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.TITLE CZCLMCO DMP/V-11 DCLT

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IDENTIFICATION

PRODUCT CODE: AC-F597C MC
PRODUCT NAME: CZCLMC DMP,DMV-11 DATA COMM. LINK TEST
PRODUCT DATE: MARCH 1984
MAINTAINER: MERRIMACK DIAGNOSTIC ENGINEERING
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REV	DATE	AUTHOR	REASON
A	14 JAN-81	BRUCE RIBOLINI	ORIGINAL ISSUE, DCLT FOR THE DMP,DMV 11
B	26-OCT-81	ERNIE COOPER	ADD - "SET E-T COMMAND" ADD - ID OF DEVICE REQUESTING DOWNLINELOAD. ADDED NEEDED PATCHES. GENERAL CLEANUP AND ENHANCEMENT OF DOCUMENT.
C	MARCH 1984	ERNIE COOPER	ADD FIXES TO CORRECT 'DISCONNECT' ERROR.

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1.0 GENERAL INFORMATION

1.1 PROGRAM ABSTRACT

THIS DCLT (DATA COMMUNICATION LINK TEST) PROGRAM IS MEANT TO PROVIDE FIELD SERVICE WITH A TOOL TO MAINTAIN DMP,DMV-11 TO DDCMP MULTIPOINT COMMUNICATION LINKS. THIS DCLT PROGRAM WILL PROVIDE THE COVERAGE NECESSARY TO DETECT FAILURES IN 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 CZCLM DCLT PROGRAM, THE FOLLOWING MINIMUM HARDWARE IS REQUIRED:

- A PDP-11 CPU IF DMP OR A LSI 11 CPU IF DMV
- MINIMUM OF 24K WORDS OF MEMORY
- A WORKING, LINE OR REAL-TIME CLOCK
- A CONSOLE TERMINAL
- ANY XXDP+ SUPPORTED LOAD MEDIA
- ONE OF THESE DMP,DMV-11 CONFIGURATIONS:

DMV-11-AA	EIA RS232 AND RS423
DMV-11-AB	CCITT AND V.35
DMV-11-AC	INTEGRAL MODEM
DMP-11-AA	EIA RS232 AND RS423 WITH H3251 TURNAROUND
DMP-11-AB	CCITT AND V.35
DMP-11-AC	INTEGRAL MODEM
DMP-11-AE	RS422
DMP-11-AD	DMP WITH TURNAROUND CONN (H3254,H3255)

NOTE: OPTIONS AE,AC,AB,AND AA ALSO CONTAIN AD.

1.3 RELATED DOCUMENTS AND STANDARDS

- DMP USERS MANUAL EK-DMP11-UG-001
- DMP TECH MANUAL EK-DMP11-TM-001
- DMV USERS MANUAL EK-DMV11-UG-001
- DMV TECH MANUAL EK-DMV11-TM-001
- XXDP+ USER'S MANUAL (CHQUS?.SEQ WHERE ? IS THE REV. LEVEL OF THE MANUAL - "C" IS THE CURRENT REV.).

1.4 DIAGNOSTIC HIERARCHY PREREQUISITES

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

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

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

SOME OF THE DIAGNOSTICS THAT COULD BE RUN IF THE DMP,DMV-11 LOOKS BAD:

CZDMT - FUNCTIONAL DIAGNOSTIC FOR DMP,DMV-11

FOR DMP:

CZDMP - 8207 STATIC #1 (PROCESSOR)
CZDMQ - 8207 STATIC #2 (PROCESSOR)
CZDMR - 8203 STATIC #1 (LINE UNIT)
CZDMS - 8203 STATIC #2 (LINE UNIT)

FOR DMV:

CVDMA - MICRO PROCESSOR #1
CVDMB - MICRO PROCESSOR #2
CVDMC - LINE UNIT #1
CVDMD - LINE UNIT #2
CVDME - LINE UNIT #3

1.5 ASSUMPTIONS - RESTRICTIONS

IT IS ASSUMED THAT THE COMMUNICATIONS DEVICE (DMP,DMV 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.

2.0 OPERATING INSTRUCTIONS

THIS SECTION CONTAINS A BRIEF DESCRIPTION OF THE RUNTIME SERVICES. FOR DETAILED INFORMATION, REFER TO THE XXDP+ USER'S MANUAL (CHQUS).

2.1 COMMANDS

THERE ARE ELEVEN LEGAL COMMANDS FOR THE DIAGNOSTIC RUNTIME SERVICES (SUPERVISOR). THIS SECTION LISTS THE COMMANDS AND GIVES A VERY BRIEF DESCRIPTION OF THEM. THE XXDP+ USER'S MANUAL HAS MORE DETAILS.

COMMAND	EFFECT
START	START THE DIAGNOSTIC FROM AN INITIAL STATE
RESTART	START THE DIAGNOSTIC WITHOUT INITIALIZING
CONTINUE	CONTINUE AT TEST THAT WAS INTERRUPTED (AFTER +C)
PROCEED	CONTINUE FROM AN ERROR HALT
EXIT	RETURN TO XXDP+ MONITOR (XXDP+ OPERATION ONLY!)
ADD	ACTIVATE A UNIT FOR TESTING (ALL UNITS ARE CONSIDERED TO BE ACTIVE AT START TIME)
DROP	DEACTIVATE A UNIT
PRINT	PRINT STATISTICAL INFORMATION (IF IMPLEMENTED BY THE DIAGNOSTIC - SECTION 4.0)
DISPLAY	TYPE A LIST OF ALL DEVICE INFORMATION
FLAGS	TYPE THE STATE OF ALL FLAGS (SEE SECTION 2.3)
ZFLAGS	CLEAR ALL FLAGS (SEE SECTION 2.3)

A COMMAND CAN BE RECOGNIZED BY THE FIRST THREE CHARACTERS. SO YOU MAY, FOR EXAMPLE, TYPE "STA" INSTEAD OF "START".

2.2 SWITCHES

THERE ARE SEVERAL SWITCHES WHICH ARE USED TO MODIFY SUPERVISOR OPERATION. THESE SWITCHES ARE APPENDED TO THE LEGAL COMMANDS. ALL OF THE LEGAL SWITCHES ARE TABULATED BELOW WITH A BRIEF DESCRIPTION OF EACH. IN THE DESCRIPTIONS BELOW, A DECIMAL NUMBER IS DESIGNATED BY "DDDDD".

SWITCH	EFFECT
/TESTS:LIST	EXECUTE ONLY THOSE TESTS SPECIFIED IN THE LIST. LIST IS A STRING OF TEST NUMBERS, FOR EXAMPLE /TESTS:1:5:7:10. THIS LIST WILL CAUSE TESTS 1,5,7,8,9,10 TO BE RUN. ALL OTHER TESTS WILL NOT BE RUN.
/PASS:DDDDD	EXECUTE DDDDD PASSES (DDDDD = 1 TO 64000)
/FLAGS:FLGS	SET SPECIFIED FLAGS. FLAGS ARE DESCRIBED IN SECTION 2.3.
/EOP:DDDDD	REPORT END OF PASS MESSAGE AFTER EVERY DDDDD PASSES ONLY. (DDDDD = 1 TO 64000)
/UNITS:LIST	TEST/ADD/DROP ONLY THOSE UNITS SPECIFIED IN THE LIST. LIST EXAMPLE /UNITS:0:5:10:12 USE UNITS 0,5,10,11,12 (UNIT NUMBERS = 0-63)

EXAMPLE OF SWITCH USAGE:

START/TESTS:1-5/PASS:1000/EOP:100

THE EFFECT OF THIS COMMAND WILL BE: 1) TESTS 1 THROUGH 5 WILL BE EXECUTED, 2) ALL UNITS WILL TESTED 1000 TIMES AND 3) THE END OF PASS MESSAGES WILL BE PRINTED AFTER EACH 100 PASSES ONLY. A SWITCH CAN BE RECOGNIZED BY THE FIRST THREE CHARACTERS. YOU MAY, FOR EXAMPLE, TYPE "/TES:1-5" INSTEAD OF "/TESTS:1-5".

BELOW IS A TABLE THAT SPECIFIES WHICH SWITCHES CAN BE USED BY EACH COMMAND.

	TESTS	PASS	FLAGS	EOP	UNITS
START	X	X	X	X	X
RESTART	X	X	X	X	X
CONTINUE		X	X	X	
PROCEED			X		
DROP					X
ADD					X
PRINT					
DISPLAY					X
FLAGS					
ZFLAGS					
EXIT					

2.7 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 MACROS)
PRI	DIRECT MESSAGES TO LINE PRINTER
PNT	PRINT TEST NUMBER AS TEST EXECUTES
BUE	"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

2.4 HARDWARE QUESTIONS

WHEN A DIAGNOSTIC IS STARTED, THE RUNTIME SERVICES WILL PROMPT THE USER FOR HARDWARE INFORMATION BY TYPING "CHANGE HW (1) ?" YOU MUST ANSWER "Y" AFTER A START COMMAND UNLESS THE HARDWARE INFORMATION HAS BEEN "PRELOADED" USING THE SETUP UTILITY (SEE CHAPTER 6 OF THE XXDP+ USER'S MANUAL). WHEN YOU ANSWER THIS QUESTION WITH A "Y", THE RUNTIME SERVICES WILL ASK FOR THE NUMBER OF UNITS (IN DECIMAL).

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

* UNITS (D) ? 1<CR>

UNIT 0
FULL DUPLEX OPERATION : (1) Y ?
DEVICE CSR ADDRESS : (0) 160170 ?
INTERRUPT VECTOR ADDRESS: (0) 300 ?
INTERRUPT PRIORITY: (0) 5 ?
OPTION TYPE
0=DMP
1=DMV: (0) 0 ?
IS THIS A MULTIPOINT NETWORK: (1) N ?
IS THIS A CONTROL STATION: (1) N ?

NOTE: THE QUESTION ABOUT CONTROL STATION IS ONLY ASKED IF YOU ANSWER YES TO THE MULTIPOINT QUESTION. WHEN YOU COMPLETE THE ABOVE SEQUENCE YOU WILL BE AT THE DCLT> COMMAND LEVEL.

THIS IS DCLT. TYPE "H" OR "?" FOR DETAILS
MODE=ACTIVE/PASS:00001
 /NOSTATUS/CHECK/NOECHO/NO MODEM
DCLT> (A) ?

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.

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

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

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

2.5.1 MESSAGE COMMANDS

COMMAND	DESCRIPTION
CLEAR EXPECTLIST	ZEROES THE EXPECTLIST (000'S) AND THEN INITIALIZES LIST TO ONE DEFAULT ITEP MESSAGE
CLEAR TRANSMITLIST	FILLS TRANSMITLIST (000'S) AND THEN INITIALIZES LIST TO ONE DEFAULT ITEP MESSAGE
SET EXPECTMSG=TYPE/QUAL	DEFINE A MESSAGE TO BE PUT ON THE EXPECTED LIST
WHERE: "TYPE" IS:	
=ONES	
=ZEROS	
=1ALT	
=0ALT	
=ITEP	
=CCITT	
=ALPHA	
="A 2,0 9,SPACES & TABS IN QUOTES"	
WHERE THE OPTIONAL "QUAL" IS:	
/SIZE=NNN	MAKE THE MESSAGE "NNN" BYTES LONG. (DEFAULT VALUE IS SIZE OF MESSAGE SPEC'D BY OPERATOR OR DEFAULTS.)

K1

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

3.5.2 TRIBUTARY COMMANDS

NOTE: THESE COMMANDS ARE VALID ONLY IF IN MULTIPOINT MODE.

TRIB ESTABLISH=N,N,N/W

ADDS THE DECIMAL TRIBUTARY
ADDRESSES SPECIFIED IN N TO
THE TRIB LIST.

IF /W IS USED THEN PROGRAM
WILL ASK USER FOR POLL PARAMS
FOR ALL TRIBS THAT HAVE THE /W
SWITCH APPENDED. AFTER ALL
TRIB PARAM QUESTIONS HAVE
BEEN ANSWERED THEN THE PROGRAM
ASKS THE USER FOR THE GLOBAL
POLL PARAMS

TRIB KILL=N,N,N OR ALL

REMOVE TRIB ADDRESSES FOR THE
TRIB LIST IF "ALL" IS USED ALL
TRIBS ARE REMOVED.

TRIB SHOW

LISTS ALL TRIBS IN THE TRIB
ADDRESS LIST.

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2.5.2 STATISTICAL COMMANDS

HELP

TYPES HELP INFO FOR OPERATOR

?

TYPES HELP INFO FOR OPERATOR

DUMP SSSSSS-EEEEEE/B

PRINTS THE CONTENTS OF THE
MEMORY LOCATIONS BETWEEN
OCTAL ADDRESSES "SSSSSS" AND
"EEEEEE" WHERE "SSSSSS" IS

THE START ADDRESS AND
"-EEEEEE" IS THE END ADDRESS.
IF "-EEEEEE" IS NOT SPECIFIED
THEN THE CONTENTS OF "SSSSSS"
IS PRINTED IN WORD FORMAT.

THE "/B" IS OPTIONAL.
DEFAULT IS PRINT WORDS
"/B" CAUSES PRINT BYTES

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

N1

2.5.3 RUN COMMANDS

COMMAND	DESCRIPTION
RUN MODE=MTYPE/QUAL	STARTS DCLT EXECUTING IN THE MODE SPECIFIED

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

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

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

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

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

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

NOTE: IF BOTH MODES IN ACTIVE AND "/NOCHECK" IS USED, END OF PASS IS DEFINED AS RECEIVING THE SAME # OF MESSAGES THAT IS CONTAINED IN THE TX 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. NOTE: THIS IS VALID ONLY FOR PASSIVE MODE. IF THIS SWITCH IS USED THE TRANSMIT LIST WILL HAVE TO BE RE BUILT.
--------------	--

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

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

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

"LTYPE" IS:

- INTERNALTL SETS THE LLOOP BIT IN BSEL1 IF DMP
AND IF DMV ENTERS MAINT LOOP AND
SETS THE INTERNAL LOOP BIT.
- CABLE DOES NOT CAUSE ANY BITS TO BE SET OR
REQUESTS TO BE QUEUED, BUT MAKES FOR
A NICE BOOKKEEPING FEATURE. "/L CABLE"
WILL THEN BE SHOWN WHEN THE COMMAND
LINE IS TYPED AS A REMINDER OF WHAT
TYPE OF LOOPING IS BEING ATTEMPTED.
REMEMBER TO INSTALL ANY CONNECTORS OR
ENABLE ANY LOOP FEATURES THAT ARE
NECESSARY TO MAKE CABLE LOOPBACK
POSSIBLE.

THE FOLLOWING LOOP TYPES ARE NOT SUPPORTED BY THE DMV.
INCLUDING THESE LOOP TYPES FOR A DMV WILL HAVE NO EFFECT AT ALL.

- LOCALMODEM
ALSO CALLED ANALOG-LOOPBACK.
SETS MM1 AND DSR IN THE MODEM REG
THIS IS ONLY FOR RS449 MODEMS
- REMOTEMODEM
ALSO CALLED DIGITAL-LOOPBACK.
SETS MM2 AND DSR IN THE MODEM REG
THIS ONLY FOR RS449 MODEMS

/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*NN
IS NOT ADDED TO THE "RUN ..." COMMAND.
IF A "1" IS TYPED, THEN THE PROGRAM
RUN UNTIL A *C IS TYPED.

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

EXIT

THE EXIT COMMAND RETURNS THE USER TO THE SUPERVISOR OR
PROMPT AFTER PRINTING A SUPERVISOR END OF PASS.

2.5.4 PRINT

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

COMMAND	DESCRIPTION
HELP OR ?	PRINTS HELP INFORMATION FOR RPT>
TSS NNN/SW	SHOWS TRIBUTARY STATUS SLOT INFORMATION WHERE NNN IS THE DECIMAL TRIBUTARY ADDR AND SW IS ONE OF THE FOLLOWING SWITCHES
ERROR	INDICATES ONLY ERROR SLOTS ARE TO BE PRINTED
FULL	INDICATES ALL TRIB STATUS SLOTS ARE TO BE PRINTED
OFFSET=NN	INDICATES THE TRIB STATUS SLOT WHOSE OFFSET IS NN IS TO BE PRINTED.
GSS/SW	PRINT THE GLOBAL STATUS INFORMATION SWITCHES ARE THE SAME AS FOR TSS.
LOG	DUMPS THE EVENT LOG
EXIT	EXITS BACK TO THE COMMAND LEVEL THAT YOU ENTERED FROM, [DCLT> OR DR>]

2.5.6 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
ZER0ES - /SIZE=64/COPY=0
OALT - /SIZE=64/COPY=0
IALT - /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

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

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

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.

