATA MESSAGES FOR TRANSMISSION.  
::: IF THE SEND ACK(SACK) IS SET AN 'ACK' MESSAGE WILL BE SETUP  
::: AND TRANSMITTED.  
::: IF THE SEND NAK(SNAK) IS SET A 'NAK' MESSAGE WILL BE SETUP  
::: AND TRANSMITTED.  
::: IF NO FLAGS ARE SET, A DATA MESSAGE WILL BE SETUP AND SENT.  
::: IF THE NETWORK IS HALF-DUPLEX THEN REQUEST TO SEND(RTS) WILL  
::: BE ASSERTED BEFORE TRANSMISSION.

7728  
7729  
7730  
7731  
7732  
7733  
7734  
7735  
7736  
7737  
7738  
7739  
7740  
7741  
7742  
7743  
7744  
7745 045350 013737 037046 037132  
7746 045356 032737 000100 006574  
7747 045364 001407  
7748 045366 022737 000003 006566  
7749 045374 001003  
7750 045376 005737 037122  
7751 045402 001775  
7752  
7753  
7754  
7755 045404 005737 037136  
7756 045410 001416  
7757 045412 005737 037130  
7758 045416 001003  
7759 045420 004737 042100  
7760 045424 000772  
7761  
7762  
7763 045426 005737 006572  
7764 045432 001005  
7765  
7766 045434 042777 000120 144010  
7767 045442 005037 037142  
7768 045446 013737 037132 037046  
7769 045454 113737 037061 002652  
7770 045462 042737 001000 006600  
7771 045470 005037 037122  
7772 045474 005037 037130  
7773 045500 032737 000004 037046  
7774 045506 001021  
7775 045510 032737 000010 037046  
7776 045516 001062  
7777 045520 032737 004000 037046  
7778 045526 001106  
7779 045530 032737 002000 037046  
7780 045536 001126  
7781 045540 032737 000020 037046  
7782 045546 001151  
7783 045550 000000

TXPROT: MOV PRSTAT,IMPRSTAT :SAVE A COPY OF FLAGS  
BIT #PRORUN,PARAM :PROTOCOL RUNNING ?  
BEQ 7\$ :NO,BRANCH  
CMP #ACT,MODTYP :ACTIVE MODE?  
BNE 7\$ :NO,BRANCH  
5\$: TST TXREADY :TRANSMITTER READY FOR MESSAGE ?  
BEQ 5\$ :NO,BRANCH  
  
:: IF HALF DUPLEX OR MULTI-POINT LINK, WE NEED THE SELECT BIT  
:: BEFORE WE CAN SEND.  
7\$: TST HDXMTP :FULL DUPLEX AND PT TO PT ?  
BEQ 9\$ :YES,BRANCH  
6\$: TST SELECT :OK TO SEND ?  
BNE 8\$ :YES,BRANCH  
CALL RXPROTO :GO WAIT ON SELECT BIT  
BR 6\$ :TRY AGAIN  
  
:: DETERMINE WHAT TO SEND  
8\$: TST FHDPLX :FULL DUPLEX?  
BNE 9\$ :YES,BRANCH  
:: IF HALF DUPLEX WE MUST DISABLE RX BEFORE SENDING  
BIC #RINTEN!RXENA,@RXCSR :TURN OFF RX  
CLR TURNON :'RX NOT ON' FLAG  
9\$: MOV IMPRSTAT,PRSTAT :RESTORE ORIGINAL FLAGS  
MOVB TRIBN,HDMADR :SET TRIB ADDRESS  
BIC #PAD,FLAG :THIS BIT USED IN TX INTER ROUTINE  
CLR TXREADY :TRANSMITTER BUSY  
CLR SELECT :IF HALF DUPLEX/MTP MODE  
BIT #SACK,PRSTAT :SEND ACK ?  
BNE 10\$ :YES,BRANCH  
BIT #SNAK,PRSTAT :SEND NAK ?  
BNE 50\$ :YES, BRANCH  
BIT #SSTART,PRSTAT :SEND START ?  
BNE 60\$ :YES,BRANCH  
BIT #SSTACK,PRSTAT :SEND START ACKNOWLEDGE ?  
BNE 70\$ :YES,BRANCH  
BIT #SDATA,PRSTAT :SEND DATA MESSAGE ?  
BNE 100\$ :YES,BRANCH  
HALT :FATAL ERROR

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 191  
PROTOCOL TRANSMIT ROUTINE

```

7784
7785
7786
7787
7788 045552 052737 000020 006600 10$:  SETUP TO SEND AN 'ACK'
7789 045560 112737 000005 002645 10$:  BIS      #TXM,FLAG      ;SEND HEADER ONLY(USED IN TX INTER. ROUTINE)
7790 045566 012737 000001 002646 10$:  MOVB     #ENQ,HDMID    ;CONTROL MESSAGE
7791 045574 052737 140000 002646 10$:  MOV      #ACK,HDMTYP   ;ACK CONTROL MESSAGE
7792 045602 005737 037136 10$:  BIS      #BIT15!BIT14,HDMTYP ;SET SELECT & QS FLAG
7793 045606 001415 10$:  TST      HDXMTYP      ;HALF DUPLEX OR MULTI - POINT
7794 045610 005737 037116 10$:  BEQ      20$          ;NO,BRANCH
7795 045614 001012 10$:  TST      TXPRC        ;ANY THING TO SENT ?
7796 045616 032737 000100 006574 10$:  BNE      20$          ;NO,BRANCH
7797 045624 001406 10$:  BIT      #PRORUN,PARAM ;-ROTOCOL RUNNING?
7798 045626 042737 100000 002646 10$:  BEQ      20$          ;NO,BRANCH
7799 045634 012737 000001 037130 10$:  BIC      #BIT15,HDMTYP ;CLEAR SELECT BIT
7800 045642 113737 037060 002650 20$:  MOV      #1,SELECT    ;WE HAVE SOMETHING TO SEND, SO KEEP THE LINE
7801 045650 105037 002651 002650 20$:  MOVB     R,HDMREP     ;SET RESPONSE NUMBER
7802 045654 042737 000004 037046 20$:  CLRB     HDMNUM       ;FILLER
7803 045662 000526 20$:  BIC      #SACK,PRSTAT ;CLEAR SEND ACK FLAG
7804
7805
7806
7807 045664 052737 000020 006600 50$:  SETUP TO SEND A 'NAK'
7808 045672 112737 000005 002645 50$:  BIS      #TXM,FLAG      ;TELL TX INTERRUPT TO SEND HEADER ONLY
7809 045700 012737 000002 002646 50$:  MOVB     #ENQ,HDMID    ;CONTROL MESSAGE
7810 045706 113737 037064 002647 50$:  MOV      #NAK,HDMTYP   ;'NAK'
7811 045714 052737 140000 002646 50$:  MOVB     REANAK,HDMTYP+1 ;REASON FOR NAK
7812 045722 105037 002651 002650 55$:  BIS      #BIT15!BIT14,HDMTYP ;SET SELECT & QS FLAGS
7813 045726 113737 037060 002650 55$:  CLRB     HDMNUM       ;FILLER
7814 045734 042737 000010 037046 55$:  MOVB     R,HDMREP     ;LAST MESSAGE RECEIVED CORRECTLY
7815 045742 000476 55$:  BIC      #SNAK,PRSTAT ;CLEAR SEND NAK FLAG
7816
7817
7818
7819 045744 052737 000020 006600 60$:  SETUP TO SEND START MESSAGE
7820 045752 112737 000005 002645 60$:  BIS      #TXM,FLAG      ;TELL TX INT. ROUTINE TO SEND HEADER ONLY
7821 045760 012737 000006 002646 60$:  MOVB     #ENQ,HDMID    ;CONTROL MESSAGE
7822 045766 052737 140000 002646 60$:  MOV      #STRT,HDMTYP  ;START MESSAGE
7823 045774 105037 002650 002646 60$:  BIS      #BIT15!BIT14,HDMTYP ;SET SELECT & QS FLAGS
7824 046000 105037 002651 037046 60$:  CLRB     HDMREP       ;FILLER
7825 046004 042737 004000 037046 60$:  CLRB     HDMNUM       ;FILLER
7826 046012 000452 60$:  BIC      #SSTART,PRSTAT ;CLEAR SEND START FLAG
7827
7828
7829 046014 052737 000020 006600 70$:  SETUP TO SEND STACK MESSAGE
7830 046022 112737 000005 002645 70$:  BIS      #TXM,FLAG      ;TELL TX INT. TO SEND HEADER ONLY
7831 046030 012737 000007 002646 70$:  MOVB     #ENQ,HDMID    ;CONTROL MESSAGE
7832 046036 052737 140000 002646 70$:  MOV      #STACK,HDMTYP ;START ACKNOWLEDGE MESSAGE
7833 046044 105037 002650 002646 70$:  BIS      #BIT15!BIT14,HDMTYP ;SET SELECT & QS FLAGS
7834 046050 105037 002651 037120 70$:  CLRB     HDMREP       ;FILLER
7835 046054 012737 177777 037120 70$:  CLRB     HDMNUM       ;FILLER
7836 046062 042737 002000 037046 70$:  MOV      #-1,ASTRT    ;START HAS BEEN ACKNOWLEDGED
7837 046070 000423 70$:  BIC      #SSTACK,PRSTAT ;CLEAR SEND STACK FLAG
7838
7839