3.0 ERROR INFORMATION

3.1 TYPES OF ERROR MESSAGES

THERE ARE THREE LEVELS OF ERROR MESSAGES THAT MAY BE ISSUED BY A DIAGNOSTIC: GENERAL, BASIC AND EXTENDED. GENERAL ERROR MESSAGES ARE ALWAYS PRINTED UNLESS THE "IER" FLAG IS SET (SECTION 2.3). THE GENERAL ERROR MESSAGE IS OF THE FORM:

```
NAME TYPE NUMBER ON UNIT NUMBER TST NUMBER PC:XXXXXX
ERROR MESSAGE
```

WHERE; NAME = DIAGNOSTIC NAME
 TYPE = ERROR TYPE (SYS FATAL, DEV FATAL, HARD OR SOFT)
 NUMBER = ERROR NUMBER
 UNIT NUMBER = 0 - N (N IS LAST UNIT IN PTABLE)
 TST NUMBER = TEST AND SUBTEST WHERE ERROR OCCURRED
 PC:XXXXXX = ADDRESS OF ERROR MESSAGE CALL

BASIC ERROR MESSAGES ARE MESSAGES THAT CONTAIN SOME ADDITIONAL INFORMATION ABOUT THE ERROR. THESE ARE ALWAYS PRINTED UNLESS THE "IER" OR "IBE" FLAGS ARE SET (SECTION 2.3). THESE MESSAGES ARE PRINTED AFTER THE ASSOCIATED GENERAL MESSAGE.

EXTENDED ERROR MESSAGES CONTAIN SUPPLEMENTARY ERROR INFORMATION SUCH AS REGISTER CONTENTS OR GOOD/BAD DATA. THESE ARE ALWAYS PRINTED UNLESS THE "IER", "IBE" OR "IXE" FLAGS ARE SET (SECTION 2.3). THESE MESSAGES ARE PRINTED AFTER THE ASSOCIATED GENERAL ERROR MESSAGE AND ANY ASSOCIATED BASIC ERROR MESSAGES.

3.2 SPECIFIC ERROR MESSAGES

3.2.1 COMMAND LINE INTERPRETER ERRORS:

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

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

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

* * MUST LIKELY TO BE IN THAT MODE

6.2 MESSAGE DESCRIPTIONS

NAME	DESCRIPTION
ZEROES	MESSAGE OF ALL 0'S (00000000,00000000,00000000,...)
ONES	MESSAGE OF ALL 1'S (11111111,11111111,11111111,...)
1ALT	MESSAGE OF ALTERNATING 1'S (10101010,10101010,...)
0ALT	MESSAGE OF ALTERNATING 0'S (01010101,01010101,...)
CCITT	"CCITT" 512-BIT (VS. 511 BITS) TEST PATTERN
ITEP	"INTERPROCESSOR TEST PROGRAM'S (ITEP)" MESSAGE 1(OP1:) (<177><177>/*A THE QUICK BROWN FOX JUMPED OVER THE LAZY DOG.<15><12><001><177><177><177><177>)
ALPHA	ALPHA-NUMERICS (OR FUTURE COMM TURNAROUND MSG) (0123456789:;<*>?@ABCDEFGHIJK LMNOPQRSTUVWXYZ[\]^_`~)
OPERATOR-SPECIFIED	"A-Z,0-9,SPACES,TABS" THESE ARE THE CHARACTERS THAT CAN BE TYPED BETWEEN QUOTATION MARKS ("...") TO SPECIFY A UNIQUE MESSAGE.

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SEQ 20

STATIONS CANNOT DO LOOPBACK.
?ONLY ONE TRIB (TRIB ADDR 1) ALLOWED
FOR LOOP IN MULTIPOINT?

A RUN COMMAND WITH LOOP=INTERNAL
WAS ISSUED AND THE TRIB LIST DID
NOT HAVE ONLY 1 TRIB IN IT. IF IT
DID HAVE ONLY 1 TRIB IN IT THE ADDRESS
WAS NOT 1.

?TRIB ADDRESS= XXX INVALID?

A TRIB COMMAND WAS ISSUED WITH A TRIB
ADDRESS NOT IN THE RANGE 1-255

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

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

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

BUFFER FULL - MSG. NOT BUILT !!

THIS MEANS THAT THE LAST MESSAGE YOU
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. THE LIMIT
IS CURRENTLY 15.

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 LIMIT IS 512 BYTES.
THE MESSAGE WAS TRUNCATED TO COMPLETELY
FILL THE BUFFER. NO MORE MESSAGES CAN

TRIB ADDRESS LIST IS EMPTY BE ADDED TO THAT BUFFER.
 THERE ARE NO TRIBS IN THE TRIB LIST
 WHEN THE THE TRIB SHOW COMMAND WAS
 EXECUTED.

TRIB ADDRESS LIST FULL - ADDRESS= XXX NOT ADDED
 A TRIB ESTABLISH COMMAND CAUSED
 THE NUMBER OF TRIBS IN THE LIST TO
 EXCEED THE MAXIMUM (DMV=12,DMP=32).
 THIS ERROR MESSAGE IS REPEATED FOR
 ALL TRIBS IN EXCESS FOR THIS STRING.
 XXX= THE DECIMAL ADDRESS OF THE TRIB

RX BUFFER NOT BIG ENOUGH
 TOO MANY TRIBS OR MSGS
 A RUN COMMAND WAS ISSUED WITH
 DATA CHECKING REQUESTED AND THE
 NUMBER OF TRIBS TIMES THE NUMBER
 OF EXPECTED MESSAGES EXCEEDED THE
 MAXIMUM REC BUFFER TOTAL (2048 BYTES)
 TO CORRECT FOR THIS EITHER THE NUMBER
 OF MESSAGES, THE SIZE OF THE MESSAGE OR
 THE NUMBER OF TRIBS MUST BE DECREASED.

3.2.3 DEVICE ERROR MESSAGES:

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
 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 DIFFERENT LENGTH THEN THE MESSAGE
THAT WAS EXPECTED.

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

DEVICE DID NOT RETURN RUN BIT
SEL0 SEL2
XXXXXX XXXXXX

; THIS ERROR INDICATES
; THAT THE DEVICE DID
; NOT RETURN THE RUN BIT
; AFTER 1000 TICKS OF THE CLOCK
; COULD INDICATE MICRO-DIAG
; FOUND A FAILURE.

FAILURE IN MICRO DIAGNOSTICS
SEL0 SEL6
XXXXXX XXXXXX

; THIS ERROR INDICATES THAT
; SEL6 DOES NOT CONTAIN 305
; THIS IS CHECKED AFTER A MASTER
; CLEAR AND THE RUN BIT HAS
; BEEN SET

TIME OUT WAITING FOR TX OR RX TO COMPLETE
SEL0 SEL2
XXXXXX XXXXXX

; THIS ERROR IS THE MOST POPULAR
; IT INDICATES THAT THE 60 SEC
; TIMER EXPIRED WHEN THE DEVICE
; WAS EXPECTING TO GET A RX OR
; TRANSMIT COMPLETE. AFTER THIS
; ERROR OCCURS THE PROGRAM WILL
; RESET THE TIMER AND LOOP AGAIN

TIME OUT WAITING FOR RDI
SEL0 SEL2
XXXXXX XXXXXX

; THIS ERROR INDICATES THAT THE
; DEVICE DID NOT RETURN RDI IN
; RESPONSE TO AN PQI BEFORE THE
; TIMER EXPIRED. THE TIMER IS
; 100 TICKS FOR DMP AND 400
; TICKS FOR THE DMV.

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SEQ 23

CONTROL OR INFORMATION OUT ERROR

 SEL? SEL6
 XXXXXX XXXXXX YYYYYY

THIS ERROR INDICATES THAT
 A CONTROL OUT ERROR OCCURRED
 OR AN UNEXPECTED INFORMATION
 OUT OCCURRED. THE TYPE OF
 ERROR IS INDICATED
 BY THE ASCII
 STRING YYYYYY WHICH CAN BE ONE
 FROM THE LIST BELOW.
 SOME CONTROL OUTS ARE FATAL.
 IF A FATAL ERROR OCCURS THE
 PROGRAM WILL BE FORCED TO THE
 DCLT> PROMPT THE FATAL ERRORS
 ARE INDICATED BELOW

MSG -----	FATAL -----	DESCRIPTION -----
SELECT THRESHOLD	NO	SELECTION TIMER TIMED OUT MORE THAN 7 TIMES
START RXD IN RUN	YES	DDCMP START RX'D WHILE DEVICE WAS IN RUN STATE
MAINT RXD IN RUN	YES	DDCMP MAINT MESSAGE WAS RX'D WHILE DEVICE WAS IN THE RUN STATE
MAINT RXD IN HALT	YES	DDCMP MAINTINANCE MSG RX'D WHEN DEVICE WAS IN HALT STATE.
START RXD IN MAINT	YES	DDCMP START MSG RX'D WHILE DEVICE WAS IN MAINTINANCE MODE
RING DETECTED	NO	RING SIGNAL WAS SET BY MODEM. THIS OUTPUT FOR DMP ONLY.
DEAD TRIB	NO	INDICATES THAT A TRIB NO LONGER RESPONDS WHEN IT IS POLLED
RUN STATE ERR	NO	RUN STATE OUTPUT IS POSTED WHEN DCLT IS NOT EXPECTING IT.
BABBLING TRIB	YES	A TRIBUTARY IS HOGGING THE LINE AND NOT RETURN- ING THE SELECT FLAG.
STREAMING TRIB	YES	A TRIBUTARY IS SENDING DATA CONSTANTLY.
BUFFER TOO SMALL	YES	MSG WAS RX'D AND THE DEVICE HAS NO BUFFER

L2

		BIG ENOUGH FOR IT. THIS IS PROBABLY OPER- RATER ERROR.
NON EXIST MEM	YES	INDICATES THAT DEVICE TRIED TO NPR TO A MEM LOCATION THAT IS NON EXISTENT.
DISCONNECT	YES	INDICATES DEVICE SAW MODEM READY GO AWAY AFTER BEING SET. LOOK FOR CABLE OR MODEM
QUEUE OVER	YES	DEVICE HAS TOO MUCH OUTPUT OR PROGRAM GAVE DEVICE TOO MUCH.
CARRIER LOSS	YES	INDICATES CARRIER SIG WENT AWAY WHILE RX'ING

***NOTE THE FOLLOWING ARE PROCEDURE ERRORS IF THEY OCCUR
***THE DEVICE IS PROBABLY BAD ALL PROCEDURE ERRORS ARE FATAL

NO MODE DEF	YES	PROCEDURE ERROR
ILLEGAL TYPE CODE		
MODE CHANGE		
CONTROL IN TO UNES. TRIB		
COMMAND TO TRIB 0		
COMMAND TO UNHALTED TRIB		
MAX TRIBS EXCEEDED		
ESTB TO ALREADY ESTABLISHED		
ILLEGAL REQUEST KEY		
ASSIGN BUFF UNEST. TRIB		
ASSIGN BUFF HALTD TRIB		
ASSIGN BUFF BYTE CNT 0		
ASSIGN TX BUFF TRIB 0		
R OR W RESERVED TSS		
USE RESERVED BIT IN BSEL7		
COMMON POOL ERROR		
QUOTA OVERFLOW		

**** END OF PROCEDURE ERRORS****

ILLEGAL TRANSMIT COMPLETE

```
SEL.4      SEL.6
XXXXXX     XXXXXX
```

```

; INDICATES DEVICE GOT A TX
; COMPLETE WHEN IT WAS NOT
; EXPECTING IT.

```

ILLEGAL RECEIVE COMPLETE

```

SEL4      SEL6
XXXXXX    XXXXXX

```

```
;INDICATES DEVICE GOT A RX
;COMPLETE WHEN IT WAS NOT
;EXPECTING IT.
```

QUE OVERFLOW BUFFER COMPLETE.

SEL 4	SEL 6
XXXXXX	XXXXXX

```
;INDICATES A BUFFER COMPLETE
;WAS TAKEN FROM THE QUE AFTER
;A QUE OVERFLOW
```

RLD OR MODE ENABLE OF PASSWORD SW NOT SET

```
SEL0      SEL2
XXXXXX    XXXXXX
```

```

; INDICATES THAN WHEN IN DLL
; MODE ON A TRIB THE SWITCHES
; ON THE DEVICE WERE NOT SET
; CORRECTLY.

```

DOWN LINE LOAD ABORTED

```

RXBUF      TXBUF
ZZZZZZZ   XXXXXX   YYYYYYY

```

```

; WHEN RUNNING DOWN LINE LOAD
; THE HOST HAS SENT A "ENTER
; MOP" MSG AND IS WAITING FOR
; RESPONSE. ZZZZZ IS FIRST WORD
; OF REC BUFFER XXXXX FIRST WORD
; OF TX BUFFER AND YYYYY IS AN
; ASCII STRING THAT INDICATES
; ONE OF THE FOLLOWING

```

TX NOT COMPLETE

;THE FIRST COMPLETE WAS
;NOT A TRANSMIT COMPLETE

RX NOT COMPLETE

THE SECOND COMPLETE WAS
NOT A RX COMPLETE

SEC REQ ERR WORD 1

```
;THE TX AND RX COMPLETE
;HAPPEN BUT THE FIRST WORD
;OF THE "SECONDARY BOOT"
;MSG IS IN ERROR
```

SEC REQ ERR WORD 2

```
;THE TX AND RX COMPLETE HAPPEN
;AND THE FIRST WORD IS GOOD IN
;THEN "SECONDARY BOOT" MSGS BUT
;THERE IS AN ERROR IN
;BYTES 3 OR 4.
```

N2

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" ARE LOGGED IN IN THE EVENT LOG WHEN EACH "DCLT PASS" IS 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 45 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. THE PRINT COMMAND MUST BE FOLLOWED BY A LOG COMMAND. THE EVENTS ARE PRINTED IN A "LAST-IN FIRST-OUT" ORDER.

EVENT TIME IS TYPED OUT AS MMM:SS:TT (LIKE 254:36:07) WHERE MMM,SS,TT REPRESENT THE NUMBER OF MINUTES, SECONDS, CLOCK TICKS SINCE THE LAST START OR RESTART. IT SHOULD BE NOTED THAT THE TIMES ARE RELATIVE SINCE WHILE THE PROCESSOR IS RUNNING AT PRIORITY 1 THE CLOCK CAN'T INTERRUPT TO KEEP TIME. THIS IS THE CASE WHILE THE PROGRAM IS FETCHING DCLT COMMANDS FROM THE OPERATOR. IT SHOULD ALSO BE NOTED THAT THERE ARE ONLY 8 BITS AVAILABLE TO STORE RELATIVE MINUTES SO "TIME" WILL WRAP TO 000:00:00 AFTER 256:59:59.

A START OR RESTART COMMAND AT THE "DR>" LEVEL INITIALIZES THE EVENT LOG. THEREFORE IT IS WISE TO DO A "PRINT" "LOG" 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 TRIBUTARY TO/FROM
ADDRESS OF 1ST BYTE OF MESSAGE,
TOTAL NO. OF BYTES, MODEM STATUS AT THAT TIME.
TRANSMIT MESSAGE COMPLETED:
EVENT TIME, ADDRESS OF TRIBUTARY TO/FROM
ADDRESS OF 1ST BYTE OF MESSAGE,
TOTAL NO. OF BYTES, MODEM STATUS AT THAT TIME.
RECEIVE SPACE QUEUED:
EVENT TIME, ADDRESS OF TRIBUTARY TO/FROM
ADDRESS OF 1ST BYTE OF MESSAGE,
TOTAL NO. OF BYTES, MODEM STATUS AT THAT TIME.
RECEIVE MESSAGE COMPLETED:
EVENT TIME, ADDRESS OF TRIBUTARY TO/FROM
ADDRESS OF 1ST BYTE OF MESSAGE,
TOTAL NO. OF BYTES, MODEM STATUS AT THAT TIME.
DATA COMPARISON STARTED:
EVENT TIME, ADDRESS OF TRIBUTARY TO/FROM
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 TRIBUTARY TO/FROM
 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 TRIBUTARY TO/FROM
 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:
 EVENT TIME, "DCLT" PASS COUNT, "DCLT" ERROR COUNT,
 # OF RX THRESHOLD ERRORS, # OF TX THRESHOLD ERRORS

NOTE - RX THRESHOLDS AND TX THRESHOLDS OCCUR IF
 ONE STATION IS STARTED BEFORE THE OTHER
 OR IF LINKS ARE RUN AT HIGH SPEED

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
IXC	TRANSMISSION OF MESSAGE COMPLETED
RXQ	DEVICE HAS QUEUED SPACE TO RECEIVE/ COMPLETED RECEIVE
ERR	DEVICE ERROR HAS OCCURRED
INI	DEVICE ABOUT TO BE INITIALIZED
CMF	ABOUT TO DO DATA CHECKING OF RECVD VS. EXPTD DATA
CM	LENGTH ERROR OCCURRED DURING DATA COMPARISON
CMO	DATA ERROR OCCURRED DURING DATA COMPARISON
EOP	END OF PASS

5.0 DEVICE INFORMATION TABLES

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

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

.WORD	1	;	[0]	FULL OR HALF DUPLEX FLAG (BIT0=1 IF FULL)	
.WORD	160170	;	[2]	CSR ADDRESS	
.WORD	300	;	[4]	INTERRUPT VECTOR	
.WORD	240	;	[6]	INTERRUPT PRIORITY (5)	
.WORD	0	;	[10]	DEVICE PARAMS BIT1	BIT0
		;		IF A ZERO	TRIB
		;		IF A ONE	CONTROL
.WORD	0	;	[12]	OPTION TYPE 0=DMP 1=DMV	MULTIPOINT

6.0 MODE AND MESSAGE DESCRIPTIONS

THE FOLLOWING ABBREVIATIONS WILL BE USED IN THE MODE DESCRIPTIONS

MTP/TB - MULTIPOINT TRIBUTARY
MTP/CS - MULTIPOINT CONTROL STATION
PTP - POINT TO POINT

6.1 MODE DESCRIPTIONS

6.1.1 TRANSMIT MODE

IF PTP OR MTP/TB:

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

IF MTP/CS: THE LIST IS SENT TO EACH TRIBUTARY

6.1.2 RECEIVE MODE

IF PTP OR MTP/TB:

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.