```

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 192  
PROTOCOL TRANSMIT ROUTINE

```

7840
7841 046072 042737 000020 006600 100$: BIC #TXM,FLAG ;TELL TX INTERRUPT TO SEND HEADER + DATA
7842 046100 112737 000201 002645 MOV #SOH,HDMID ;DATA MESSAGE
7843 046106 013737 006456 002646 MOV DVTCC,HLMCC ;CHARACTERS COUNT
7844 046114 052737 140000 002646 BIS #BIT15:BIT14,HDMCC ;SET SELECT & QS FLAGS
7845 046122 113737 037060 002650 MOV R,HDMREP ;LAST MESSAGE RECEIVED CORRECTLY
7846 046130 113737 037056 002651 MOV T,HDMNUM ;THIS MESSAGE NUMBER
7847 046136 000400 BR 200$ ;GO SEND IT
7848
7849
7850 046140 004737 036574 200$: JSR PC,CTSSR ;GO SET REQUEST TO SEND
7851 046144 052737 004000 037112 BIS #FIRST,IMFLAG ;TELL THE CTSSR SUBROUTINE TO SKIP DELAY
7852
7853
7854 046152 012737 002645 011502 210$: MOV #HDMID,MSGPTR ;HEADER MESSAGE ADDRESS
7855 046160 012737 000006 011504 MOV #6,MSGCC ;CHARACTER COUNT OF HEADER = 6
7856 046166 012737 000020 011506 MOV #20,SYNCC ;NUMBER OF SYNC'S TO TRANSMIT
7857
7858
7859 046174 052777 000120 143256 215$: BIS #TXENA!#TINTEN,@TXCSR ;TURN ON TRANSMITTER
7860
7861
7862
7863
7864
7865 046202 005737 037136 217$: TST HDXMT ;FULL DUPLEX PT-PT
7866 046206 001005 BNE 220$ ;NO,BRANCH
7867 046210 022737 000003 006566 CMP #ACT,MODTYP ;ACTIVE MODE ?
7868 046216 001001 BNE 220$ ;NO,BRANCH
7869 046220 000406 BR TXPREX ;EXIT
7870
7871 046222 220$: BREAK ;TRAP CSBRK
7872 046222 104422
7873 046224 005737 037122 TST TXREADY ;TX FINISHED ?
7874 046230 001774 BEQ 220$ ;NO, BRANCH
7875
7876
7877 046232 004737 037006 230$: JSR PC,CLRRTS ;IF HALF-DUPLEX OR MULTI-POINT REQUEST TO SEND WILL BE DROPPED
7878 ;DROP RTS IF HALF DUPLEX
7879 046236 004737 041774 TXPREX: CALL RXON ;TURN ON RX IF NECESSARY
7880 046242 000207 RETURN ;WE ARE DONE !
7881
7882
7883
7884
7885
7886
7887
7888
7889
7890 046244 104401 .EVEN
7891
7892
7893
7894

```

L10017: TRAP CSETST

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 193  
HARDWARE PARAMETER CODING SECTION

.SBTTL HARDWARE PARAMETER CODING SECTION

:++  
: 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.  
:--

7895							
7896							
7897							
7898							
7899							
7900							
7901							
7902							
7903							
7904							
7905							
7906							
7907	046246		BGNHRD				
7908	046246	000030				.WORD	L10023-L\$HARD/2
7909	046250					L\$HARD::	
7910							
7911							
7912			.SBTTL	DEVICE INDEPENDENT SECTION			
7913							
7914	046250		.PRML	DPLX,0,1,YES			
7915	046250	000130				.WORD	T\$CODE
7916	046252	046330				.WORD	DPLX
7917	046254	000001				.WORD	1
7918							
7919							
7920							
7921							
7922			.SBTTL	DEVICE DEPENDENT SECTION			
7923							
7924	046256		GPRMA	CSRADR,2,0,160000,177776,YES			
7925	046256	001031				.WORD	T\$CODE
7926	046260	046361				.WORD	CSRADR
7927	046262	160000				.WORD	TSLOLIM
7928	046264	177776				.WORD	T\$HILIM
7929	046266		GPRMA	VECTOR,4,0,300,776,YES			
7930	046266	002031				.WORD	T\$CODE
7931	046270	046407				.WORD	VECTOR
7932	046272	000300				.WORD	TSLOLIM
7933	046274	000776				.WORD	T\$HILIM
7934	046276		GPRML	RNODM,14,1,YES			
7935	046276	006130				.WORD	T\$CODE
7936	046300	046442				.WORD	RNODM
7937	046302	000001				.WORD	1
7938	046304		XFERT	ENDHWL			
7939	046304	012024				.WORD	T\$CODE
7940	046306		GPRML	PTPMLP,10,1,YES			
7941	046306	004130				.WORD	T\$CODE
7942	046310	046466				.WORD	PTPMLP
7943	046312	000001				.WORD	1
7944	046314		XFERF	ENDHWL			
7945	046314	006044				.WORD	T\$CODE
7946	046316		GPRMD	TRIBNQ,12,D,-1,1,255.,YES			
7947	046316	005052				.WORD	T\$CODE
7948	046320	046524				.WORD	TRIBNQ
7949	046322	177777				.WORD	-1
7950	046324	000001				.WORD	TSLOLIM

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 194  
DEVICE DEPENDENT SECTION

7951 046326 000377  
7952 046330  
7953  
7954 046330  
7955  
7956

ENDHWL: ENDHRD

.WORD TSHILIM

.EVEN

L10023:

.NLIST BEX

:DEVICE INDEPENDENT QUESTIONS

046330 052506 046114 042040 DPLX: .ASCIZ /FULL DUPLEX OPERATION : /

:DEVICE DEPENDENT QUESTION

046361 104 053105 041511 CSRADR: .ASCIZ /DEVICE CSR ADDRESS : /  
046407 111 052116 051105 VECTOR: .ASCIZ /INTERRUPT VECTOR ADDRESS: /  
046442 042522 047515 042524 RNODM: .ASCIZ /REMOTE NODE "ITEP":/  
046466 051511 052040 044510 PTPMLP: .ASCIZ /IS THIS A MULTIPOINT NETWORK:/  
046524 042101 051104 051505 TRIBNQ: .ASCIZ /ADDRESS THIS STATION:/  
.LIST BEX  
.EVEN

7957  
7958  
7959

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 195  
DEVICE DEPENDENT SECTION

:.SBTTL SOFTWARE PARAMETER CODING SECTION

:.++  
: 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

.EVEN 0  
.WORD 0  
.WORD 0

LSLAST::

ENDMOD

.END

7960  
7961  
7962  
7963  
7964  
7965  
7966  
7967  
7968  
7969  
7970  
7971  
7972  
7973  
7974  
7975  
7976  
7977  
7978  
7979  
7980  
7981  
7982  
7983 046552  
7984 046552 000030  
7985  
7986  
7987 046632  
7988  
7989 046632 000000  
7990 046634 000000  
7991 046636  
7992 046636  
7993  
7994 000001

CVCLHC DPV-11 JATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1(52) 23-MAR-82 16:43 PAGE 197  
CROSS REFERENCE TABLE -- USER SYMBOLS

A	037055	6691#	7231*	7329*	7398*						
ABO =	000026	2247#	4679								
ABORT =	00C200	2227#	4823	5565	7282						
ACK =	000001	6791#	7217	7790							
ACT =	000003	2200#	4905	5254	5334	5585	6938	7234	7408	7748	7867
ACTATV	031310	5028	5254#								
ACTBCR	031114	5046	5215#								
ACTCHK	031524	5008	5300#								
ACTCLB	030436	5104	5118#								
ACTCLP	031636	5042	5328#								
ACTCLR	030126	5006	5059#								
ACTCOP	030734	5016	5178#								
ACTCRC	031540	5037	5306#								
ACTCSE	030262	5011	5090#								
ACTCST	030354	5012	5106#								
ACTDLL	031356	5032	5268#								
ACTDME	030662	5048	5159	5162#							
ACTDMQ	030654	5049	5161#								
ACTDMS	030632	5047	5156#								
ACTDMX	030670	5163#									
ACTECH	031434	5036	5284#								
ACTEQO	031056	5020	5204#								
ACTERR	021412	3475	3514#								
ACTEXT	030212	5052	5078#								
ACTFUL	021370	3476	3508#								
ACTHLP	030146	5010	5065#								
ACTLIS	031346	5031	5265#								
ACTLLP	031646	5043	5330#								
ACTLPX	031664	5325	5327	5329	5331	5334#					
ACTLXX	031726	5298	5319	5322	5335	5344#					
ACTMEX	031302	5197	5213	5235	5240	5246	5249	5251#			
ACTME1	031236	5224	5226	5228	5230	5232	5239#				
ACTMOP	031616	5040	5324#								
ACTMOS	031546	5051	5309#								
ACTMS0	031136	5021	5223#								
ACTMS1	031144	5022	5225#								
ACTMS2	031154	5023	5227#								
ACTMS3	031164	5024	5229#								
ACTMS4	031174	5025	5231#								
ACTMS5	031204	5026	5233#								
ACTMS6	031222	5027	5236#								
ACTM2X	031404	5255	5263	5266	5269	5272	5276#				
ACTNO	031424	5035	5281#								
ACTNUF	030116	5045	5056#								
ACTNUL	030124	5005	5057#								
ACTNUM	030744	5017	5181#								
ACTOPM	031036	5016	5199#								
ACTPAS	031320	5029	5257#								
ACTPRO	031554	5038	5312#								
ACTPRT	030222	5050	5081#								
ACTQFG	031560	5301	5304	5307	5310	5314#					
ACTREC	031340	5030	5262#								
ACTREX	021344	3473	3499#								
ACTRHL	021300	3472	3485#								
ACTRLG	021354	3474	3503#								
ACTRLP	031656	5044	5332#								

ENCLOSURE

























CVCLHC DPV-11 DATA COM. : INK TEST  
CVCLHC.P11 22-MAR-82 11:07

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 208  
CROSS REFERENCE TABLE -- USER SYMBOLS

LOGDVI	020176	3296#	5385						
LOGEOP	020316	3311#	5601						
LOGEX	020606	3328	5575#						
LOGMSC	020334	3317#	632	7623					
LOGRXC	020150	3282#	557	5944					
LOGRXQ	020132	3277#	5549	5938					
LOGS1	020352	3270	3275	3280	3284	3323#			
LOGS2	020600	3369	3373#						
LOGS3	020404	3288	3297	3302	3306	3310	331	3320	3332#
LOGS4	020460	3340	3349#						
LOGS5	020504	3334	3336	3357#	4683				
LOGTXC	020114	3272#	5616	5891					
LOGTXQ	020076	3267#	5560	5877					
LOGUNT	006556	2632#	4566*	4568*	4569	4573			
LOOPS	003120	2553#	4121						
LOSTER	037102	6737#	7307*	7636*					
LOT =	000010	2172#							
LP0	013714	2553	3018#	4120					
LP00	013715	3018#	4117						
LP1	013714	2554	3018#						
LP2	013715	2555	3018#						
LP3	013743	2556	3018#						
LP4	013756	2557	3018#						
LSMASK	037103	6738#	7308*	7637*					
LSACP	002110	2039#							
LSAPT	002036	1997#							
LSAU	026332	2024	4727#						
LSAUT	002070	2023#							
LSAUTO	026234	2040	4655#						
LSCCP	002106	2037#							
LSCLEA	026236	2038	4669#						
LSO	002032	1993#							
LSDEPO	002011	1975#							
LSESC	011536	2030	3004#						
LSLESP	002076	2029#							
LSLEVP	002060	2015#							
LSLSP	002124	2000	2059#						
LSDLY	002116	2045#							
LSDT	002040	1999#							
LSDTA	002034	1995#							
LSDU	026234	2026	4705#						
LSDUT	002072	2025#							
LSDVTY	011526	2016	2994#						
LSEF	002052	2010#							
LSENV1	002044	2003#							
LSETP	002102	2033#							
LSEXP1	002046	2005#							
LSEXP4	002064	2019#							
LSEXP5	002066	2021#							
LSHARD	046250	1982	7908	7909#					
LSHIME	002120	2047#							
LSHPCP	002016	1981#							
LSHPTP	002022	1985#							
LSHW	002130	1986	2072	2073#					
LSICP	002104	2035#							
LSINIT	025350	2036	4471#						





CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16.43 PAGE 211  
CROSS REFERENCE TABLE -- USER SYMBOLS