IF MTP/CS: SPACE IS QUEUED FOR ALL TRIBUTARIES

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6.1.3 PASSIVE MODE

.....
IF PTP OR MTP/TB:

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.

IF MTP/CS: A MESSAGE IS RECEIVED FROM EACH TRIB AND THEN A
MESSAGE IS TRANSMITTED TO EACH TRIB.

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.

IF MTP/TB: THE TRANSMIT MESSAGES OF ALL TRIBS MUST BE IDENTICAL
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

.....

* NOTE * - THE SATELLITE IN MTP MODE WILL ALWAYS BE THE FIRST
***** TRIB IN THE TRIB LIST.
IF IN PTP MODE, THE SATELLITE WILL ENTER MOP MODE
ONLY IF THE PASSWORD SUPPLIED BY THE USER MATCHES
THAT SET IN ITS PASSWORD SWITCH PACK.

IF PTP OR MTP/CS:

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

IF MTP/TB:

RUNNING DOWN LINE LOAD MODE IN A MULTIPPOINT TRIB JUSTS
ENABLES PRIMARY MOP MODE.
TRIBS CANNOT BE "HOSTS"

* NOTE * - THE SATELLITE MUST HAVE CERTAIN SWITCHES SET ON

***** THE LINE UNIT CARD IN ORDER TO ALLOW THE BOOT TO OCCUR. THE MODE ENABLE SWITCH [SW 8 OF E121] MUST BE SET TO A 1[OFF]. THE MODE MUST BE DEFINED IN THE SWITCHES[SW'S 5 6 AND 7 OF E-121]. THE PASSWORD OR TRIB ADDRESS MUST BE SET IN THE SWITCHES[SW'S IN E-134]. THIS MUST BE DONE FOR ALL TYPES OF DOWN LINE LOAD, IN ADDITION THE FOLLOWING MUST BE DONE FOR:
 REMOTE LOAD DETECT:
 SWITCH 9 OF E-121 TO A ONE [OFF]
 FOR POWER ON BOOT AND ENTER P MOP
 SWITCH 10 OF E-121 TO A ZERO [ON]

INCLUDED IN THE "SECONDARY BOOT MESSAGE" IS THE DEVICE TYPE CODE THAT IS DECIPHERED AND INCLUDED IN AN IDENTIFICATION MESSAGE.

EXAMPLE:

SECONDARY BOOT REQ FROM XXX DEVICE TYPE * YY

YY	XXX
0	DP
2	DU
4	DL
6	DQ
8	DA
10	DUP
12	DMC
14	DN
16	DLV
18	DMP
20	DTE
22	DV
24	DZ
28	KDP
30	KDZ
32	KL
34	DMV

6.1.6 TALK AND LISTEN MODE

 * NOTE * - IN MTP MODE TALK AND LISTEN USE ONLY THE FIRST TRIB
 ***** IN THE TRIB LIST

6.1.6.1 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

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MAY BE SENT AND THE MODE SWITCHED ALL AT ONCE. FOR EXAMPLE:

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

6.1.6.2 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".

6.1.7 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.

INTERNAL TTL LOOPS DATA INTERNALLY THIS WILL NOT WORK FOR MTP/TB. IF MTP/CS THEN TRIB 1 MUST BE ESTABLISHED.

THE FOLLOWING ARE ONLY VALID IN PIP MODE.

CABLE DOES NOT CAUSE ANY BITS TO BE SET OR REQUESTS TO BE QUEUED, BUT MAKES FOR A NICE BOOKKEEPING FEATURE. "/L=CABLE" WILL THEN BE SHOWN WHEN THE COMMAND LINE IS TYPED AS A REMINDER OF WHAT TYPE OF LOOPING IS BEING ATTEMPTED. REMEMBER TO INSTALL ANY CONNECTORS OR ENABLE ANY LOOP FEATURES THAT ARE NECESSARY TO MAKE CABLE LOOPBACK POSSIBLE.

LOCAL MODEM SETS MM1 ON INTERFACE ALSO CALLED ANALOG-LOOPBACK.

REMOTE MODEM SETS MM2 ON RS449 INTERFACE ALSO CALLED DIGITAL-LOOPBACK.

6.1.8 MODE SUMMARY TABLE

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

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

* = MOST LIKELY TO BE IN THAT MODE

6.2 MESSAGE DESCRIPTIONS

NAME	DESCRIPTION
ZEROS	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(OP1:) (<177><177>/*A THE QUICK BROWN FOX JUMPED OVER THE LAZY DOG,<15><12><001><177><177><177><177>)
ALPHA	ALPHA-NUMERICS (OR FUTURE COMM TURNAROUND MSG) (@!)" (AMPERSAND)"()*, - .0123456789:;<*>?@ABCDEFGHIJK LMNOPQRSTUVWXYZ/[\] ^ _ `)
OPERATOR-SPECIFIED	"A-Z,0-9,SPACES,TABS" THESE ARE THE CHARACTERS THAT CAN BE TYPED BETWEEN QUOTATION MARKS ("...") TO SPECIFY A UNIQUE MESSAGE.

7.0 OTHER INFORMATION

7.1 INTERFACING TO AN "ITEP" NODE

THIS DCLT WILL INTERFACE ONLY TO THE ITEP FOR DMC.
IF THIS LINK IS NEEDED THEN THE DMP/V-11 MUST BE IN POINT
TO POINT MODE AND THE FOLLOWING TABLE APPLIES TO THE ITEP
NODE:

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

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

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

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

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

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

7.2 TROUBLESHOOTING HINTS

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

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

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

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.

INTERNAL LOOP WORKS ONLY FOR POINT TO POINT OR MULTIPPOINT CONTROL STATIONS. THE SEQUENCE BELOW IS FOR POINT TO POINT IF YOU WISH TO DO MULTIPPOINT ADD THE COMMAND WITH THE *

```
C E
C T
SE T=ONES/S=20/C=2
* T E=1
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 "T E=1"(ONLY FOR MTP) ESTABLISHES ONE TRIB, TRIB ADDRESS 1. 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 RXG TXC TXQ RXQ TXQ
RXQ TXC EOP
MODE=ACTIVE/LOOP=INTERNAL/PASS=00000
```

/STATUS/NOCHECK/NOECHO/NOMODEM
DCLT> (A) ?

THIS GIVES YOU A IDEA IF THE COMM. DEVICE CAN 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 (SAME AS TRANSMIT). THE MESSAGES 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 RXQ TXC TXQ RXQ TXC
TXQ TXC CMP CMP CMP EOP RXQ TXQ
RXQ TXC TXQ RXQ TXC TXQ TXC CMP
CMP CMP EOP RXQ TXQ RXQ TXC TXQ
RXQ TXC TXQ TXC CMP CMP CMP EOP
MODE=ACTIVE/LOOP=INTERNAL/PAS=00000
/STATUS/CHECK/NOECHO/NOMODEM
DCLT> (A) ?
```

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

R M=A/CH/PAS=3

WHAT THIS SEQUENCE MEANS:

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

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

```
RXQ TXQ TXC RXQ TXQ TXC RXQ TXQ
```

K3

```

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

```

7.2.2 TRANSMIT ON ONE NODE RECEIVE ON THE OTHER

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

 * NOTE * - THESE SEQUENCES ARE FOR POINT TO POINT MODE
 ***** IF YOU WISH TO RUN MULTIPPOINT ADD THE COMMAND
 COMMAND LINES MARKED WITH AN *.

NODE A	NODE B
-----	-----
C E	C E
C T	C T
SE T=1ALT/S=250	
* T E=1	T E=1
R M=TR/PAS=3	R M=R/NOCH/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 "T E=1" ESTABLISHES 1 TRIBUTARY WITH AN ADDRESS OF 1. THIS IS ONLY FOR MULTIPPOINT SITUATIONS. THE "R M=TR/PAS=3" SETS THE RUN MODE OF NODE A TO BE TRANSMIT AND THE PASS COUNT IS SET TO 3. THE "R M=R/NOCH/PAS=3" SETS THE RUN MODE OF NODE B TO BE RECEIVE, NO DATA CHECKING IS TO BE DONE, AND THE PASS COUNT IS SET TO THREE.

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

FOR NODE A:

```

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

```

FOR NODE B:

```

INI RXQ EOP RXQ EOP RXQ EOP
MODE=RECEIVE/PASS=00000

```

L3

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DCLT> (A) ? /STATUS/NOCHECK/NOECHO/NOMODEM

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

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

WHAT THIS SEQUENCE MEANS:

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

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

NODE A: IS THE SAME AS ABOVE.

NODE B:
INI RXQ CMP EOP RXQ CMP EOP RXQ
CMP EOP
MODE=RECEIVE/PASS=00000
/STATUS/NOCHECK/NOECHO/NOMODEM
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:

* NOTE * - THESE SEQUENCES ARE FOR POINT TO POINT MODE
***** IF YOU WISH TO RUN MULTIPOINT ADD THE COMMAND
COMMAND LINES MARKED WITH AN *.

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

WHAT THIS SEQUENCE MEANS:

THE EXECUTION OF THIS SEQUENCE CAUSES THE FOLLOWING THINGS TO HAPPEN ON NODE A. THE TRANSMIT AND EXPECT LISTS ARE INITIALIZED THEN THE TRANSMIT LIST IS SET TO 3 MESSAGES OF 10 BYTES EACH. THE DATA USED IN THE TRANSMIT MESSAGES IS THE CCITT PATTERN. THEN A IF THIS IS A MULTIPOINT NETWORK A TRIB IS ESTABLISHED (TRIB ADDR. 1) THEN NODE A IS RUN IN ACTIVE MODE WITH DATA CHECKING DISABLED AND THE PASS COUNT SET TO THREE. NOTE STATUS WOULD STILL BE PRINTED IF THE PREVIOUS SEQUENCES HAD BEEN RUN. IF YOU ARE RUNNING FROM LOAD TIME YOU WOULD HAVE TO ADD A "/STA TO THE RUN COMMAND LINE. NODE B: THE TRANSMIT AND EXPECT LISTS ARE INITIALIZED 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. IF MULTIPOINT ESTABLISH 1 TRIB. THEN RUN IN PASSIVE MODE WITH DATA CHECKING DISABLED AND THE PASS COUNT SET TO 3.

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

FOR NODE A:

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

FOR NODE B:

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

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

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

7.2.4 BOTH NODES ACTIVE

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

N3

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NOTE - THIS IS FOR POINT TO POINT ONLY

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
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 NO 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
DCLT> (A) ?
```

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

7.2.5 TALK AND LISTEN MODES FOR COMMUNICATING

TALK AND LISTEN MODES ARE USEFUL IF THE OPERATORS WISH TO COMMUNICATE WITH EACH OTHER. JUST SETUP A TIME THAT EACH WILL GO TO THEIR MODE, TALK OR LISTEN, AND SEND MESSAGES OVER THE LINK. POSSIBLE COMMAND SEQUENCES ARE. WHEN USING TALK AND LISTEN MODES ON MULTYPOINT LINKS REMEMBER THAT YOU CAN ONLY USE THESE MODES FROM THE CONTROL STATION TO THE FIRST TRIBUTARY IN THE TRIB LIST.

R M=LIS/NOST	R M=TA/NOST
LIS>	TALK>

7.3 EXAMPLES OF COMMANDS

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

7.3.1 EXAMPLES OF MESSAGES COMMANDS

THE CLEAR COMMANDS .

C E
C T

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

IF THESE COMMANDS ARE FOLLOWED BY A SHOW COMMAND

SH E

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

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

DCLT> (A) ?

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

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

AND FOLLOWED IT WITH A SHOW EXPECT LIST COMMAND

SH E

WHAT YOU WOULD SEE IS

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

DCLT> (A) ?

7.3.1 EXAMPLES TRIBUTARY COMMANDS

WHEN YOU FIRST GET TO THE DCLT> COMMAND LEVEL IN MULTIPOINT MODE AND YOU EXECUTE A TRIB SHOW COMMAND:

T S

WHAT YOU WOULD SEE IS

TRIB ADDRESS LIST IS EMPTY

THEN YOU COULD DO A TRIB ESTABLISH COMMAND

T E=1,2,3,4

THIS WOULD ESTABLISH TRIB ADDRS 1, 2, 3 AND 4

IF YOU FOLLOWED THIS WITH A TRIB SHOW COMMAND YOU WOULD SEE

TRIB ADDRESS LIST:

1, 2, 3, 4,

IF YOU THEN DID A TRIB KILL COMMAND

T K=3

FOLLOWED BY A TRIB SHOW.

T S

C4

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WHAT YOU WOULD SEE IS
TRIB ADDRESS LIST:
1, 2, 4,
IF YOU FOLLOWED THIS WITH A TRIB KILL ALL COMMAND
T K-A
AND ANOTHER TRIB SHOW
T S
WHAT YOU WOULD SEE IS
TRIB ADDRESS LIST IS EMPTY
IS YOU DID A TRIB ESTABLISH WITH A /W SWITCH
T E=1/W,2/W
WHAT YOU WOULD SEE IS SHOWN BELOW WHEN YOU GET TO THE ?
TYPE EITHER THE NEW PARAMETER OR CARRIAGE RETURN FOR
DEFAULT.
PARAMETERS FOR TRIB 001
000000 PRESET VALUE FOR TX DELAY TIMER
NEW POLL PARAMETERS (WORD)= (0) 0 ?

377 Q VAL FOR ACT
000 R VAL FOR ACT
NEW POLL PARAMETERS (BYTE LOW) = (0) 377 ?

NEW POLL PARAMETERS (BYTE HI) = (0) 0 ?
000 Q VAL FOR INACT
100 R VAL FOR INACT
NEW POLL PARAMETERS (BYTE LOW) = (0) 0 ?

NEW POLL PARAMETERS (BYTE HI) = (0) 100 ?
000 Q VAL FOR UNRSP
020 R VAL FOR UNRSP
NEW POLL PARAMETERS (BYTE LOW) = (0) 0 ?

NEW POLL PARAMETERS (BYTE HI) = (0) 20 ?
010 NMH TO INACT
002 T-O TO UNRSP
NEW POLL PARAMETERS (BYTE LOW) = (0) 10 ?

NEW POLL PARAMETERS (BYTE HI) = (0) 2 ?
010 T-O TO DEAD
004 MAX MSG COUNT
NEW POLL PARAMETERS (BYTE LOW) = (0) 10 ?

NEW POLL PARAMETERS (BYTE HI) = (0) 4 ?

005670 SELECTION INTERVAL TIMING COUNT
NEW POLL PARAMETERS (WORD)= (0) 5670 ?

013650 BABBLING TRIB TIMING COUNT
NEW POLL PARAMETERS (WORD)= (0) 13650 ?
PARAMETERS FOR TRIB 002
000000 PRESET VALUE FOR TX DELAY TIMER

THE SAME AS FOR TRIB 1

013650 BABBLING TRIB TIMING COUNT
NEW POLL PARAMETERS (WORD)= (0) 13650 ?

GLOBAL POLL PARAMETERS
0000015 NUM SYNC
NEW POLL PARAMETERS (WORD)= (0) 15 ?

013650 CARRIER WAIT TIMER COUNTER
NEW POLL PARAMETERS (WORD)= (0) 13650 ?

000062 DELTA T
NEW POLL PARAMETERS (WORD)= (0) 13650 ?

000000 DEAD T
NEW POLL PARAMETERS (WORD)= (0) 13650 ?

000000 POLL DELAY
NEW POLL PARAMETERS (WORD)= (0) 13650 ?

DCLT> (A) ?

7.3.1 EXAMPLES STATISTICAL COMMANDS

IF YOU TYPE A HELP COMMAND
HELP

WHAT YOU WILL SEE IS

DCLT CMDS:

CLEAR OR SHOW EXPECTLIST OR TRANSMITLIST

PRINT OR EXIT

DUMP START-END/B

TRIB SHOW, TRIB ESTABLISH=N/W,N(D), OR TRIB KILL=N, ALL

WHERE W=INDICATES WRITE POLL PARAMS

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=LITP/CHECK,STATUS,ECHO,MODEM,PASS=N

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

LITP=INT,CAB,LOC,REM/

DCLT> (A) ?

THE SAME WILL HAPPEN IF YOU USE THE ?

THE DUMP COMMAND WORKS LIKE THIS

DUM 41260-41300

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

41260 104423 000167 177777 021122 012112 006312 006312 006312

41300 006312

IF YOU HAD USED THE /B SWITCH

```

DUM 41260 41300/8
WHAT YOU WOULD SEE IS
41260 023 211 167 000 372 371 122 024
41270 112 024 312 014 312 014 312 014
41300 312

```

7.3.1 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 PROMT. AND PRINT.

```
MODE=TRANSMIT/PASS=00000
/NOSTATUS/CHECK/NOECHO/NOMODEM
```

```
DCLT> (A) ?
```

IF YOU WERE TO EXECUTE THE RUN COMMAND

```
R M=A/LO=I/ST/CH/PAS=4
```

WHAT YOU WOULD SEE (IF USING DEFAULT TRANSMIT AND EXPECT MESSAGES) IS

```
INI RXQ TXQ TXC CMP EOP RXQ TXQ
TXC CMP EOP RXQ TXQ TXC CMP EOP
MODE=ACTIVE/LOOP=INTERNAL/PASS=0000
/STATUS/CHECK/NOECHO/NOMODEM
```

```
DCLT> (A) ?
```

IF YOU USE THE EXIT COMMAND

```
EXIT
```

WHAT YOU WOULD SEE IS

```
CZCLM EOP
O CUMULATIVE ERRORS
```

```
DR>
```

7.3.1 EXAMPLES PRINT COMMANDS

THE PRINT COMMAND CAN BE USED FROM THE SUPERVISOR (DR>) LEVEL OR THE DCLT (DCLT>) LEVEL. ONCE YOU ARE AT THAT LEVEL YOU WILL KNOW IT BY THE PROMPT "RPT>". AFTER TYPING PRI FOR EITHER THE THE DCLT> OR DR> PROMPTS

```
TYPE "H" OR "?" FOR HELP!
RPT> (A) ?
```

HERE ARE SOME EXAMPLES OF RPT> LEVEL COMMANDS

THE HELP OR ? COMMAND

```
HELP
```

OR

```
?
```

PRODUCES THE FOLLOWING:

DCLT REPORT CMDS:

```
EXIT OP LOG  
TSS NNN(D)/SW OR GSS/SW  
WHERE /SW= /FULL,/ERROR,/OFFSET=NN(0)  
RPT> (A) ?  
THE LOG COMMAND  
LOG  
PRODUCES THE FOLLOWING  
>>> DCLT EVENT LOG ENTRY >>>>>>>>>>>>>>>>>>>>>>>>>>>>  
0:01:16 RECEIVE SPACE QUEUED  
TO-FROM TRIB ADDRESS-001  
ADDR OF MSG=000455 BYTE COUNT= 512  
MODEM STATUS: CTS DSR UCD RTS RI SQD TM  
                0     1     0     0     1     1     1  
>>> DCLT EVENT LOG ENTRY >>>>>>>>>>>>>>>>>>>>>>>>>>>>  
0:01:16 RECEIVE SPACE QUEUED  
TO-FROM TRIB ADDRESS-001  
ADDR OF MSG=000455 BYTE COUNT= 512  
MODEM STATUS: CTS DSR UCD RTS RI SQD TM  
                0     1     0     0     1     1     1  
  
.....  
.....  
.....
```

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

THE TSS COMMANDS CAN BE USED AS FOLLOWS
TO GET THE ERROR COUNTERS FROM A TSS USE
T 1

OR

T 1/E

THIS WILL PRODUCE:

```

000000 DATA MSGS. TXMITTD
000000 DATA MSGS. RX'CVD
000000 SELECTION INTERVALS
000 DATA ERRORS OUT
H0CC 0 BCC 0 REP 0
000 DATA ERRORS IN
H0CC 0 BCC 0 REP 0
000 LOCAL BUFFER ERRS
TU 0 TS 0
000 REMOTE BUFFER ERRS
TU 0 TS 0
000 SELECTION T.O
NRTS 0 IRTS 0
000 LOCAL REPLY T.O
000 REMOTE REPLY T.O

```

TO GET THE ENTIRE TSS FOR A SPECIFIED TRIB
USE THE COMMAND

114

THIS WILL PRODUCE:

000000 TRIB STATUS FLAGS

```

000      NAK REASON
000      TRIB ADDR
000000   POLL STATUS FLAGS
000      POLL RATE
000      POLL PRIORITY
000      NA
000      MAX MSG COUNTER
000      COMM POLL QUOTA
000      RX THRESH ERRS
000      TX THRESH. ERRS
000      SELECT THRESH. ERRS
000000   DATA MSGS. TX' MITD
000000   DATA MSGS. RX' CVD
000000   SELECTION INTERVALS
000      DATA ERRORS OUT
000      H0CC 0 BCC 0 REP 0
000      DATA ERRORS IN
000      H0CC 0 BCC 0 REP 0
000      LOCAL BUFFER ERRS
000      TU 0 TS 0
000      REMOTE BUFFER ERRS
000      TU 0 TS 0
000      SELECTION T-0
000      NRTS 0 IRTS 0
000      LOCAL REPLY T-0
000      REMOTE REPLY T-0
000      HIGHEST MSG # TX'D
000      HIGHEST MSG # ACK'D
000      NEXT MSG # TO TX
000      TPTR ADDR OF LKNBK
000      LAST MSG # TX'D
000      XPTR ADDR OF LKNBK
000      CTL X REPLY T-0
000      STRT OF TX BUFF Q
000      END OF TX BUFF Q
000      HIGHEST MSG # RX'D
000      STRT OF RX BUFF Q
000      END OF RX BUFF Q
000000   TX DELAY TIMER
000      NO DATA MSG COUNTER
000      T-0 COUNTER
000000   PRESET VALUE FOR TX DELAY TIMER
000      Q VAL FOR ACT
000      R VAL FOR ACT
000      Q VAL FOR INACT
000      R VAL FOR INACT
000      Q VAL FOR UNRSP
000      R VAL FOR UNRSP
000      NDM TO INACT
000      # T-0 TO UNRSP
000      # T-0 TO DEAD
000      MAX MSG COUNT
000000   SELECTION INTERVAL TIMING COUNT
000000   BABBLING TRIB TIMING COUNT

```

TO GET A SPECIFIC OFFSET LOCATION FROM THE
TSS USE THE COMMAND

H4

T 1/0=4
THIS IS FOR THE VALUES AT OFFSET 4 BUT YOU COULD
USE ANY VALUE FROM 0 TO 36 OCTAL
THIS WILL PRODUCE:

000 MAX MSG COUNTER
000 COMM POLL QUOTA

TO GET THE GLOBAL ERROR COUNTERS USE
THE COMMAND

G
TO PRODUCE

TO GET THE FULL GSS USE THE COMMAND

G/F
TO PRODUCE:

000 POLPTR
000 RCVPTR
000 XMTPTR
000 TSP
000 NASP
000 BUFPTR
000 S-OF
000 E-OF
000 S-OQ
000 E-OQ
000 S-OC
000 E-OC
000 TIMER STATUS
000 S-R TIMER [L]
000 S-R
000 B-CW TIME [H]
000 RPM CNTR
000000 AACTIM
000 MODEM
000 MODE
000 ALT SW
000 XMTQRT
000000 RTNADD
000 REMOTE STA ERRS
OVRN 0 MHFE 0 SEL 0 STR 0
000 LOCAL STA ERRS
OVRN 0 MHFE 0 UNDR0 OVP 0
000 GBL HDR BCC
000 MAINT DATA BCC ERR
000 TX HDR 1
000 TX HDR 2
000 TX HDR 3
000 TX HDR 4
000 TX HDR 5
000 TX HDR 6
000 RX HDR 1
000 RX HDR 2
000 RX HDR 3
000 RX HDR 4
000 RX HDR 5

```

000      RX HDR 6
000000   R TIMER
000000   D TIMER
000000   POLL DELAY TIMER
000      POLL UPDATE PTR
000      DEAD SCAN
000      CARRIER LOSS TIM
000      USART HANG CTR
000000   NUM SYNC
000000   CARRIER WAIT TIMER COUNTER
000000   DELTA T
000000   DEAD T
000000   POLL DELAY

```

```

*****
* NOTE * - DATA DISPLAYED HERE IS ZEROES ACTUAL DATA WILL VARY
*****

```

TO GET AN OFFSET VALUE USE THE COMMAND

G/O=4

TO PRODUCE

```

000      E-OF
000      S-OQ

```

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

WILL RETURN YOU TO THE SUPERVISOR

IF YOU ENTERED REPORT FROM THE DCLT LEVEL
THEN TYPING

```

EXIT
WILL RETURN YOU TO THE DCLT LEVEL
DCLT>

```

J4

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SEQ 48

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 RUN F IS IF IT DOESNT WORK WITH STATUS PRINTING RUN THE MODE WITH NOSTATUS.

IF YOU ARE USING PASSVIE 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

IF YOU ARE IN MULTIPOINT MODE AND YOU ARE USING THE DATA CHECK FEATURE ALL TRIBUTARYS MUST USE THE SAME TRANSMIT LIST.

```

1
2
3
4
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14
15
16
17
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19
20
21
22
23
24
25
26
27
28
29
30
31
32
33 002000
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
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67
68
69
70 002000
71
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75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98 002000
002000
002000 103
002001 132
002002 103
002003 114
002004 115
002005 000
002006 000
002007 000
002010
002010 103
002011
002011 060
002012
002012 000000
002014
002014 003410
002016
002016 066710
002020
002020 000000
002022
002022 002130
002024
002024 000000
002026
002026 067350
002030
002030 000000
002032
002032 000000
002034
002034 000000
002036
002036 000000
002040

```

,SBTTL PROGRAM HEADER
 BGNMOD

;
 ; THE PROGRAM HEADER IS THE INTERFACE BE. N
 ; THE DIAGNOSTIC PROGRAM AND THE SUPERVISOR.
 ;

POINTER BGNRPT,BGNAU,BGNDU

HEADER CZCLM,C,0,1800.,0,PRI07

```

L$NAME::
      .ASCII /C/
      .ASCII /Z/
      .ASCII /C/
      .ASCII /L/
      .ASCII /M/
      .BYTE 0
      .BYTE 0
      .BYTE 0
L$REV::
      .ASCII /C/
L$DEPO::
      .ASCII /O/
L$UNIT::
      .WORD 0
L$TIME::
      .WORD 1800.
L$HP/P::
      .WORD L$HARD
L$S/CP::
      .WORD 0
L$H/TP::
      .WORD L$HW
L$S/TP::
      .WORD 0
L$LADP::
      .WORD L$LAST
L$STA::
      .WORD 0
L$CO::
      .WORD 0
L$DT/P::
      .WORD 0
L$APT::
      .WORD 0
L$DTP::

```

002040 002124
 002042
 002042 000340
 002044
 002044 000000
 002046
 002046 000000
 002050
 002050 003
 002051 003
 002052
 002052 000000
 002054 000000
 002056
 002056 000000
 002060
 002060 023266
 002062
 002062 050736
 002064
 002064 000000
 002066
 002066 000000
 002070
 002070 052056
 002072
 002072 052050
 002074
 002074 000000
 002076
 002076 023304
 002100
 002100 104035
 002102
 002102 000000
 002104
 002104 050752
 002106
 002106 051772
 002110
 002110 051770
 002112
 002112 050744
 002114
 002114 000000
 002116
 002116 000000
 002120
 002120 000000

99

.WORD L\$DISPATCH
 L\$PRIO:: .WORD PRI07
 L\$ENVI:: .WORD 0
 L\$EXP1:: .WORD 0
 L\$MREV:: .WORD 0
 .BYTE C\$REVISION
 .BYTE C\$EDIT
 L\$EF:: .WORD 0
 .WORD 0
 L\$SPC:: .WORD 0
 L\$DEVP:: .WORD L\$DVTYP
 L\$REPP:: .WORD L\$RPT
 L\$EXP4:: .WORD 0
 L\$EXP5:: .WORD 0
 L\$AUT:: .WORD L\$AU
 L\$DUT:: .WORD L\$DU
 L\$LUN:: .WORD 0
 L\$DESP:: .WORD L\$DESC
 L\$LOAD:: EMT E\$LOAD
 L\$ETP:: .WORD 0
 L\$ICP:: .WORD L\$INIT
 L\$CCP:: .WORD L\$CLEAN
 L\$ACP:: .WORD L\$AUTO
 L\$PRT:: .WORD L\$PROT
 L\$TEST:: .WORD 0
 L\$DLY:: .WORD 0
 L\$HIME:: .WORD 0

M4

SEQ 51

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 22
DISPATCH TABLE

1
2
3
4
5
6
7
8
9

.SBTTL DISPATCH TABLE

;
; THE DISPATCH TABLE CONTAINS THE STARTING ADDRESS OF EACH TEST.
; IT IS USED BY THE SUPERVISOR TO DISPATCH TO EACH TEST.
;--

DISPATCH 1

002122
002122 000001
002124
002124 052064

.WORD 1
L\$DISPATCH:;
.WORD T1

N4

SEQ 52

C:\CLMCO DMP/V 11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 23
DEFAULT HARDWARE P-TABLE

```

1      .SBTTL  DEFAULT HARDWARE P-TABLE
2
3      ;++
4      ; THE DEFAULT HARDWARE P-TABLE CONTAINS DEFAULT VALUES OF
5      ; THE TEST-DEVICE PARAMETERS. THE STRUCTURE OF THIS TABLE
6      ; IS IDENTICAL TO THE STRUCTURE OF THE HARDWARE P-TABLES,
7      ; AND IS USED AS A "TEMPLATE" FOR BUILDING THE P-TABLES.
8      ;--
9
10     BGNHW  DFPTBL
11
12     002126      000010
13     002126
14     002130
15     002130
16
17     ; INDEPENDENT SECTION
18     ; THE NUMBERS IN BRACKETS ARE THE OFFSET VALUES USED IN THE PARAMETER
19     ; CODING SECTION.
20
21
22
23
24
25
26
27     002130      000001
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47     002132      160170
48     002134      000300
49     002136      000240
50     002140      000000
51
52
53     002142      000000
54
55     002144      000004
56     002146      000000
57
58
59     002150
60     002150

```

.WORD L10000-L\$HW/2
L\$HW::
DFPTBL::

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

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

.WORD 160170 ;[2] CSR ADDRESS
.WORD 300 ;[4] INTERRUPT VECTOR
.WORD 240 ;[6] INTERRUPT PRIORITY (5)
.WORD 0 ;[10] DEVICE PARAMETERS WORD
; BIT0=(1=MULTI 0=POINT TO POINT)
; BIT1=(1=CONTROL 0=TRIB)
;[12] DEVICE OPTION TYPE
; 0=DMP,1=DMV
;[14] SPARE
;[16] SPARE

ENDHW
L10000:

CZCLMCO DMP-V 11 DCL1 MACRO V05.00 Thursday 22-Mar-84 16:24 Page 24
 DEFAULT HARDWARE P-TABLE

1
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97
98
99
100

SHITL GLOBAL EQUATES SECTION

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

EQUALS

BIT DEFINITIONS

100000	BIT15--	100000
040000	BIT14--	40000
020000	BIT13--	20000
010000	BIT12--	10000
004000	BIT11--	4000
002000	BIT10--	2000
001000	BIT09--	1000
000400	BIT08--	400
000200	BIT07--	200
000100	BIT06--	100
000040	BIT05--	40
000020	BIT04--	20
000010	BIT03--	10
000004	BIT02--	4
000002	BIT01--	2
000001	BIT00--	1
001000	BIT9--	BIT09
000400	BIT8--	BIT08
000200	BIT7--	BIT07
000100	BIT6--	BIT06
000040	BIT5--	BIT05
000020	BIT4--	BIT04
000010	BIT3--	BIT03
000004	BIT2--	BIT02
000002	BIT1--	BIT01
000001	BIT0--	BIT00