NOD107	010712	2865#
NOD11	010002	2786#
NOD110	010716	2867#
NOD111	010732	2868#
NOD112	010736	2870#
NOD113	010752	2871#
NOD114	010756	2874#
NOD115	010762	2877#
NOD116	010776	2878#
NOD117	011002	2879#
NOD12	010014	2787#
NOD120	011020	2880#
NOD121	011024	2881#
NOD122	011040	2882#
NOD123	011044	2883#
NOD124	011060	2884#
NOD125	011064	2885#
NOD126	011100	2886#
NOD127	011104	2887#
NOD13	010020	2788#
NOD130	011120	2888#
NOD131	011124	2889#
NOD132	011140	2890#
NOD133	011144	2891#
NOD134	011164	2892#
NOD135	011170	2894#
NOD136	011174	2895#
NOD137	011200	2896#
NOD14	010034	2789#
NOD140	011204	2897#
NOD141	011210	2898#
NOD142	011214	2899#
NOD143	011220	2900#
NOD144	011222	2903#
NOD145	011226	2904#
NOD146	011232	2905#
NOD147	011246	2906#
NOD15	010040	2790#
NOD150	011252	2907#
NOD151	011266	2908#
NOD152	011272	2911#
NOD153	011276	2912#
NOD154	011302	2913#
NOD155	011306	2916#
NOD156	011312	2919#
NOD157	011334	2920#
NOD16	010054	2791#
NOD160	011340	2921#
NOD161	011354	2922#
NOD162	011360	2923#
NOD163	011402	2924#
NOD164	011406	2925#
NOD165	011430	2926#
NOD166	011434	2929#
NOD167	011440	2930#
NOD17	010060	2792#

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 212  
CROSS REFERENCE TABLE -- USER SYMBOLS

NOD170	011444	2931#
NOD171	011450	2936#
NOD172	021030	3444#
NOD173	021034	3445#
NOD174	021040	3446#
NOD175	021042	3447#
NOD176	021056	3448#
NOD177	021060	3449#
NOD2	007726	2779#
NOD20	010064	2793#
NOD200	021074	3450#
NOD201	021076	3451#
NOD202	021110	3452#
NOD203	021112	3453#
NOD204	021132	3454#
NOD205	021136	3455#
NOD206	021142	3456#
NOD207	021156	3457#
NOD21	010076	2794#
NOD210	021160	3458#
NOD211	021174	3459#
NOD212	021176	3460#
NOD213	021214	3461#
NOD214	021220	3462#
NOD215	021224	3463#
NOD216	021226	3464#
NOD217	021230	3465#
NOD22	010102	2795#
NOD23	010114	2796#
NOD24	010120	2797#
NOD25	010122	2801#
NOD26	010126	2802#
NOD27	010142	2803#
NOD3	007730	2780#
NOD30	010146	2804#
NOD31	010164	2805#
NOD32	010170	2806#
NOD33	010206	2807#
NOD34	010212	2808#
NOD35	010230	2809#
NOD36	010234	2810#
NOD37	010252	2811#
NOD4	007744	2781#
NOD40	010256	2812#
NOD41	010302	2813#
NOD42	010306	2814#
NOD43	010312	2815#
NOD44	010330	2816#
NOD45	010334	2817#
NOD46	010346	2818#
NOD47	010352	2822#
NOD5	007746	2782#
NOD50	010356	2823#
NOD51	010400	2824#
NOD52	010402	2825#
NOD53	010426	2826#



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 214  
CROSS REFERENCE TABLE -- USER SYMBOLS

N20\$	010060	2790	2791#											
N25\$	010102	2793	2794#											
N30\$	010120	2792	2795	2796#	2801	2802	2803	2814	2817	2822	2825	2831	2834	2840
		2842	2844	2864	2870	2874	2894	2907	2911	2912	2916	2925	2929	2930
N40\$	010040	2788	2789#											
N42\$	007730	2778	2779#											
N43\$	007746	2780	2781#											
N44\$	007764	2782	2783#											
N45\$	010002	2784	2785#											
N46\$	010020	2786	2787#											
N50\$	010502	2789	2837#											
N51\$	010506	2838#												
N52\$	010512	2839#												
N60\$	010762	2876#												
N61\$	011002	2877	2878#											
N62\$	011024	2879	2880#											
N63\$	011044	2881	2882#											
N64\$	011064	2883	2884#											
N65\$	011104	2885	2886#											
N66\$	011124	2887	2888#											
N67\$	011144	2889	2890#											
N68\$	011170	2891	2893#											
N70\$	011174	2894#	2899											
N71\$	011204	2895	2896#											
N72\$	011210	2897#												
N73\$	011220	2898	2899#											
N80\$	010122	2787	2800#											
N81\$	010126	2801#												
N82\$	010170	2804	2805#											
N83\$	010212	2806	2807#											
N84\$	010234	2808	2809#											
N85\$	010256	2810	2811#											
N86\$	010306	2812	2813#											
N87\$	010334	2815	2816#											
OF SET	006532	2618#	3027	5705*	5722*									
OPBFPT	002514	2471#	5948											
OPBUF	002520	2413	2472#	5209	5852	5859	5867	5873	5874	5892	5894	5926	5927	5953
		5955												
OPCNT	002166	2400#	5207*	5871*	5875	5876								
OPEND	002642	2473#	5854											
OPRMM	014056	3018#	5861											
OPRMSG=	000015	2299#	2894											
OPVAK	006502	2602#	4680	5373*	5798	6122*	7456*							
OTINT =	000002	2252#												
OUTMAS	037071	6711#	7501*	7510*										
OUTVEC	011466	2951#	4597*	4598*	4627									
OSAPTS=	000000	1945#	1991											
OSAU =	000001	1945#	1958#	2023										
OSBGNR=	000001	1945#	1958#	2017										
OSBGNS=	000000	1945#	1983											
OSDU =	000001	1945#	1958#	2025										
OSERRT=	000000	1945#	2033											
OSGNSW=	000000	1945#	1987											
OSPOIN=	000001	1945#	1958#	2049										
OSSETU=	000000	1945#	1977	7989										
PAD =	001000	2265#	6086	6239	6485	6504	6550	7770						











CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 219  
CROSS REFERENCE TABLE -- USER SYMBOLS

SETEXP= 000010	2294#	2832	4904	5168	5243									
SETTRN= 000011	2295#	2834	5171											
SHFO 014501	3018#	4128												
SHF1 014537	3018#	4164												
SHMSG 013507	3018#	5141												
SHOW = 000002	2288#	2793	4902	5062	5095	5109								
SHTAB 003072	2539#	5129	5135											
SHTEND 003101	2542#	5132												
SHTYP0 013543	2532	3018#												
SHTYP1 013552	2532	3018#												
SHTYP2 013557	2532	3018#												
SHTYP3 013564	2532	3018#												
SHTYP4 013571	2532	3018#												
SHTYP5 013577	2532	3018#												
SHTYP6 013604	2532	3018#												
SHTYP7 013612	2532	3018#												
SHTYTB 003052	2532#	5140												
SHWOP 023712	3719	4112#	4828	5153										
SIZE = 000012	2296#	2905	5175	5181										
SMSC 016660	3018#	3318												
SNAK = 000010	6803#	7160	7169	7262	7306	7360	7373	7552	7635	7694	7706	7775	7814	
SOH = 000201	6784#	7842												
SPARE0 037106	6743#													
SPARE1 037107	6744#													
SQD = 000040	2355#	2698												
SRXQ 016561	3018#	3278												
SSTACK= 002000	6808#	7277	7779	7836										
SSTART= 004000	6809#	6925	7777	7825										
STACK = 000007	6795#	7297	7831											
STADD 006510	2605#	3861	5156*											
STAIND 037206	3556	6842#												
STALST 037146	3554	6819#												
STAPRI 021540	3510	3516	3530	3543#										
START 025444	4485	4504#												
STATB = 000001	2220#	3335	4136	5303										
STATUS= 000016	2300#	2856												
STA0A 037256	6819	6868#												
STA1A 037305	6820	6868#												
STA10A 040003	6827	6868#												
STA11A 040065	6828	6868#												
STA12A 040162	6829	6868#												
STA13A 040256	6830	6868#												
STA14A 040354	6831	6868#												
STA15A 040452	6832	6868#												
STA16A 040540	6833	6868#												
STA17A 040625	6834	6868#												
STA2A 037343	6821	6868#												
STA3A 037377	6822	6868#												
STA4A 037471	6823	6868#												
STA5A 037555	6824	6868#												
STA6A 037635	6825	6868#												
STA7A 037721	6826	6868#												
STRT = 000006	6794#	7273	7821											
STXC 016550	3018#	3273												
STXQ 016537	3018#	3268												
SVCSEL= 000000	1945#	1964	1973	1975	1977	1979	1981	1983	1985	1987	1989	1991	1993	

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 220  
CROSS REFERENCE TABLE -- USER SYMBOLS

SVCINS= 000001

1995	1997	1999	2001	2003	2005	2007	2010	2013	2015	2017	2019	2021
2023	2025	2027	2029	2031	2033	2035	2037	2039	2041	2043	2045	2047
2059	2073	2074	2994	3004	3021	3038	3051	3065	3085	3104	3203	4435
4455	4471	4655	4669	4705	4727	6339	6477	7598	7909	7991#	7992	
1945#	1965	1966	1967	1968	1969	1970	1971	1972	1974	1976	1978	1980
1982	1984	1986	1988	1990	1992	1994	1996	1998	2000	2002	2004	2006
2008	2009	2011	2012	2011	2016	2018	2020	2022	2024	2026	2028	2030
2032	2034	2036	2038	2040	2042	2044	2046	2048	2058	2060	2072	2995
2997	3005	3010	3023	3024	3025	3026	3027	3028	3029	3030	3031	3032
3035	3040	3041	3042	3043	3044	3045	3048	3053	3054	3055	3056	3057
3058	3059	3062	3067	3068	3069	3070	3071	3072	3073	3076	3087	3088
3089	3090	3091	3092	3093	3096	3106	3107	3108	3109	3110	3111	3112
3113	3116	3119	3120	3229	3344	3345	3346	3347	3348	3352	3353	3354
3355	3356	3390	3391	3392	3393	3394	3401	3402	3403	3404	3405	3406
3407	3408	3418	3419	3420	3421	3422	3428	3429	3430	3431	3432	3487
3488	3489	3490	3491	3492	3533	3534	3535	3536	3537	3547	3548	3549
3550	3551	3567	3568	3569	3570	3571	3572	3578	3579	3580	3581	3582
3583	3584	3585	3586	3603	3604	3605	3606	3607	3608	3609	3610	3611
3612	3613	3614	3615	3634	3635	3636	3637	3638	3657	3658	3659	3660
3661	3667	3668	3669	3670	3671	3672	3673	3674	3675	3682	3683	3684
3685	3686	3687	3688	3696	3697	3698	3699	3700	3701	3703	3704	3705
3706	3707	3708	3709	3729	3730	3731	3732	3733	3734	3735	3736	3745
3746	3747	3748	3749	3750	3751	3752	3760	3761	3762	3763	3764	3765
3766	3767	3777	3778	3779	3780	3781	3782	3786	3787	3788	3789	3790
3806	3807	3808	3809	3810	3826	3827	3828	3829	3830	3864	3865	3866
3867	3868	3869	3874	3875	3876	3877	3878	3879	3880	3883	3884	3885
3886	3887	3888	3928	3929	3930	3931	3932	4124	4125	4126	4127	4128
4129	4130	4131	4132	4159	4150	4161	4162	4163	4164	4165	4166	4167
4168	4310	4311	4312	4313	4314	4353	4354	4355	4356	4357	4446	4478
4482	4483	4485	4487	4488	4490	4492	4493	4495	4498	4499	4501	4509
4510	4511	4513	4519	4520	4521	4523	4532	4534	4539	4540	4541	4542
4543	4544	4545	4546	4551	4552	4553	4554	4555	4573	4574	4575	4577
4608	4609	4610	4611	4612	4613	4618	4619	4620	4621	4622	4623	4625
4626	4627	4628	4629	4630	4633	4634	4636	4637	4644	4660	4673	4674
4686	4688	4689	4696	4709	4710	4717	4731	4732	4739	4769	4770	4771
4772	4773	4811	4812	4813	4814	4815	4817	4818	4819	4820	4821	4822
4831	4833	4837	4838	4847	4848	4849	4850	4851	4852	4853	4854	4864
4865	4866	4867	4868	4873	4874	4875	4876	4877	4897	4898	4910	4911
4912	4913	4914	4915	4925	4926	4927	4928	4929	4930	4951	4952	4953
4954	4955	4956	4967	4968	4969	4970	4971	4972	5067	5068	5069	5070
5071	5072	5139	5140	5141	5142	5143	5144	5145	5186	5187	5188	5189
5190	5216	5217	5218	5219	5220	5290	5291	5292	5293	5294	5339	5340
5341	5342	5343	5356	5357	5358	5359	5360	5698	5699	5700	5701	5716
5717	5718	5719	5729	5730	5731	5732	5772	5773	5774	5775	5824	5825
5826	5827	5828	5857	5858	5859	5860	5861	5862	5863	5864	5921	5922
5923	5924	5925	5948	5949	5950	5951	5952	6003	6014	6015	6016	6017
6051	6052	6053	6054	6057	6095	6118	6119	6120	6121	6259	6271	6272
6273	6274	6393	6394	6395	6396	6418	6419	6420	6421	6440	6509	6559
6599	6617	6631	6632	6633	6634	6903	6904	6905	6906	6907	6908	7137
7286	7287	7288	7289	7290	7452	7453	7454	7455	7470	7471	7472	7473
7724	7872	7890	7908	7915	7916	7917	7925	7926	7927	7928	7930	7931
7932	7933	7935	7936	7937	7939	7941	7942	7943	7945	7947	7948	7949
7950	7951	7953	7988	7989	7990							
1945#												
1945#	2100	3034	3047	3061	3075	3095	3115	3228	3409	4445	4547	4643
4659	4695	4716	4738	4855	5865	6439	6508	7723	7889	7954		

SVCSUB= 000001  
SVCTAG= 000001



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 222  
CROSS REFERENCE TABLE -- USER SYMBOLS