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

000040	EF.START--	32.	START COMMAND WAS ISSUED
000037	EF.RESTART--	31.	RESTART COMMAND WAS ISSUED
000036	EF.CONTINUE--	30.	CONTINUE COMMAND WAS ISSUED
000035	EF.NEW--	29.	A NEW PAGE HAS BEEN STARTED
000034	EF.PWR--	28.	A POWER-FAIL/POWER-UP OCCURRED

C5

SEQ 54

CZCUMCO DMP-V 11 DCL MACRO V05.00 Thursday 22-Mar-84 16:24 Page 25
GLOBAL EQUATES SECTION

0

000340
000300
000240
000200
000140
000100
000040
000000

;
; PRIORITY LEVEL DEFINITIONS
;

PRI07-- 340
PRI06-- 300
PRI05-- 240
PRI04-- 200
PRI03-- 140
PRI02-- 100
PRI01-- 40
PRI00-- 0

;
; OPERATOR FLAG BITS
;

000004
000010
000020
000040
000100
000200
000400
001000
002000
004000
010000
020000
040000
100000

EVL-- 4
LOT-- 10
ADR-- 20
TDU-- 40
ISR-- 100
UAM-- 200
BOE-- 400
PNT-- 1000
PRI-- 2000
IXE-- 4000
IBE-- 10000
IER-- 20000
LOE-- 40000
HOE-- 100000

1

```

; INDEPENDENT EQUATES
3
4      001000      BUFLIM=512.      ;MAX BUFFER SIZE IN BYTES
5      000017      MSG LIM=15.      ; APPLIES TO TX,RX AND CMP BUFFS
6      ;           ;MAX NO. OF MESSAGES PER BUFFER
7      ;           ; (FOR EACH INCREMENT (+1) TO MSG LIM,
8      ;           ; ADD 6 WORDS TO THE POINTER TABLE
9      ;           ; (PTRTAB:) SINCE THIS MEANS 2 MORE
10      ;           ; "POINTER" WORDS PER BUFFER.
11      004000      RBFLIM=2048.      ;MAX NUMBER OF BYTES FROM ALL TRIBS
12      ;           ;ALLOWS FOR 32 TRIBS TIMES DEFAULT
13      ;           ;ITEP MESSAGE SIZE (58 BYTES).
14      ;MODE OF OPERATION EQUATES
15      000000      REC=0      ;RECEIVE MODE
16      000001      TRA=1      ;TRANSMIT MODE
17      000002      PAS=2      ;PASSIVE MODE
18      000003      ACT=3      ;ACTIVE MODE
19      000004      DOW=4      ;DOWN-LINE-LOAD MODE
20      000005      TAL=5      ;TALK MODE
21      000006      LIS=6      ;LISTEN MODE
22
23      ;MAINT LOOP TYPE EQUATES
24
25      000000      NONE= 0      ;NO LOOP
26      000001      TTL= 1      ;INTERNAL TTL
27      000002      CABLE= 2      ;CABLE LOOP
28      000003      MODLOC= 3      ;MODEM LOCAL
29      000004      MODREM= 4      ;MODEM REMOTE
30      000005      MOP= 5      ;MOP
31
32      ;CLOCK ENABLE VALUES TO BE LOADED IN CLK'S CSR
33
34      000100      LCLKEN= 100      ;L-CLOCK CSR VALUE TO ENABLE THE CLOCK
35      000111      PCLKEN= 111      ;P-CLOCK CSR VALUE TO ENABLE THE CLOCK
36      001600      PCLKCT= 1600      ;P-CLOCK COUNT SET REGISTER FOR COUNTER
37
38      ;PARAM WORD EQUATES
39
40      000001      STATB= BIT0      ;OPERATOR AWAKE ASKED FOR
41      000002      DATCKB= BIT1      ;DATA CHECK BIT
42      000004      ECHOB= BIT2      ;ECHO BIT
43      000010      MOCHK= BIT3      ;MODEM CHECK/NO CHECK
44      000020      CRCB= BIT4      ;CRC CALCULATE ASKED FOR
45      000040      PROTOB= BIT5      ;PROTOCOL PROCESSING ASKED FOR
46
47      ;OPTION TYPE EQUATES
48
49
50      000000      DMP= 0      ;DMP OPTION
51      000001      DMV= 1      ;DMV
52      000004      DMP6= 4      ;DMP 8206
53
54      000001      MTP= BIT0      ;MULTIPOINT IF 1 IF PIPT =0
55      000002      TRBB= BIT1      ;TRIB BIT IF 0-TRIB IF 1-CONTROL
56
57
58

```

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 26-1
GLOBAL EQUATES SECTION

```

69      ;EVENT LOG MESSAGE TYPES (USED TO LOCATE EVENT DESCRIPTION IN EVENT TABLE
70      ; AND DISPATCHING TO SEPARATE SECTIONS OF THE EVENT REPORTING SECTION)
71      TXQ= 0      ;TRANSMIT MESSAGE QUEUED
72      TXC= 2      ;TRANSMIT COMPLETE
73      RXQ= 4      ;RECEIVE BUFFER QUEUED
74      RXC= 6      ;RECEIVE COMPLETE
75      DER= 10     ;DEVICE INFORMATION
76      DVI= 12     ;DEVICE ABOUT TO INIT
77      DCK= 14     ;DATA COMPARISON RESULTS
78      MSC= 16     ;MODEM STATUS CHANGE
79      DLE= 20     ;DATA COMPARISON LENGTH ERROR
80      DDE= 22     ;DATA COMPARISON DATA ERROR
81      FOP= 24     ;END OF PASS
82
83      ;EQUATES FOR FLAG WORD
84
85      ININT= BIT0   ;INPUT INT. REC.
86      OTINT= BIT1   ;OUTPUT INT REC
87      QRX= BIT2     ;RX QUED /COMPL
88      QTX= BIT3     ;TX QUED/COMPL
89      ERX= BIT6     ;EXPECT TO GET A RX COMPLETED
90      ETX= BIT7     ;EXPECT TO GET A TX COMPLETED
91
102     RUNST= BIT8    ;INDICATES TRIB COULD GIVE RUN STATE INTERRUPT
103     DLLGA= BIT9    ;INDICATES GO AHEAD FOR DLL
104     INOVR= BIT10   ;INDICATE DEVICE INITIALIZATION OVER
105
106     ; SPECIAL CLI CODES FOR "CHAR" ARGUMENT IN CLI CALLS
107     ; (COMMAND LINE INTERPRETER DEFINITIONS)
108     CLIERR= 0
109     CLIEXI= 1
110     CLIBR= 2
111     CLIBIF= 3
112     CLISPA= 4
113     CLINUM= 5
114     CLIALP= 6
115     CLIALN= 7
116     CLIOCT= 8
117     CLIDEC= 9
118     CLISTR= 10
119
120     ; DEFS FOR COMMAND LINE INTERPRETATION ACTION VALUES
121     NULL=0
122     CLEAR=1
123     SHOW=2
124     CHECK=3
125     RUN=4
126     HLP=5
127     CSHEXP=6
128     CSHTRN=7
129     SETEXP=10
130     SETTRN=11
131     SIZE=12
132     QCOPY=13
133     NUM=14
134     OPRMSG=15
135

```

F5

SEQ 57

CZCLMCO DMP/V-11 DCU T MACRO V05.00 Thursday 22-Mar-84 16:24 Page 26-2
GLOBAL EQUATES SECTION

136	000016	STATUS=16
137	000017	ENDQ0=17
138	000020	CMMSG0=20
139	000021	CMMSG1=21
140	000022	CMMSG2=22
141	000023	CMMSG3=23
142	000024	CMMSG4=24
143	000025	CMMSG5=25
144	000026	CMMSG6=26
145	000027	ATVMOD=27
146	000030	PASMOD=30
147	000031	RECMOD=31
148	000032	LISMOD=32
149	000033	DLLMOD=33
150	000034	TRAMOD=34
151	000035	TALMOD=35
152	000036	NO=36
153	000037	ECHO=37
154	000040	CRC=40
155	000041	PROTO=41
156	000042	PASC=42
157	000043	MOP=43
158	000044	TTLLCP=44
159	000045	CBLLCP=45
160	000046	LMDLOP=46
161	000047	RMDLOP=47
162	000050	NOTNUF=50
163	000051	BADCHR=51
164	000052	DMP5=52
165	000053	DMPE=53
166	000054	DMPQ=54
167	000055	PRNT=55
168	000056	MOSC=56
169	000057	SLST=57
170	000060	ETRB=60
171	000061	KTRB=61
172	000062	KALL=62
173	000063	EKTB=63
174	000064	CTPP=64
175	000065	ETWS=65
176	000066	EXIT=66
177	000067	SETET=67
178		
179	000001	RPHLP=1
180	000002	RPEXT=2
181	000003	RPLOG=3
182	000004	RPGSS=4
183	000005	RPTSS=5
184	000006	RPTSN=6
185	000007	RPSWE=7
186	000010	RPSWF=10
187	000011	RPSWO=11
188	000012	RNOTNF=12
189		
190		
202		
203		

;REV B EC

; DEVICE DEPENDENT EQUATES

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 26-3
GLOBAL EQUATES SECTION

```

204      ; MODEM SIGNAL BIT DEFINITIONS
205      ; IF SIGNAL AVAILABLE IN DEVICE, EQUATE NAME TO BIT POSITION,
206      ; ELSE EQUATE IT TO = 0
207      000004      CTS=      BIT2      ;CLEAR TO SEND (CIRCUIT CB)
208      000010      DSR=      BIT3      ;DATA SET READY (CIRCUIT CC)
209      000001      DCD=      BIT0      ;DATA CARRIER DETECT (CIRCUIT CF)
210      000040      RTS=      BIT5      ;REQUEST TO SEND (CIRCUIT CA)
211      000200      RI=       BIT7      ;RING INDICATOR (CIRCUIT CE)
212      040000      SQD=      BIT14     ;SIGNAL QUALITY DETECT (CIRCUIT CG)
213      002000      TM=       BIT10     ;MODEM IN TEST MODE (RS 449 ONLY CIRCUIT TM)
214
225
226      ; DEVICE BIT DEFINITIONS
227
228      000200      RQI=      BIT7
229      000200      RDO=      BIT7
230      040000      MCLR=     BIT14
231      000020      RDI=      BIT4
232      000001      IEI=      BIT0
233      000020      IEO=      BIT4
234

```

H5

SEQ 59

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GLOBAL DATA SECTION

```

1      .SBTTL GLOBAL DATA SECTION
2      .SBTTL          DEFAULT MESSAGE DEFINITIONS AND TABLES
3
4      ;**
5      ; THE GLOBAL DATA SECTION CONTAINS DATA THAT ARE USED
6      ; IN MORE THAN ONE TEST.
7      ;--
8
9      ;MESSAGE BYTE COUNT TABLE
10
11     002150
12     002150 000001
13     002152 000001
14     002154 000001
15     002156 000001
16     002160 000100
17     002162 000072
18     002164 000101
19     002166 000000
20     002170 000001
21     002172 000005
22     002174 000254
23
24
25     ;MESSAGE ADDRESS TABLE
26
27     002176
28     002176 002220
29     002200 002221
30     002202 002222
31     002204 002223
32     002206 002224
33     002210 002324
34     002212 002416
35     002214 002524
36     002216 002646
37
38     002220 000
39     002221 377
40     002221 377
41     002222
42     002222 252
43     002223
44     002223 125
45     002224
46     002224
47     002224 177603 157427 031011
48     002232 047321 163715 105221
49     002240 143325 142304
50     002244 040041 014116 052606
51     002252 172334 105025 123754
52     002260 111337 111523
53     002264 030030 145064 137642
54     002272 143531 063617 135075
55     002300 066730 026575
56     002304 052012 053627 070071
57     002312 151172 165044 031605

```

DMSGCT: MSG0: .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
 DLLM1C: .WORD DLLM1E-DLLM1 ;DLL MSG 1 COUNT
 DLLM2C: .WORD DLLM2E-DLLM2 ;DLL MSG 2 COUNT

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: .WORD 177603,157427,031011,047321,163715,105221,143325,142304 ;"CCCC" 512-BIT (VS. 511 BITS) TEST PATTERN
 .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

CZC/MCO DMP-V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 27-1
 DEFAULT MESSAGE DEFINITIONS AND TABLES

	002320	166632	016741		
51	002324			MSG4:	
52	002324			MSG5:	;"INTERPROCESSOR TEST PROGRAM'S (ITEP)" MESSAGE
53					;"#1, (DP1:)"
54	002324	177	177	044	.ASCII <177><177>/#A THE QUICK BROWN FOX JUMPED OVER THE LAZY DOG./
	002327	101	040	124	
	002332	110	105	040	
	002335	121	125	111	
	002340	103	113	040	
	002343	102	122	117	
	002346	127	116	040	
	002351	106	117	130	
	002354	040	112	125	
	002357	115	120	105	
	002362	104	040	117	
	002365	126	105	122	
	002370	040	124	110	
	002373	105	040	114	
	002376	101	132	131	
	002401	040	104	117	
	002404	107	056		
55	002406	015	012	001	.ASCIIZ <15><12><001><177><177><177><177>
	002411	177	177	177	
	002414	177	000		
56	002416				MSG5:
57	002416				MSG6:
58	002416	043	044	041	.ASCII /#?!" &'()*+,-.0123456789:;<=>@ABCDEFGHIJKLMNOPQRSTUVWXYZ/
	002421	042	040	046	
	002424	047	050	051	
	002427	052	053	054	
	002432	055	056	060	
	002435	061	062	063	
	002440	064	065	066	
	002443	067	070	071	
	002446	072	073	074	
	002451	075	076	077	
	002454	100	101	102	
	002457	103	104	105	
	002462	106	107	110	
	002465	111	112	113	
	002470	114	115	116	
	002473	117	120	121	
	002476	122	123	124	
	002501	125	126	127	
	002504	130	131	132	
59	002507	057	133	134	.ASCIIZ ?/[\] ^ _ ` ?
	002512	135	136	137	
	002515	045	000		
60	002517				MSG6:
61					.EVEN
62					
63					;"*****"
64					;"THESE THREE STORAGE AREAS MUST NOT BE SEPARATED !!!!!"
65					
66	002520	045	116	045	OPBEPT: .ASCII /#N#A/
	002523	101			
67	002524				OPBUF: .BLKB 82. ;BUFFER FOR OPERATOR SPEC'D MESSAGES

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 27-2
 DEFAULT MESSAGE DEFINITIONS AND TABLES

```

68 002646      OPEND:
69
70      ; THE ABOVE THREE LINES MUST BE KEPT TOGETHER
71      ; *** *****
72
73 002646      033      MSG8: .BYTE 53      ;RECEIVE BUFFER FILL PATTERN
74 002647      MSG8:
75
76      ; DOWN-LINE-LOAD MESSAGE DEFINITIONS
77
78 002647      006      DLLM1: .BYTE 6
79 002650      000      PASS1: .BYTE 0
80 002651      000      PASS2: .BYTE 0
81 002652      000      PASS3: .BYTE 0
82 002653      000      PASS4: .BYTE 0
83 002654      DLLM1E:
84 002654      000      DLLM2: .BYTE 0      ;CODE
85 002655      000      .BYTE 0      ;LOAD NUMBER
86 002656      006      .BYTE 6      ;LOAD ADDRESS LSB
87 002657      000      .BYTE 0
88 002660      000      .BYTE 0
89 002661      000      .BYTE 0      ;LOAD ADDRESS
90
91      ; IMAGE DATA
92
93 002662      000240      NOP      ;BYTE COUNT=240 (USED ONLY IN CATS VTC LOADER)
94 002664      005037      000006      CLR      @06
95 002670      012706      001000      MOV      @1000,SP
96 002674      012701      177560      MOV      @177560,R1
97 002700      010700      MOV      PC,R0
98 002702      062700      000034      ADD      @<MSG-,>,R0
99 002706      105761      000004      1$: TSTB      4(R1)
100 002712      100375      BPL      1$
101 002714      112061      000006      MOVB      (R0)+,6(R1)
102 002720      001372      BNE      1$
103 002722      012737      000026      000024      MOV      @26,@024
104 002730      005037      000026      CLR      @026
105 002734      000777      BR
106 002736      012      015      102      MSG: .ASCII <12><15>/BOOT MESSAGE WAS RECEIVED SUCCESSFULLY -END OF TEST!!!
      002741      117      117      124
      002744      040      115      105
      002747      123      123      101
      002752      107      105      040
      002755      127      101      123
      002760      040      122      105
      002763      103      105      111
      002766      126      105      104
      002771      040      123      125
      002774      103      103      105
      002777      123      123      106
      003062      125      114      114
      003005      131      040      055
      003010      105      116      104
      003013      040      117      106
      003016      040      124      105
      003021      123      124      041
      003024      041

```

K5

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CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 27-3
 DEFAULT MESSAGE DEFINITIONS AND TABLES