TRIBN	037061	4603*	4605*	6698#	7080	7085*	7181	7668	7769					
TRIBNQ	046524	7948	7956#											
TRVACT	024364	4223	4234#	4250	4255	4260	4263	4283	4349	4372	4393	4417		
TRVALN	025156	4212	4376#											
TRVALP	025112	4211	4362#											
TRVBIF	024470	4208	4263#											
TRVBR	024460	4207	4260#											
TRVBRC	024404	4221	4241#	4261	4266	4285	4359	4374	4395	4421				
TRVDEC	024564	4214	4288#											
TRVERR	024122	4205	4250#											
TRVEXI	024442	4206	4255#											
TRVNMA	024604	4289	4292#											
TRVNOB	024414	4246#	4267	4284	4350	4373	4394							
TRVNUM	024576	4210	4291#											
TRVOCT	024576	4213	4290#											
TRVSPA	024512	4209	4269#											
TRVSTR	025244	4215	4399#											
TSOM =	000400	2374#	6484											
TTL =	000001	2206#	4839	6024										
TTL =	000010	2371#	6023	6026										
TTLLOP=	000044	2322#	2919											
TTOTCC	006464	2593#	4084	4781*	4906	4917	4940*	5112*						
TURNON	037142	6758#	6918*	7098	7111*	7718*	7767*							
TXACT =	000002	2369#												
TXBUF	003150	2572#	4052	4791	5115									
TXC =	000002	2237#	3274											
TXCSR	011460	2946#	4591*	4592*	5998*	6010	6023*	6026*	6047	6091*	6153	6254*	6267	6350
		6488*	6554*	6627	7466	7611	7859*							
TXENA =	000020	2372#	6091	6254	6554	7859								
TXINEX	036440	6483	6491	6496	6503	6506#								
TXIN1	036300	6480	6484#											
TXIN2	036346	6486	6492#											
TXIN3	036432	6499	6504#											
TXM =	000020	2259#	6072	6239	6243	6498	6500	7788	7807	7819	7829	7841		
TXMTOT	006462	2592#	4072	4797*	4919*	4921	4942*	5107	5111*	5353	5438	5461	5486	
TXONLY	032240	2657	5436#											
TXON2	032246	5437#												
TXPRC	037116	6748#	6896*	6948	6971	7000	7003*	7027*	7040	7051	7233*	7284*	7322	7331*
		7400*	7410	7794										
TXPREX	046236	7869	7879#											
TXPROT	045350	6926	6946*	6969*	6998*	7016*	7049*	7163	7177	7213	7258	7269	7278	7300
		7310	7346*	7365	7379	7402	7745#							
TXPTR	006442	2583#	4065*	4067*	4068	4077*	4079	4784*	4795	4920*	4934*	4935	4939*	5113*
		5114	5365*	5437	5462	5487								
TXQ =	000000	2236#	269											
TXREAD	037122	6490*	6750#	6894*	6979	7750	7771*	7873						
TXTHER	037067	6708#	7228*	7485	7487*	7490*								
TSARGC=	000001	1965#	1966#	1967#	1968#	1969#	1970#	3023#	3032	3040#	3045	3053#	3059	3067#
		3073	3087#	3093	3106#	3113	3344#	3348	3352#	3356	3390#	3394	3418#	3422
		3428#	3432	3487#	3492	3533#	3537	3547#	3551	3567#	3572	3578#	3586	3603#
		3615	3634#	3638	3657#	3661	3667#	3675	3682#	3688	3696#	3701	3703#	3709
		3729#	3736	3745#	3752	3760#	3767	3777#	3782	3786#	3790	3806#	3810	3826#
		3830	3864#	3869	3874#	3880	3883#	3888	3928#	3932	4124#	4132	4159#	4168
		4310#	4314	4353#	4357	4551#	4555	4769#	4773	4811#	4815	4864#	4868	4873#
		4877	4910#	4915	4925#	4930	4951#	4956	4967#	4972	5067#	5072	5139#	5145
		5186#	5190	5216#	5220	5290#	5294	5339#	5343	5356#	5360	5824#	5828	5921#









CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 227  
CROSS REFERENCE TABLE -- MACRO NAMES

ENDMOD	1#	1945#	7992													
ENDMSG	1#	1945#	3033	3046	3060	3074	3094	3114								
ENDPRO	1#	1945#	4461													
ENDPTA	1#	1945#														
ENDRPT	1#	1945#	4444													
ENDSEG	1#	1945#														
ENDSET	1#	1945#														
ENDSFT	1#	1945#														
ENDSRV	1#	1945#	3227	6438	6507	7722										
ENDSUB	1#	1945#														
ENDSW	1#	1945#														
ENDTST	1#	1945#	7888													
EQUALS	1#	1945#	2116													
ERRDF	1#	1945#														
ERRHRD	1#	1945#														
ERROR	1#	1945#														
ERRSF	1#	1945#														
ERRSOF	1#	1945#	5697	5715	5728	5771	6013	6050	6117	6270	6392	6417	6630	7451	7469	
ERRTBL	1#	1945#														
ESCAPE	1#	1945#														
EXIT	1#	1945#	3118	4635	4687	4708	4730	4836	4896							
FEQUAL	1#	1945#														
GETBYT	1#	1945#														
GETPRI	1#	1945#														
GETWOR	1#	1945#														
GMANIA	1#	1945#														
GMANID	1#	1945#	3400	4538	4846	5856										
GMANIL	1#	1945#														
GPHARD	1#	1945#	4572													
GPRMA	1#	1945#	7924	7929												
GPRMD	1#	1945#	3401#	3404	4539#	4542	4847#	4850	5857#	5860	7946					
GPRML	1#	1945#	7914	7934	7940											
HEADER	1#	1945#	1963													
INLOOP	1#	1945#														
IOSETU	1#	1945#														
IOSTAR	1#	1945#														
KT11	1#	1945#														
LASTAD	1#	1945#	7987													
MANUAL	1#	1945#	4830													
MEMORY	1#	1945#														
MSBYTE	1#	1945#	1964#	1970	1971	1972										
MSCHEC	1#	1945#	3119#	4636#	4688#	4709#	4731#	4837#	4897#							
MSCNTO	1#	1945#	3404#	4542#	4850#	5860#	7915#	7925#	7930#	7935#	7941#	7947#				
MSCOUN	1#	1945#	3023#	3040#	3053#	3067#	3087#	3106#	3344#	3352#	3390#	3418#	3428#	3487#	3533#	
	3547#	3567#	3578#	3603#	3634#	3657#	3667#	3682#	3696#	3703#	3729#	3745#	3760#	3777#	3786#	
	3806#	3826#	3864#	3874#	3883#	3928#	4124#	4159#	4310#	4353#	4551#	4769#	4811#	4864#	4873#	
	4910#	4925#	4951#	4967#	5067#	5139#	5186#	5216#	5290#	5339#	5356#	5824#	5921#	5948#	7286#	
MSDATA	1#	1945#	1964#	1973	1975	1977	1979	1981	1983	1985	1987	1989	1991	1993	1995	
	1997	1999	2001	2003#	2005	2007	2010	2013	2015	2017	2019	2021	2023	2025	2027	
	2029	2031	2033	2035	2037	2039	2041	2043	2045	2047	2994#	3004#				
MSDECR	1#	1945#	2100#	3034#	3047#	3061#	3075#	3095#	3115#	3228#	4445#	4462#	4643#	4659#	4695#	
	4716#	4738#	6439#	6508#	7723#	7889#	793#	7993#								
MSDEFA	1#	1945#	3404#	4542#	4850#	5860#	7915#	7925#	7930#	7935#	7941#	7947#				
MCENDE	1#	1945#	2100#	3034#	3047#	3061#	3075#	3095#	3115#	3228#	4445#	4643#	4659#	4695#	4716#	
	4738#	6439#	6508#	7723#	7889#	7953#	7993#									
MSERRI	1#	1945#	5698#	5716#	5729#	5772#	6014#	6051#	6118#	6271#	6393#	6418#	6631#	7452#	7470#	



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 229  
CROSS REFERENCE TABLE -- MACRO NAMES