107	003025	012	015	056	.ASCIZ <12><15>/....RELOAD PROGRAM..../
	003030	056	056	056	
	003033	122	105	114	
	003036	117	101	104	
	003041	040	120	122	
	003044	117	107	122	
	003047	101	115	056	
	003052	056	056	056	
	003055	000			
108					
109					:::padding TO OBTAIN 240 BYTES OF DATA
110	003056	177603	157427	031011	.WORD 177603,157427,031011
111	003064	047321	163715	105221	.WORD 047321,163715,105221
112	003072	143325	142304	040041	.WORD 143325,142304,040041
113	003100	014116	052606	172334	.WORD 014116,052606,172334
114	003106	105025	123754	111337	.WORD 105025,123754,111337
115	003114	111523	030030	145064	.WORD 111523,030030,145064
116					
117					:::CRC VALUE FOR ABOVE 240 BYTES OF DATA
118	003122	152645			.WORD 152645 ;CRC
119					
120	003124	006			.BYTE 6
121	003125	000			.BYTE 0
122	003126	000			.BYTE 0
123	003127	000			.BYTE 0
124	003130				
125					DLLM2E;
126					.EVEN
127					

L5

SEQ 63

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 28
 DEFAULT MESSAGE DEFINITIONS AND TABLES

```

1      ;COMMAND LINE BUFFER, DATA LOCATIONS AND MESSAGES FOR ACTION ROUTINES
2
3 003130      CMDBUF: .BLKB 82.      ;BUFFER FOR OPERATOR COMMANDS
4 003252 000000      KEYWD1: .WORD 0      ;THIS LOC WILL =1 IF CLEAR TYPED, 2 FOR SHOW,
5      ; A 4 IF RUN WAS TYPED, 5 IF HELP WAS TYPED
6 003254 000000      QUALFG: .WORD 0      ;THIS LOC HOLDS QUALIFIER VALUE (SIZE OR COPY)
7 003256 000000      QUALVL: .WORD 0
8 003260 024123      HLPTAB: .WORD HLP1
9 003262 024136      .WORD HLP2
10 003264 024254      .WORD HLP2B
11 003266 024344      .WORD HLP2C
12 003270 024417      .WORD HLP3
13 003272 024504      .WORD HLP3A ;REV B EC
14 003274 024531      .WORD HLP4
15 003276 024610      .WORD HLP4A
16 003300 024666      .WORD HLP5
17 003302 024756      .WORD HLP6
18 003304      HLPEND:
19 003304 025377      RHLPTB: .WORD RHLP1
20 003306 025421      .WORD RHLP2
21 003310 025436      .WORD RHLP3
22 003312 025470      .WORD RHLP4
23 003314      RHLPEN:
24
25
26
27 003314 025647 025656 025663 SHTYTB: .WORD SHTYP0,SHTYP1,SHTYP2,SHTYP3,SHTYP4,SHTYP5,SHTYP6,SHTYP7
   003322 025670 025675 025703
   003330 025710 025716
28
29      ; THE LIST OF BYTES BELOW ARE THE FIRST BYTES OF THE PREDEFINED MESSAGES
30      ; USED TO "SHOW" THE TRANSMIT AND COMPARE BUFFER CONTENTS.
31
32 003334 000 377 252 SHTAB: .BYTE 0,377,252,125,203,177,043
   003337 125 203 177
   003342 043
33 003343
34
35
36 003344 026674      MODES: .WORD M00 ;ADDRESSES OF MODE TYPES IN ASCII
37 003346 026704      .WORD M01
38 003350 026715      .WORD M02
39 003352 026725      .WORD M03
40 003354 026734      .WORD M04
41 003356 026751      .WORD M05
42 003360 026756      .WORD M06
43
44 003362 026765      LOOPS: .WORD LP0 ;ADDRESSES OF LOOP TYPES IN ASCII
45 003364 026775      .WORD LP1
46 003366 027006      .WORD LP2
47 003370 027014      .WORD LP3
48 003372 027027      .WORD LP4
49
50      ;COMMAND LINE TRAVERSE LOCATIONS (USED BY "P$TRV")
51
52 003374 000000      P$BUF A: .WORD 0      ;LOC. TO HOLD ADDR. OF CMD LINE BUFFER
53 003376 000000      P$TREE: .WORD 0      ;LOC. TO HOLD ADDR. OF PARSING TREE

```

M5

SEQ 64

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 28-1
 DEFAULT MESSAGE DEFINITIONS AND TABLES

54	003400	000000	P\$ACT:	.WORD	0	;LOC. TO HOLD ADDR. OF ACTION ROUTINE
55	003402	000000	P\$CNT:	.WORD	0	;LOC. TO BE A COUNTER LOCATION
56	003404	000000	P\$NUM:	.WORD	0	;LOC. TO HOLD NUMERIC VALUE FROM PARSE
57	003406	000000	P\$RADX:	.WORD	0	;LOC. TO HOLD RADIX USED(LO) AND +/- (HI BYTE)
58	003410	000	P\$NNUF:	.BYTE	0	;RETURN *0 IF ENOUGH OF COMMAND FOUND
59	003411	000	P\$GDBD:	.BYTE	0	;RETURN CODE 0 IF NO ERROR FOUND
60	003412	000	WRFLG:	.BYTE	0	;WRITE FLAG
61				.EVEN		
62	003414	000000	VALTRB:	.WORD	0	;VALID TRIB FLAG..IF SET -1 THEN VALID REV B EC
63						

N5

SEQ 65

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 29
MESSAGE BUFFERS AND POINTER TABLES

1		.SBTTL	MESSAGE BUFFERS AND POINTER TABLES
2			
3	003416	TXBUF: .BLKB	BUFLIM ;TRANSMITTER BUFFERS
4	004416	CMRBUF: .BLKB	BUFLIM ;COMPARISON BUFFERS
5	005416	RXBUF: .BLKB	RBFLIM ;RECEIVER BUFFERS
6			
7	011416	PTRTAB: .BLKW	MSG LIM*2 ;TABLE FOR MESSAGE ADDRS. & BYTE COUNTS
8	011512	PTR13: .BLKW	MSG LIM*2
9	011606	PTR23: .BLKW	MSG LIM*2
10	011702	.BLKW	MSG LIM*2*31. ;TABLE FOR MULTIPOINT POINTERS
11			
12	015406	PTREND:	; END OF MSG. PTR. TABLE
13			
14	015406	.BLKW	2 ;FILLER FOR OVERFLOW OF RX POINTER TABLE
15	015412	CPTCLS: .BLKW	32. ;TABLE FOR MULTIPOINT RX POINTERS
16	015512	CPTCLS: .BLKW	32. ;TABLE FOR MULTIPOINT TX POINTERS
17	015612	DVRCLS: .BLKB	32. ;TABLE (BYTES) FOR REC COUNTS
18	015652	DVTCLS: .BLKB	32. ;TABLE (BYTES) FOR TX COUNTS
19	015712	TRIBLS: .BLKB	32. ;TABLE (BYTES) OF TRIB ADDRESSES
20	015752 177777	.WORD	177777
21	015754 000000	TBTOT: .WORD	0 ;TOTAL NUMBER OF TRIBS IN LIST
22	015756 000000	TRIBN: .WORD	0 ;CURRENT TRIB NUMBER
23	015760 000000	INOW: .WORD	0 ;WORD INDEX
24	015762 000000	INDEX: .WORD	0 ;BYTE INDEX FOR TRIBS
25	015764 000000	CTX: .WORD	0 ;COUNTER FOR TX BUFFER COMPLETE INTERRUPTS
26	015766 000000	CRX: .WORD	0 ;COUNTER FOR RX BUFFER COMPLETE INTERRUPTS
27	015770 000000	RSPTRS: .WORD	0 ;STACK POINTER FOR RX INTERPUTS ON STACK
28	015772 000000	RSPTRE: .WORD	0 ;STACK POINTER FOR RX INTERPUTS OFF STACK
29	015774 000000	TSPTR: .WORD	0 ;STACK POINTER FOR TX INTERRUPTS
30	015776	TXSTAK: .BLKW	6.
31	016012	RXSTAK: .BLKW	54.
32	016166	RXSKEN:	;TX AND RX INT STACKS

CZCLMCO DMP/V 11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 30
MESSAGE BUFFERS AND POINTER TABLES

```

1
2
3 016166 000000
4 016170 000
5 016171 000
6 016172 000
7 016173 100
8 016174 000
9 016175 020
10 016176 010
11 016177 002
12 016200 010
13 016201 004
14
15 016202 005670
16 016204 013560
17
18
19
20 016206 000015
21 016210 013560
22 016212 000062
23 016214 023420
24 016216 000000
25 016220
26
27
28
29
30
31
32
33
34
35
36 016220
37
38
39 017220
40

```

POLL DEFAULTS FOR TRIBS

```

POLDEF: .WORD 0      ;TX DELAY TIMER
        .BYTE 377    ;Q FOR ACTIVE
        .BYTE 0      ;R FOR ACTIVE
        .BYTE 0      ;Q FOR INACTIVE
        .BYTE 100    ;R FOR INACTIVE
        .BYTE 0      ;Q FOR PDEAD
        .BYTE 20     ;R FOR PDEAD
        .BYTE 10     ;NDM INACTIVE
        .BYTE 2      ;T/O TO PDEAD
        .BYTE 10     ;T/O TO DEAD
        .BYTE 4      ;MAX MESSAGE COUNTER
        DMP
DMVDF1: .WORD 5670    ;SELECT TIMER [3 SECS ]      DMV 454
DMVDF2: .WORD 13560   ;INTERVAL TIMER [6 SECS ]    1130

```

GLOBAL DEFAULTS

```

GLBDEF: .WORD 15      ;NUMSYNC
DMVDF3: .WORD 13560   ;CARRIER WAIT TIMING [6 SECS] 1130
DMVDF4: .WORD 62      ;DELTA T                      24
DMVDF5: .WORD 23420   ;DEAD T                      1750
        .WORD 0       ;POLL DELAY
GLBEND:

```

```

*****
* NOTE * - THE VALUES FOR DMVDF1-DMVDF5 ARE ASSEMBLED FOR DMP IF
* THIS IS A DMV THE INIT CODE CHANGES THESE VALUES TO DEFAULTS
* FOR DMV. THIS IS POSSIBLE BECAUSE THIS PROGRAM WILL BE LOADED
* ONE TIME FOR EVERY DEVICE.
*****

```

TRIB LIST OF POLL PARAMETERS

```

POLLIS: .BLKW 8,32,

```

GLOBAL LIST OF POLL PARAMETERS

```

GLBPLS: .BLKW 5,

```

C6

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CZCUMCO DMP/V 11 DCIT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 31
MESSAGE BUFFERS AND POINTER TABLES

1	017232	000000	MPLY:	.WORD	0	;MULTIPLIER
2	017234	000000	RXPTR:	.WORD	0	;RECEIVER MESSAGE POINTER
3	017236	000000	TXPTR:	.WORD	0	;TRANSMITTER BUFFER POINTER
4	017240	000000	CMPPTR:	.WORD	0	;COMPARISON BUFFER POINTER
5	017242	000000	CMPTOT:	.WORD	0	;CMP MSG TOTAL
6	017244	000000	CTOTCC:	.WORD	0	;COMPARE BUFFER CHAR. COUNT
7	017246	000000	CCURAD:	.WORD	0	;CURRENT ADDR OF CMP BUFF TO ADD AT
8	017250	000000	DVTXA:	.WORD	0	;DEVICE TX ADDR
9	017252	000000	DVTCC:	.WORD	0	;DEVICE TX CHAR COUNT
10	017254	000000	DVTTB:	.WORD	0	;DEVICE TRIBN
11	017256	000000	DVTCT:	.WORD	0	;DEVICE TX MESSAGE COUNT
12	017260	000000	TXMTOT:	.WORD	0	;TX MSG TOTAL
13	017262	000000	TTOTCC:	.WORD	0	;TX BUFFER CHAR. COUNT
14	017264	000000	TCURAD:	.WORD	0	;CURRENT ADDR. OF TX BUFF TO ADD AT
15	017266	000000	DVRTB:	.WORD	0	;RECEIVE TRIBN
16	017270	000000	DVRXA:	.WORD	0	;DEVICE RX ADDR
17	017272	000000	DVRCC:	.WORD	0	;DEVICE RX CHAR COUNT
18	017274	000000	DVRCT:	.WORD	0	;DEVICE RX MESSAGE COUNT
19	017276	000000	RXMTOT:	.WORD	0	;RX MSG TOTAL
20						
21	017300	000000	LNCNT:	.WORD	0	;NUMBER OF OPERATOR AWAKE MSGS
22	017302	000000	OPVAR:	.WORD	0	;HOLDER FOR OPTIONAL VARIABLE (1)
23	017304	000000	OPVAR1:	.WORD	0	;HOLDER FOR OPTION VARIABLE (2)
24	017306	000000	PSCNT:	.WORD	0	;PASS COUNTER
25	017310	000000	ERRCNT:	.WORD	0	;ERROR COUNTER
26	017312	000000	STADD:	.WORD	0	;START ADDR.
27	017314	000000	ENADD:	.WORD	0	;END ADDR. FOR DUMP
28	017316	000000	BYTBIT:	.WORD	0	;BYTE BIT FOR DUMP ROUTINE
29	017320	000000	CLNSET:	.WORD	0	;CLEANSET FLAG SET AND CLEARED IN CLEAN UP
30						;INDICATES TO OUTPUT HANDLER THAN NO OUPUTS SHOULD
31						;BE PRINTED
32	017322	000000	RQIFLG:	.WORD	0	;RQI FLAG
33	017324	000000	FTLFLG:	.WORD	0	;USED AS FATEL ERROR FLAG
34	017326	000000	TSSFLG:	.WORD	0	;USED AS TSS FLAG
35	017330	000000	OVRCNT:	.WORD	0	;USED FOR QUE OVERFLOW FLAG
36						;OTHER MESSAGE RELATED STORAGE LOCATIONS
37						
38	017332	000000	MSGTYP:	.WORD	0	;TYPE OF DATA 0=0'S,1=1'S,2=10'S,3=01'S
39						;4=CCITT,5=QUICK FOX,6=ALPHA/NUM,7=OPER
40	017334	000000	CURCC:	.WORD	0	;TX/RX/CMP CHAR COUNT
41	017336	000000	CPTRR:	.WORD	0	;CURRENT RX POINTER
42	017340	000000	CPIR:	.WORD	0	;CURRENT POINTER
43	017342	000000	CURADD:	.WORD	0	;CURRENT TX/RX/CMP START ADDD
44	017344	000000	TOTCC:	.WORD	0	;TOTAL CHAR COUNT NOT MORE THEN "BUFLIM"
45	017346	000000	OFSET:	.WORD	0	;OFFSET COUNT
46	017350	000000	TEMP:	.WORD	0	;TEMPORARY LOCATIONS (USED A LOT)
47	017352	000000	TEMP1:	.WORD	0	
48	017354	000000	TEMP2:	.WORD	0	
49	017356	000000	TEMP3:	.WORD	0	
50	017360	000000	TEMP4:	.WORD	0	
51	017362	000000	TEMP5:	.WORD	0	
52	017364	000000	SAVSP:	.WORD	0	;STACK POINTER SAVE AREA
53	017366	000000	CONOTM:	.WORD	0	;CONTROL OUT ERROR MSG. ADDRESS AND TSS AND GSS MSGS.
54	017370	000	GOOD:	.BYTE	0	;BYTE TO HOLD EXPECTED MESSAGE DATA BYTE FOR ERR REPORT
55	017371	000	BAD:	.BYTE	0	;BYTE TO HOLD RECEIVED MESSAGE DATA BYTE FOR ERR REPORT
56						