	5217#	5218	5219#	5220	5240#	5291#	5292	5293#	5294	5339#	5340#	5341	5342#	5343	5356#
	5357#	5358	5359#	5360	5698#	5699#	5700#	5701#	5716#	5717#	5718#	5719#	5729#	5730#	5731#
	5732#	5772#	5773#	5774#	5775#	5824#	5825#	5826	5827#	5828	5857#	5858#	5859#	5860#	5861
	5862	5863	5864	5921#	5922#	5923	5924#	5925	5948#	5949#	5950	5951#	5952	6003#	6014#
	6015#	6016#	6017#	6051#	6052#	6053#	6054#	6057#	6095#	6118#	6119#	6120#	6121#	6259#	6271#
	6272#	6273#	6274#	6393#	6394#	6395#	6396#	6418#	6419#	6420#	6421#	6439#	6440	6508#	6509
	6559#	6599#	6617#	6631#	6632#	6633#	6634#	6903#	6904#	6905#	6906#	6907#	6908	7137#	7286#
	7287#	7288	7289#	7290	7452#	7453#	7454#	7455#	7470#	7471#	7472#	7473#	7723#	7724	7872#
	7890#	7908#	7915#	7916	7917	7925#	7926	7927	7928	7930#	7931	7932	7933	7935#	7936
	7937	7939#	7941#	7942	7943	7945#	7947#	7948	7949	7950	7951	7953#	7988#	7989#	7990#
MSGNLS	1#	1945#	3401#	3409	4539#	4547	4847#	4855	5857#	5865					
MSGNSU	1#	1945#													
MSGNTA	1#	1945#	2100#	3034#	3047#	3061#	3075#	3095#	3115#	3228#	4445#	4643#	4659#	4695#	4716#
	4738#	6439#	6508#	7723#	7889#	7953#	7954								
MSGNTE	1#	1945#	4754#												
MSHAPT	1#	1945#	1964#												
MSHNAP	1#	1945#	1964#	2003											
MSINCR	1#	1945#	1947#	2072#	3021#	3031#	3035#	3038#	3044#	3048#	3051#	3058#	3062#	3065#	3072#
	3076#	3085#	3092#	3096#	3104#	3112#	3116#	3203#	3347#	3355#	3393#	3401#	3410	3421#	3431#
	3491#	3536#	3550#	3571#	3585#	3614#	3637#	3660#	3674#	3687#	3700#	3708#	3735#	3751#	3766#
	3781#	3789#	3809#	3829#	3868#	3879#	3887#	3931#	4131#	4167#	4313#	4356#	4435#	4446#	4455#
	4471#	4478#	4483#	4488#	4493#	4499#	4510#	4520#	4532#	4539#	4548	4554#	4574#	4612#	4622#
	4629#	4634#	4636#	4644#	4655#	4660#	4669#	4674#	4686#	4688#	4695#	4705#	4717#	4727#	4739#
	4754#	4755#	4772#	4814#	4821#	4831#	4837#	4847#	4856	4867#	4876#	4897#	4914#	4929#	4955#
	4971#	5071#	5144#	5189#	5219#	5293#	5342#	5359#	5698#	5716#	5729#	5772#	5827#	5857#	5866
	5924#	5951#	6003#	6014#	6051#	6057#	6095#	6118#	6259#	6271#	6339#	6393#	6418#	6477#	6559#
	6599#	6617#	6631#	6907#	7137#	7289#	7452#	7470#	7598#	7872#	7890#	7908#			
MSIOSE	1#	1945#													
MSLDRO	1#	1945#	4482#	4487#	4492#	4498#	4509#	4519#	4573#	4633#	4673#				
MSMASK	1#	1945#													
MSMCHI	1#	1945#													
MSMCLO	1#	1945#													
MSMSK1	1#	1945#													
MSPOP	1#	1945#	2100#	3034#	3047#	3061#	3075#	3095#	3115#	3228#	4445#	4462#	4643#	4659#	4695#
	4716#	4738#	6439#	6508#	7723#	7889#	7953#	7993#							
MSPRIN	1#	1945#	3023#	3040#	3053#	3067#	3087#	3106#	3344#	3352#	3390#	3418#	3428#	3487#	3533#
	3547#	3567#	3578#	3603#	3634#	3657#	3667#	3682#	3696#	3703#	3729#	3745#	3760#	3777#	3786#
	3806#	3826#	3864#	3874#	3883#	3928#	4124#	4159#	4310#	4353#	4551#	4769#	4811#	4864#	4873#
	4910#	4925#	4951#	4967#	5067#	5139#	5186#	5216#	5290#	5339#	5356#	5824#	5921#	5948#	7286#
MSPUSH	1#	1945#	1947#	2072#	3021#	3038#	3051#	3065#	3085#	3104#	3203#	4435#	4455#	4471#	4655#
	4669#	4705#	4727#	4754#	4755	6339#	6477#	7598#	7908#						
MSPUT	1#	1945#	3023#	3040#	3053#	3067#	3087#	3106#	3344#	3352#	3390#	3418#	3428#	3487#	3533#
	3547#	3567#	3578#	3603#	3634#	3657#	3667#	3682#	3696#	3703#	3729#	3745#	3760#	3777#	3786#
	3806#	3826#	3864#	3874#	3883#	3928#	4124#	4159#	4310#	4353#	4551#	4608#	4618#	4625#	4769#
	4811#	4817#	4864#	4873#	4910#	4925#	4951#	4967#	5067#	5139#	5186#	5216#	5290#	5339#	5356#
	5824#	5921#	5948#	6903#	7286#										
MSPUT1	1#	1945#	3023#	3025	3027	3028	3029	3040#	3041	3042	3053#	3054	3055	3056	3067#
	3068	3069	3070	3087#	3088	3089	3090	3106#	3107	3108	3109	3110	3344#	3345	3352#
	3353	3390#	3391	3418#	3419	3428#	3429	3487#	3488	3489	3533#	3534	3547#	3548	3567#
	3568	3569	3578#	3580	3582	3583	3603#	3605	3607	3609	3611	3612	3634#	3635	3657#
	3658	3667#	3668	3669	3670	3671	3672	3682#	3683	3684	3685	3696#	3697	3698	3703#
	3704	3705	3706	3729#	3730	3731	3732	3733	3745#	3746	3747	3748	3749	3760#	3761
	3762	3763	3764	3777#	3778	3779	3786#	3787	3806#	3807	3826#	3827	3864#	3865	3866
	3874#	3876	3877	3883#	3884	3885	3928#	3929	4124#	4125	4126	4127	4128	4129	4159#
	4160	4161	4162	4163	4164	4165	4310#	4311	4353#	4354	4551#	4552	4608#	4609	4610
	4611	4618#	4619	4620	4621	4625#	4626	4627	4628	4769#	4770	4811#	4812	4817#	4818



CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 230  
CROSS REFERENCE TABLE -- MACRO NAMES

	4819	4820	4864#	4865	4873#	4874	4910#	4911	4912	4925#	4926	4927	4951#	4952	4953
	4967#	4968	4969	5067#	5068	5069	5139#	5140	5141	5142	5186#	5187	5216#	5217	5290#
	5291	5339#	5340	5356#	5357	5824#	5825	5921#	5922	5948#	5949	6903#	6904	6905	6906
	7286#	7287													
MSRADI	1#	1945#	3404#	4542#	4850#	5860#	7915#	7925#	7930#	7935#	7941#	7947#			
MSRBRO	1#	1945#													
MSRNRO	1#	1945#	4509#	4511	4519#	4521	4573#	4575							
MSSETS	1#	1945#	1947#	2072#	3021#	3038#	3051#	3065#	3085#	3104#	3203#	4435#	4455#	4471#	4655#
	4669#	4705#	4727#	4755#	6339#	6477#	7598#	7908#							
MSSTAR	1#	1945#													
MS SVC	1#	1945#	3023#	3031	3034#	3035	3040#	3044	3047#	3048	3053#	3058	3061#	3062	3067#
	3072	3075#	3076	3087#	3092	3095#	3096	3106#	3112	3115#	3116	3119#	3344#	3347	3352#
	3355	3390#	3393	3401#	3418#	3421	3428#	3431	3487#	3491	3533#	3536	3547#	3550	3567#
	3571	3578#	3585	3603#	3614	3634#	3637	3657#	3660	3667#	3674	3682#	3687	3696#	3700
	3703#	3708	3729#	3735	3745#	3751	3760#	3766	3777#	3781	3786#	3789	3806#	3809	3826#
	3829	3864#	3868	3774#	3879	3883#	3687	3928#	3931	4124#	4131	4159#	4167	4310#	4313
	4353#	4356	4445#	4446	4478#	4482#	4483	4487#	4488	4492#	4493	4498#	4499	4509#	4510
	4519#	4520	4532#	4539#	4551#	4554	4573#	4574	4608#	4612	4618#	4622	4625#	4629	4633#
	4634	4636#	4643#	4644	4659#	4660	4673#	4674	4686#	4688#	4695#	4696	4709#	4716#	4717
	4731#	4738#	4739	4769#	4772	4811#	4814	4817#	4821	4831#	4837#	4847#	4864#	4867	4873#
	4876	4897#	4910#	4914	4925#	4929	4951#	4955	4967#	4971	5067#	5071	5139#	5144	5186#
	5189	5216#	5219	5290#	5293	5339#	5342	5356#	5359	5698	5716	5729	5772	5824#	5827
	5857#	5921#	5924	5948#	5951	6003#	6014	6051	6057#	6095#	6118	6259#	6271	6393	6418
	6559#	6599#	6617#	6631	6903#	6907	7137#	7286#	7289	7452	7470	7872#	7889#	7890	
MSLAB	1#	1945#	3031#	3035#	3044#	3048#	3058#	3062#	3072#	3076#	3092#	3096#	3112#	3116#	3347#
	3355#	3393#	3401#	3421#	3431#	3491#	3536#	3550#	3571#	3585#	3614#	3637#	3660#	3674#	3687#
	3700#	3708#	3735#	3751#	3766#	3781#	3789#	3809#	3829#	3868#	3879#	3887#	3931#	4131#	4167#
	4313#	4356#	4446#	4478#	4483#	4488#	4493#	4499#	4510#	4520#	4532#	4539#	4554#	4574#	4612#
	4622#	4629#	4634#	4636#	4644#	4660#	4674#	4686#	4688#	4696#	4717#	4739#	4772#	4814#	4821#
	4831#	4837#	4847#	4867#	4876#	4897#	4914#	4929#	4955#	4971#	5071#	5144#	5189#	5219#	5293#
	5342#	5359#	5698#	5716#	5729#	5772#	5827#	5857#	5924#	5951#	6003#	6014#	6051#	6057#	6095#
	6118#	6259#	6271#	6393#	6418#	6559#	6599#	6617#	6631#	6907#	7137#	7289#	7452#	7470#	7872#
	7890#														
MSSTL	1#	1945#	3031#	3035#	3044#	3048#	3058#	3062#	3072#	3076#	3092#	3096#	3112#	3116#	3347#
	3355#	3393#	3401#	3421#	3431#	3491#	3536#	3550#	3571#	3585#	3614#	3637#	3660#	3674#	3687#
	3700#	3708#	3735#	3751#	3766#	3781#	3789#	3809#	3829#	3868#	3879#	3887#	3931#	4131#	4167#
	4313#	4356#	4446#	4478#	4483#	4488#	4493#	4499#	4510#	4520#	4532#	4539#	4554#	4574#	4612#
	4622#	4629#	4634#	4636#	4644#	4660#	4674#	4686#	4688#	4696#	4717#	4739#	4772#	4814#	4821#
	4831#	4837#	4847#	4867#	4876#	4897#	4914#	4929#	4955#	4971#	5071#	5144#	5189#	5219#	5293#
	5342#	5359#	5698#	5716#	5729#	5772#	5827#	5857#	5924#	5951#	6003#	6014#	6051#	6057#	6095#
	6118#	6259#	6271#	6393#	6418#	6559#	6599#	6617#	6631#	6907#	7137#	7289#	7452#	7470#	7872#
	7890#														
MSWORD	1#	1945#	2003#	2012	2058#	2060	3119#	3401#	3403	3404#	4539#	4541	4542#	4636#	4688#
	4709#	4731#	4837#	4847#	4849	4850#	4897#	5698#	5699	5700	5701	5716#	5717	5718	5719
	5729#	5730	5731	5732	5772#	5773	5774	5775	5857#	5859	5860#	6014#	6015	6016	6017
	6051#	6052	6053	6054	6118#	6119	6120	6121	6271#	6272	6273	6274	6393#	6394	6395
	6396	6418#	6419	6420	6421	6631#	6632	6633	6634	7452#	7453	7454	7455	7470#	7471
	7472	7473	7915#	7925#	7930#	7935#	7939#	7941#	7945#	7947#	7989	7990			
MSXFER	1#	1945#	7939#	7945#											
MODCL	1951#	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790
	2791	2792	2793	2794	2795	2796	2797	2801	2802	2803	2804	2805	2806	2807	2808
	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2822	2823	2824	2825	2826
	2831	2832	2833	2834	2835	2838	2839	2840	2841	2842	2843	2844	2845	2848	2849
	2850	2851	2852	2853	2856	2857	2858	2859	2861	2862	2863	2864	2865	2867	2868
	2870	2871	2874	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888
	2889	2890	2891	2892	2894	2895	2896	2897	2898	2899	2900	2903	2904	2905	2906

CVCLHC DPV-11 DATA COMM. LINK TEST  
CVCLHC.P11 22-MAR-82 11:09

MACY11 30A(1052) 23-MAR-82 16:43 PAGE 231  
CROSS REFERENCE TABLE -- MACRO NAMES

	2907	2908	2911	2912	2913	2916	2919	2920	2921	2922	2923	2924	2925	2926	2929
	2930	2931	2936	3444	3445	3446	3447	3448	3449	3450	3451	3452	3453	3454	3455
	3456	3457	3458	3459	3460	3461	3462	3463	3464	3465					
OPEN	1#	1945#													
POINTE	1#	1945#	1957												
PRINTB	1#	1945#	3022	3039	3052	3066	3086	3105							
PRINTF	1#	1945#	3343	3351	3389	3417	3427	3486	3546	3863	3873	3882	3927	4309	4352
	4550	4768	4810	4863	4872	4909	4924	4950	4966	5066	5138	5185	5215	5289	5338
	5355	5823	5920	5947	7285										
PRINTS	1#	1945#	3532	3566	3577	3602	3633	3656	3666	3681	3695	3702	3728	3744	3759
	3776	3785	3805	3825	4123	4158									
PRINTX	1#	1945#													
READBU	1#	1945#	4531												
READEF	1#	1945#	4481	4486	4491	4497									
RFLAGS	1#	1945#													
SETPRI	1#	1945#	4632	4672											
SETVEC	1#	1945#	4607	4617	4624	4816	6902								
SLASH	1#	1945#													
STARS	1#	1945#													
SVC	1#	1945#													
XFER	1#	1945#	3119#	4636#	4688#	4709#	4731#	4837#	4897#						
XFERF	1#	1945#	7944												
XFERT	1#	1945#	7938												

. ABS. 046636 000

ERRORS DETECTED: 0

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

RUN-TIME: 27 34 4 SECONDS

RUN-TIME RATIO: 101/66=1.5

CORE USED: 22K (43 PAGES)