CZCLMCO DMP V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 32
MESSAGE BUFFERS AND POINTER TABLES

1					
2					
3	017372	000000	LOGUNT: .WORD	0	LOC. TO HOLD LOGICAL UNIT NUMBER
4	017374	000000	PCADD: .WORD	0	LOC. HOLD PC OF CALLING ROUTINE
5	017376	000000	DCLFLG: .WORD	0	LOC. TO HOLD DO CLEAN FLAG 1 IF DDCLEAN INIT 0 IF NOT.
6	017400	000000	RESFLG: .WORD	0	LOC TO HOLD FLAG (-1) THAT A RESTART WAS GIVEN
7	017402	000000	MODTYP: .WORD	0	DCLT MODE OF OPERATION TYPE
8					(0=REC-ONLY, 1=TX-ONLY, 2=PASSIVE-LOOPBK,
9					3=ACTIVE-LOOPBK, 4=DOWN L.L., 5=TALK, 6=LISTEN)
10	017404	000000	MLTYP: .WORD	0	MAINTENANCE LOOP TYPE (0=NONE, 1=INTERNAL TTL,
11					2=CABLE, 3=MODEM-ANALOG LOOPBK (LOCAL),
12					4=MODEM-DIGITAL LOOPBK (REMOTE), 5=MOP)
13	017406	000000	FHDPLX: .WORD	0	FULL OR HALF DUPLEX FLAG (1=FULL FROM P-TABLE)
14	017410	000002	PARAM: .WORD	2	PROGRAM PARAMETERS
15					BIT0= STATUS MSGS TO OPR PRINTED (1=YES)
16					BIT1= DATA CHECKING DONE ON RCVD MSGS (1=YES)
17					BIT2= ECHO (TRANSMIT) RCVD MSG.(PASSIVE)(1=YES)
18					BIT3= MODEM STATUS CHECK (1=YES)
19					BIT4= CRC CALC./CHECK DONE (1=YES)
20					BIT5= PROTOCOL EMULATION (1=YES)
21					BITS= SPARE
22	017412	000000	RPASS: .WORD	0	PASS NUMBER FROM RUN COMMAND
23	017414	000000	FLAG: .WORD	0	DEVICE FLAG WORD
24	017416	000000	RUNING: .WORD	0	-1 = DCLT RUNNING(DEVICES ARE COMMUNICATING)
25					
26					MODE DISPATCH TABLE
27	017420	060036	MODE: .WORD	RXONLY	RX ONLY DISPATCH
28	017422	060064	.WORD	TXONLY	TX ONLY DISPATCH
29	017424	060122	.WORD	PLCK	PASSIVE LOOP BACK DISP
30	017426	060150	.WORD	ALCK	ACTIVE LOOP BACK DISP
31	017430	061420	.WORD	DLL	DOWN LINE LOAD DISP
32	017432	062276	.WORD	TALCK	TALK MODE DISPATCH
33	017434	062530	.WORD	LISCK	LISTEN MODE DISPATCH
34					
35					
36					CLOCK TABLES, EVENT LOG AND POINTERS
37	017436	000000	CLKCSR: .WORD	0	CLOCK CSR ADDRESS
38	017440	000000	CLKBR: .WORD	0	CLOCK INTERRUPT LEVEL
39	017442	000000	CLKVEC: .WORD	0	CLOCK INTERRUPT VECTOR
40	017444	000074	CLKHZ: .WORD	60.	CLOCK'S HERTZ RATE
41	017446	000000	CLKEN: .WORD	0	CLOCK'S CSR VALUE TO INTRPT. ENABLE IT
42					
43	017450	000000	TIMMIN: .WORD	0	PLACE TO KEEP TIME-SINCE-START
44	017452	000000	TIMSEC: .WORD	0	
45	017454	000000	TIMTCK: .WORD	0	PLACE TO KEEP # OF TICKS/SEC
46					
47	017456	000000	TIMER1: .WORD	0	EVENT TIMER #1 (TICKS)
48	017460	000000	TIMER2: .WORD	0	EVENT TIMER #2 (TICKS)
49	017462	000000	TIMERS: .WORD	0	EVENT TIMER #3 (SECONDS)
50					

E6

SEQ 69

CZCLMCO DMP/V-11 DCLT MACRO V05.00
CLOCK TABLES, EVENT LOG AND POINTERS

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1		
2	017464	017466
3	017466	
4	020522	
5		
6		
7		
8	020524	000000
9		

```

;EVENT LOG TABLE AND ITS NEXT ENTRY POINTER
EVTPIR: .WORD    EVILOG    ;POINTER TO NEXT FREE SPACE IN EVENT LOG
EVTLOG: .BLKW    270,      ;EVENT LOG BUFFER
EVTEND: .BLKW    1,        ;APPROXIMATE END OF EVENT TABLE (ALLOWS CIRCULAR QUE)

.SBTTL                                MODEM DATA SECTION

MODS:   .WORD    0          ;MODEM STATUS

```

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MODEM DATA SECTION

1
2
3 020526 000004
4 020530 000010
5 020532 000001
6 020534 000040
7 020536 000200
8 020540 04000C
9 020542 002000
10 020544
11
12
13
14 020544 031530
15 020546 031534
16 020550 031540
17 020552 031544
18 020554 031550
19 020556 031554
20 020560 031560
21
22
23
24
25 020562 030001
26 020564 030025
27 020566 030054
28 020570 030101
29 020572 030127
30 020574 030174
31 020576 030144
32 020600 026765
33 020602 030222
34 020604 030257
35 020606 030312
36
37
38
39 020610 000000
40 020612 000000
41 020614 000000
42 020616 000000
43 020620 000000
44 020622 000000
45
46
47
48 020624 043444
49 020626 043444
50 020630 043444
51 020632 043444
52 020634 043522
53 020636 043622
54 020640 044056
55 020642 044136
56 020644 044056
57 020646 043776

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	EVMSDR	;DATA SET READY (CIRCUIT CC)
	.WORD	EVMSQD	;DATA CARRIER DETECT (CIRCUIT CF)
	.WORD	EVMSRTS	;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

EVTLS:	.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	LPO	;NULL STRING
	.WORD	EDDL	;DATA COMPARE LENGTH ERROR
	.WORD	EDDDE	;DATA COMPARE DATA ERROR
	.WORD	EDEOP	;END OF PASS

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
	.WORD	RPTMSC	;PLACE HOLDER
	.WORD	RPTDLE	;DATA COMPARISON LENGTH ERROR
	.WORD	RPTDDE	;DATA COMPARISON DATA ERROR

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MODEM DATA SECTION

58 020650 043672

.WORD RPTEOP ;END OF PASS

59

60

61 020652 000000

DEV1: .WORD 0

;TEMP LOCS TO HOLD DATA FOR EVENT REPORTING

62 020654 000000

DEV2: .WORD 0

; AND SHOW MODE... SUBROUTINE

63 020656 000000

DEV3: .WORD 0

64 020660 000000

DEV4: .WORD 0

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TABLE FOR TSS ASCII AND ROUTINES

1		.SBTTL	TABLE FOR TSS ASCII AND ROUTINES	
2	020662 032112	TSSLST: .WORD	TSS0A	; POINTER FOR OFFSET 0 ASCII
3	020664 032146	.WORD	TSS1A	; POINTER FOR OFFSET 1 ASCII
4	020666 032216	.WORD	TSS2A	; POINTER FOR OFFSET 2 ASCII
5	020670 032252	.WORD	TSS3A	; POINTER FOR OFFSET 3 ASCII
6	020672 032325	.WORD	TSS4A	; POINTER FOR OFFSET 4 ASCII
7	020674 032373	.WORD	TSS5A	; POINTER FOR OFFSET 5 ASCII
8	020676 032455	.WORD	TSS6A	; POINTER FOR OFFSET 6 ASCII
9	020700 032545	.WORD	TSS7A	; POINTER FOR OFFSET 7 ASCII
10	020702 032603	.WORD	TSS10A	; POINTER FOR OFFSET 10 ASCII
11	020704 032637	.WORD	TSS11A	; POINTER FOR OFFSET 11 ASCII
12	020706 032675	.WORD	TSS12A	; POINTER FOR OFFSET 12 ASCII
13	020710 032772	.WORD	TSS13A	; POINTER FOR OFFSET 13 ASCII
14	020712 033066	.WORD	TSS14A	; POINTER FOR OFFSET 14 ASCII
15	020714 033151	.WORD	TSS15A	; POINTER FOR OFFSET 15 ASCII
16	020716 033235	.WORD	TSS16A	; POINTER FOR OFFSET 16 ASCII
17	020720 033320	.WORD	TSS17A	; POINTER FOR OFFSET 17 ASCII
18	020722 033404	.WORD	TSS20A	; POINTER FOR OFFSET 20 ASCII
19	020724 033476	.WORD	TSS21A	; POINTER FOR OFFSET 21 ASCII
20	020726 033565	.WORD	TSS22A	; POINTER FOR OFFSET 22 ASCII
21	020730 033653	.WORD	TSS23A	; POINTER FOR OFFSET 23 ASCII
22	020732 033740	.WORD	TSS24A	; POINTER FOR OFFSET 24 ASCII
23	020734 034027	.WORD	TSS25A	; POINTER FOR OFFSET 25 ASCII
24	020736 034114	.WORD	TSS26A	; POINTER FOR OFFSET 26 ASCII
25	020740 034145	.WORD	TSS27A	; POINTER FOR OFFSET 27 ASCII
26	020742 034230	.WORD	TSS30A	; POINTER FOR OFFSET 30 ASCII
27	020744 034302	.WORD	TSS31A	; POINTER FOR OFFSET 31 ASCII
28	020746 034361	.WORD	TSS32A	; POINTER FOR OFFSET 32 ASCII
29	020750 034444	.WORD	TSS33A	; POINTER FOR OFFSET 33 ASCII
30	020752 034527	.WORD	TSS34A	; POINTER FOR OFFSET 34 ASCII
31	020754 034606	.WORD	TSS35A	; POINTER FOR OFFSET 35 ASCII
32	020756 034665	.WORD	TSS36A	; POINTER FOR OFFSET 36 ASCII
33	020760 034737	.WORD	TSS37A	; POINTER FOR OFFSET 37 ASCII
34				
35			; TABLE FOR TSS ACTION ROUTINES	
36			; IF BYTE = 0 USE WORD ROUTINE	
37			; IF BYTE = 2 USE BYTE/BYTE ROUTINE	
38			; IF BYTE = 4 USE BYTE SPECIAL ROUTINE	
39				
40	020762 000	TSSIND: .BYTE	0	; INDEX FOR TSS 0
41	020763 002	.BYTE	2	; INDEX FOR TSS 1
42	020764 000	.BYTE	0	; INDEX FOR TSS 2
43	020765 002	.BYTE	2	; INDEX FOR TSS 3
44	020766 002	.BYTE	2	; INDEX FOR TSS 4
45	020767 002	.BYTE	2	; INDEX FOR TSS 5
46	020770 002	.BYTE	2	; INDEX FOR TSS 6
47	020771 000	.BYTE	0	; INDEX FOR TSS 7
48	020772 000	.BYTE	0	; INDEX FOR TSS 10
49	020773 000	.BYTE	0	; INDEX FOR TSS 11
50	020774 004	.BYTE	4	; INDEX FOR TSS 12
51	020775 004	.BYTE	4	; INDEX FOR TSS 13
52	020776 004	.BYTE	4	; INDEX FOR TSS 14
53	020777 004	.BYTE	4	; INDEX FOR TSS 15
54	021000 004	.BYTE	4	; INDEX FOR TSS 16
55	021001 002	.BYTE	2	; INDEX FOR TSS 17
56	021002 00	.BYTE	2	; INDEX FOR TSS 20
57	021003 002	.BYTE	2	; INDEX FOR TSS 21

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 35-1
TABLE FOR TSS ASCII AND ROUTINES

58	021004	002	.BYTE	2	;INDEX FOR TSS 22
59	021005	002	.BYTE	2	;INDEX FOR TSS 23
60	021006	002	.BYTE	2	;INDEX FOR TSS 24
61	021007	002	.BYTE	2	;INDEX FOR TSS 25
62	021010	000	.BYTE	0	;INDEX FOR TSS 26
63	021011	002	.BYTE	2	;INDEX FOR TSS 27
64	021012	000	.BYTE	0	;INDEX FOR TSS 30
65	021013	002	.BYTE	2	;INDEX FOR TSS 31
66	021014	002	.BYTE	2	;INDEX FOR TSS 32
67	021015	002	.BYTE	2	;INDEX FOR TSS 33
68	021016	002	.BYTE	2	;INDEX FOR TSS 34
69	021017	002	.BYTE	2	;INDEX FOR TSS 35
70	021020	000	.BYTE	0	;INDEX FOR TSS 36
71	021021	000	.BYTE	0	;INDEX FOR TSS 37
72					
73	021022	000000	TSSE:	.WORD	0 ;WORD FOR LAST TSS TO BE PRINTED
74	021024	000000	TSSA:	.WORD	0 ;WORD FOR ADDRESS
75	021026	000000	TSSKEY:	.WORD	0 ;KEY WORD FOR READING TSS
76					

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TABLE FOR GSS ASCII AND ACTION

1		.SBTTL	TABLE FOR GSS ASCII AND ACTION
2			
3			
4	021030 035004	GSSLST: .WORD	GSS0A ; POINTER FOR OFFSET 0 ASCII
5	021032 035045	.WORD	GSS1A ; POINTER FOR OFFSET 1 ASCII
6	021034 035103	.WORD	GSS2A ; POINTER FOR OFFSET 2 ASCII
7	021036 035142	.WORD	GSS3A ; POINTER FOR OFFSET 3 ASCII
8	021040 035177	.WORD	GSS4A ; POINTER FOR OFFSET 4 ASCII
9	021042 035234	.WORD	GSS5A ; POINTER FOR OFFSET 5 ASCII
10	021044 035271	.WORD	GSS6A ; POINTER FOR OFFSET 6 ASCII
11	021046 035347	.WORD	GSS7A ; POINTER FOR OFFSET 7 ASCII
12	021050 035425	.WORD	GSS10A ; POINTER FOR OFFSET 10 ASCII
13	021052 035477	.WORD	GSS11A ; POINTER FOR OFFSET 11 ASCII
14	021054 035517	.WORD	GSS12A ; POINTER FOR OFFSET 12 ASCII
15	021056 035555	.WORD	GSS13A ; POINTER FOR OFFSET 13 ASCII
16	021060 035616	.WORD	GSS14A ; POINTER FOR OFFSET 14 ASCII
17	021062 035637	.WORD	GSS15A ; POINTER FOR OFFSET 15 ASCII
18	021064 035747	.WORD	GSS16A ; POINTER FOR OFFSET 16 ASCII
19	021066 036057	.WORD	GSS17A ; POINTER FOR OFFSET 17 ASCII
20	021070 036141	.WORD	GSS20A ; POINTER FOR OFFSET 20 ASCII
21	021072 036206	.WORD	GSS21A ; POINTER FOR OFFSET 21 ASCII
22	021074 036253	.WORD	GSS22A ; POINTER FOR OFFSET 22 ASCII
23	021076 036320	.WORD	GSS23A ; POINTER FOR OFFSET 23 ASCII
24	021100 036365	.WORD	GSS24A ; POINTER FOR OFFSET 24 ASCII
25	021102 036432	.WORD	GSS25A ; POINTER FOR OFFSET 25 ASCII
26	021104 036477	.WORD	GSS26A ; POINTER FOR OFFSET 26 ASCII
27	021106 036521	.WORD	GSS27A ; POINTER FOR OFFSET 27 ASCII
28	021110 036543	.WORD	GSS30A ; POINTER FOR OFFSET 30 ASCII
29	021112 036576	.WORD	GSS31A ; POINTER FOR OFFSET 31 ASCII
30	021114 036653	.WORD	GSS32A ; POINTER FOR OFFSET 32 ASCII
31	021116 036736	.WORD	GSS33A ; POINTER FOR OFFSET 33 ASCII
32	021120 036761	.WORD	GSS34A ; POINTER FOR OFFSET 34 ASCII
33	021122 037026	.WORD	GSS35A ; POINTER FOR OFFSET 35 ASCII
34	021124 037050	.WORD	GSS36A ; POINTER FOR OFFSET 36 ASCII
35	021126 037071	.WORD	GSS37A ; POINTER FOR OFFSET 37 ASCII
36			
37			
38			
39			
40			
41			
42	021130 002	GSSIND: .BYTE 2	; INDEX FOR GSS 0
43	021131 002	.BYTE 2	; INDEX FOR GSS 1
44	021132 002	.BYTE 2	; INDEX FOR GSS 2
45	021133 002	.BYTE 2	; INDEX FOR GSS 3
46	021134 002	.BYTE 2	; INDEX FOR GSS 4
47	021135 002	.BYTE 2	; INDEX FOR GSS 5
48	021136 002	.BYTE 2	; INDEX FOR GSS 6
49	021137 002	.BYTE 2	; INDEX FOR GSS 7
50	021140 002	.BYTE 2	; INDEX FOR GSS 10
51	021141 000	.BYTE 0	; INDEX FOR GSS 11
52	021142 002	.BYTE 2	; INDEX FOR GSS 12
53	021143 002	.BYTE 2	; INDEX FOR GSS 13
54	021144 000	.BYTE 0	; INDEX FOR GSS 14
55	021145 004	.BYTE 4	; INDEX FOR GSS 15
56	021146 004	.BYTE 4	; INDEX FOR GSS 16
57	021147 002	.BYTE 2	; INDEX FOR GSS 17

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TABLE FOR GSS ASCII AND ACTION

58	021150	002	.BYTE	2	; INDEX FOR	GSS 20
59	021151	002	.BYTE	2	; INDEX FOR	GSS 21
60	021152	002	.BYTE	2	; INDEX FOR	GSS 22
61	021153	002	.BYTE	2	; INDEX FOR	GSS 23
62	021154	002	.BYTE	2	; INDEX FOR	GSS 24
63	021155	002	.BYTE	2	; INDEX FOR	GSS 25
64	021156	000	.BYTE	0	; INDEX FOR	GSS 26
65	021157	000	.BYTE	0	; INDEX FOR	GSS 27
66	021160	000	.BYTE	0	; INDEX FOR	GSS 30
67	021161	002	.BYTE	2	; INDEX FOR	GSS 31
68	021162	002	.BYTE	2	; INDEX FOR	GSS 32
69	021163	000	.BYTE	0	; INDEX FOR	GSS 33
70	021164	000	.BYTE	0	; INDEX FOR	GSS 34
71	021165	000	.BYTE	0	; INDEX FOR	GSS 35
72	021166	000	.BYTE	0	; INDEX FOR	GSS 36
73	021167	000	.BYTE	0	; INDEX FOR	GSS 37
74						

CZCLMCO DMP/V-11 DCLY MACRO V05.00 Thursday 22-Mar-84 16:24 Page 37
COMMAND LINE ACTION TREE

```

1      ,SBTTL      COMMAND LINE ACTION TREE
2
3      ;SAMPLE CLI TREE NODE      (ALWAYS AT LEAST 1 WORD)
4      ;-----
5      ; ACTION ! CHAR CODE !
6      ;-----
7      ; ! MISS DISPLACEMENT !          ONLY IF "MISS" ARGUMENT DEFINED
8      ;-----
9      ; ! NEXT NODE DISPLMNT !          ONLY IF "ASCII" ARGUMENT DEFINED
10     ;-----
11     ; ! ASCII MATCH STRING !          ONLY IF "ASCII" ARGUMENT DEFINED
12     ; ! (,EVEN) !
13     ;-----
14
15
16 021170 CLITRE:
17
18 ;FIRST KEYWORD
19 021170 CLI CLISPA,0,N10$ ;SKIP ANY LEADING SPACES
20 021174 N10$: CLI <'?'>,HLP,N42$ ;IS THE FIRST NON-SP CHAR A "?"
21 021200 CLI CLIEXI,0 ; IF YES DO "HLP" AND EXIT
22 021202 N42$: CLI CLISTR,HLP,N43$,<'HELP'> ;ELSE, IS FIRST WORD A "HELP"
23 021216 CLI CLIEXI,0 ; IF YES DO "HLP" AND EXIT
24 021220 N43$: CLI CLISTR,PRNT,N44$,<'PRINT'> ;ELSE, IS FIRST WORD A "PRINT"
25 021234 CLI CLIEXI,0 ; IF YES DO "PRINT" AND EXIT
26 021236 N44$: CLI CLISTR,EXIT,N45$,<'EXIT'> ;ELSE, IS FIRST WORD A "EXIT"
27 021252 CLI CLIEXI,0 ; IF YES DO "EXIT" AND EXIT
28 021254 N45$: CLI CLISTR,RUN,N46$,<'RUN'> ;ELSE, IS FIRST WORD A "RUN"
29 021266 CLI CLIBR,0,N80$ ; IF YES DO "RUN" & GOTO N80$
30 021272 N46$: CLI CLISTR,NOTNUF,N40$,<'DUMP'> ;ELSE, IS FIRST WORD A "DUMP"
31 021306 CLI CLIBR,0,N50$ ; IF YES GOTO N80$
32 021312 N40$: CLI CLISTR,CLEAR,N47$,<'CLEAR'> ;ELSE, IS FIRST WORD A "CLEAR"
33 021326 CLI CLIBR,NOTNUF,N100$ ; IF YES DO "CLR" & GOTO N100$
34 021332 N47$: CLI CLISTR,CTPP,N20$,<'TRIB'> ;ELSE IS FIRST WORD TRIB
35 021346 CLI CLIBR,NOTNUF,N105$
36 021352 N20$: CLI <'S'>,NOTNUF,N30$ ;ELSE, IS FIRST CHAR, A "S"
37 021356 CLI CLISTR,SHOW,N25$,<'HOW'> ; IF YES IS REST OF WORD "HOW"
38 021370 CLI CLIBR,0,N100$ ; IF YES, DO "SHOW",BR N100$
39 021374 N25$: CLI CLISTR,0,N30$,<'ET'> ; ELSE, IS REST OF WORD "ET"
40 021406 CLI CLIBR,0,N110$ ; IF YES, DO "SET", BR N110$
41 021412 N30$: CLI CLIERR,0 ;OTHERWISE "ILL CMD" - EXIT
42
43 ;SECOND KEYWORD (MODE*) FOR RUN COMMAND
44
45 021414 N80$: CLI CLISPA,0,N30$ ;SKIP LEADING SPS, IF NONE -ERR
46 021420 N81$: CLI CLISTR,NOTNUF,N30$,<'MODE'> ;IS NEXT WORD "MODE="
47 021434 CLI <'>',0,N30$ ; IF NO, IT'S WRONG -ERR EXIT
48 021440 CLI CLISTR,ALVMOD,N82$,<'ACTIVE'> ;IS NEXT WORD "ACTIVE"
49 021456 CLI CLIBR,0,N115$ ; IF YES, DO "ACTIVE",BR N115$
50 021462 N82$: CLI CLISTR,PASMOD,N83$,<'PASSIVE'> ;IS NEXT WORD "PASSIVE"
51 021500 CLI CLIBR,0,N115$ ; IF YES, DO "PASSIVE",BR N115$
52 021504 N83$: CLI CLISTR,RECMOD,N84$,<'RECEIVE'> ;IS NEXT WORD "RECEIVE"
53 021522 CLI CLIBR,0,N115$ ; IF YES, DO "RCVE",BR N115$
54 021526 N84$: CLI CLISTR,LISMOD,N85$,<'LISTEN'> ;IS NEXT WORD "LISTEN"
55 021544 CLI CLIBR,0,N115$ ; IF YES, DO "LISTEN",BR N115$
56 021550 N85$: CLI CLISTR,CLIMOD,N86$,<'DOWNLINELoad'> ;IS NEXT WORD "DOW..."
57 021574 CLI CLIBR,0,N115$ ; IF YES, DO "DWNLL",BR N115$

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COMMAND LINE ACTION TREE

```

58 021600      N86$: CLI      <'T>,0,N30$      ;IS NEXT CHAR A "T"
59 021604      CLI      CLISTR,TRAMOD,N87$,<'RANSMIT'> ; IS REST OF WORD "RANSMIT"
60 021622      CLI      CLIBR,0,N115$      ; IF YES, DO "TRANSM",BR N115$
61 021626      N87$: CLI      CLISTR,TALMOD,N30$,<'ALK'> ; IS REST OF WORD "ALK"
62 021640      CLI      CLIBR,0,N115$      ; IF YES, DO "TALK",BR N115$
63              ; IF NO, ERROR - EXIT
64
65              ;SECOND KEYWORD (FOR CLEAR OR SHOW)
66 021644      N100$: CLI      CLISPA,0,N30$      ;SKIP LEADING SPACES, NONE-ERR
67 021650      N102$: CLI      CLISTR,CSHEXP,N104$,<'EXPECTBUFF'> ;IS NEXT WORD "EXPE..."
68 021672      CLI      CLIEXI,0      ; IF YES, DO CLR-EXP,EXIT
69 021674      N104$: CLI      CLISTR,CSHTRN,N30$,<'TRANSMITBUFF'> ;IS NEXT WORD "TRANS..."
70 021720      CLI      CLIEXI,0      ; IF YES, DO CLR-TRN,EXIT
71              ; IF NO - ERROR - EXIT
72
73
74              ;SECOND KEYWORD (FOR SET)
75 021722      N110$: CLI      CLISPA,0,N30$
76 021726      N111$: CLI      CLISTR,SETEXP,N112$,<'EXPECTMSG'>
77 021746      CLI      CLIBR,0,N120$
78 021752      N112$: CLI      CLISTR,SETTRN,N30$,<'TRANSMITMSG'>
79 021774      CLI      CLIBR,0,N120$
80
81              ;GET ADDRESSES FOR DUMP COMMAND
82 022000      N50$: CLI      CLIALP,0,N51$
83 022004      N51$: CLI      CLISPA,0,N52$
84 022010      N52$: CLI      CLIOCT,DMP5,N30$
85 022014      CLI      <'>,NOTNUF,N125$
86 022020      CLI      CLIOCT,DMPE,N30$
87 022024      CLI      <'>,NOTNUF,N125$
88 022030      CLI      <'B>,DMPQ,N30$
89 022034      CLI      CLIBR,0,N125$
90
91              ;QUALIFIERS FOR THE RUN COMMAND
92 022040      N115$: CLI      CLIALP,0,N114$
93 022044      N114$: CLI      <'>,NOTNUF,N125$
94 022050      CLI      CLISTR,NO,N116$,<'NO'>
95 022062      N116$: CLI      <'C>,0,N117$
96 022066      CLI      CLISTR,CHECK,N117$,<'HECK'>
97 022102      CLI      CLIBR,0,N115$
98
106
107 022106      N117$: CLI      CLISTR,STATUS,N118$,<'STATUS'>
108 022124      CLI      CLIBR,0,N115$
109 022130      N118$: CLI      CLISTR,ECHO,N130$,<'ECHO'>
110 022144      CLI      CLIBR,0,N115$
111
112 022150      N130$: CLI      CLISTR,0,N132$,<'PASS'>
113 022164      CLI      CLIBR,0,N150$
114
115 022170      N132$: CLI      CLISTR,MOSC,N131$,<'MODEM'>
116 022204      CLI      CLIBR,0,N115$
117
118 022210      N131$: CLI      CLISTR,0,N30$,<'LOOP'>
119 022224      CLI      CLIBR,0,N140$
120
121
122
123
124
125
126
127
128
129
130
131
132
133              ;GET MESSAGE TYPE FOR SET MESSAGE COMMANDS

```

N6

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COMMAND LINE ACTION TREE

```

134 022230      N120$: CLI      '>',0,N30$
135
136      ; LOOK FOR DEFAULT MESSAGE NAME
137 022234      N60$: CLI      CLISTR,MSG1,N61$,<'ONES'>
138 022250      CLI      CLIBR,0,N121$
139 022254      N61$: CLI      CLISTR,MSG0,N62$,<'ZEROES'>
140 022272      CLI      CLIBR,0,N121$
141 022276      N62$: CLI      CLISTR,MSG2,N63$,<'1ALT'>
142 022312      CLI      CLIBR,0,N121$
143 022316      N63$: CLI      CLISTR,MSG3,N64$,<'0ALT'>
144 022332      CLI      CLIBR,0,N121$
145 022336      N64$: CLI      CLISTR,MSG5,N65$,<'ITEP'>
146 022352      CLI      CLIBR,0,N121$
147 022356      N65$: CLI      CLISTR,MSG4,N66$,<'CCITT'>
148 022372      CLI      CLIBR,0,N121$
149 022376      N66$: CLI      CLISTR,MSG6,N67$,<'ALPHA'>
150 022412      CLI      CLIBR,0,N121$
151 022416      N67$: CLI      CLISTR,SETET,N68$,<'TRANSMIT'>
152 022436      CLI      CLIBR,0,N125$
153
154      ; LOOK FOR QUOTED MESSAGE
155 022442      N68$: CLI      '<'",OPRMSG,N30$
156 022446      N70$: CLI      '<'",ENDQ0,N71$
157 022452      CLI      CLIBR,0,N121$
158 022456      N71$: CLI      CLISPA,0,N72$
159 022462      N72$: CLI      CLIALN,0,N73$      ;ONLY A-Z,SP,TAB, OR 0-9 BETWEEN "'S
160 022466      CLI      CLIBR,0,N70$
161 022472      N73$: CLI      CLIERR,BADCHR      ;PRINT ERROR IF NONE LEGAL CHAR FOR "'S
162
163      ;GET QUALIFIERS (SIZE OR COPY) FOR SET MESSAGE COMMANDS
164 022474      N121$: CLI      CLIALP,0,N123$
165 022500      N123$: CLI      '<'/>',NOTNUF,N125$
166 022504      CLI      CLISTR,SIZE,N122$,<'SIZE'>
167 022520      CLI      CLIBR,0,N126$
168 022524      N122$: CLI      CLISTR,QCOPY,N30$,<'COPY'>
169 022540      CLI      CLIBR,0,N126$
170
171      ;NUMER FOR SIZE OR COPY
172 022544      N126$: CLI      '<'>',0,N30$
173 022550      CLI      CLIDEC,NUM,N30$
174 022554      CLI      CLIBR,0,N121$
175
176      ;GET MAINTENANCE LOOP TYPE FOR RUN "LOOP" QUALIFIER
177 022560      N140$: CLI      '<'>',0,N30$
178
179      N141$: CLI      CLISTR,ITLLOP,N142$,<'INTERNALITL'>
180 022564      CLI      CLIBR,0,N115$
181 022606      N142$: CLI      CLISTR,CBLLOP,N143$,<'CABLE'>
182 022612      CLI      CLIBR,0,N115$
183 022632      N143$: CLI      CLISTR,LMDLOP,N144$,<'LOCALMODEM'>
184 022654      CLI      CLIBR,0,N115$
185 022660      N144$: CLI      CLISTR,RMDLOP,N30$,<'REMOTE MODEM'>
186 022702      CLI      CLIBR,0,N115$
187
188      ;GET LINE NUMBER FOR "PASS" RUN QUALIFIER
189 022706      N150$: CLI      '<'>',0,N30$

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CZCLMCO DMP/V-11 DCLI MACRO V05.00 Thursday 22-Mar-84 16:24 Page 37-3
 COMMAND LINE ACTION TREE

199 022712	CLI	CLIDEC,PASC,N30\$	
200 022716	CLI	CLIBR,0,N115\$	
201	;GET TRIB SHOW OR ADDR FOR KILL OR ESTABLISH		
202 022722	N105\$: CLI	CLISPA,NOTNUF,N106\$	
203 022726	N106\$: CLI	CLISTR,SLST,N107\$, <'SHOW'>	
204 022742	CLI	CLIEXI,0	
205 022744	N107\$: CLI	CLISTR,ETRD,N108\$, <'ESTABLISH'>	
206 022764	CLI	CLIBR,0,N160\$	
207 022770	N108\$: CLI	CLISTR,KTRB,N30\$, <'KILL'>	
208 023004	N160\$: CLI	<'>,0,N30\$	
209 023010	N161\$: CLI	CLISTR,KALL,N162\$, <'ALL'>	
210 023022	N162\$: CLI	CLIDEC,EKTB,N30\$	
211 023026	CLI	CLISTR,ETWS,N163\$, <' /W'>	
212 023040	N163\$: CLI	54,NOTNUF,N125\$	LOOKING FOR " , "
213 023044	CLI	CLIBR,0,N161\$	
214			
215	;END OF -LINE		
216 023050	N125\$: CLI	CLIEXI,0	
217			

[illegible]

CZCLMCO DMP/V 11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 38-1
 COMMAND LINE ACTION TREE

71	023174	040756	.WORD	PE132M	!ATTEMPT TO R/W RESERVED ISS/GSS
72	023176	041002	.WORD	PE134M	!USING RESERVED BITS IN BSEL7
73	023200	041034	.WORD	PE136M	!COMMON POOL ERROR
74	023202	041056	.WORD	PE140M	!COMMON POOL QUOTA ERROR
75	023204	041075	.WORD	PE142M	!SPARE
76	023206	041103	.WORD	PE144M	!SPARE
77					
78	023210	041111	CON03S: .WORD	BUFTSM	!BUFFER TOO SMALL
79	023212	041132	.WORD	NOEXM	!NONESTANT MEM
80	023214	041150	.WORD	DISCON	!DISCON MESSAGE
81	023216	041162	.WORD	QUEOM	!QUEUEOVER M.
82	023220	041175	.WORD	CARLOS	!CARRIER LOSS
83					
84					
85					
86					
87					
88	023222	032006	!!!FOLLOWING TABLE USED IN DOWNLINE LOAD ROUTINE.		
89	023224	032011	!!!CONTAINS POINTERS TO ASCII DEVICE DESCRIPTIONS		
90	023226	032014	!REV B EC		
91	023230	032017	DLIND: .WORD	DPM	
92	023232	032022	.WORD	DUM	
93	023234	032025	.WORD	DLM	
94	023236	032031	.WORD	DQM	
95	023240	032035	.WORD	DAM	
96	023242	032040	.WORD	DUPM	
97	023244	032044	.WORD	DMCM	
98	023246	032050	.WORD	DNM	
99	023250	032054	.WORD	DI VM	
100	023252	032057	.WORD	DMPM	
101	023254	032062	.WORD	DTFM	
102	023256	032072	.WORD	DVM	
103	023260	032076	.WORD	DZH	
104	023262	032102	.WORD	UNKM	
105	023264	032105	.WORD	KOPM	
106			.WORD	KDZM	
107			.WORD	KLM	
120			.WORD	DMVM	
131					

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 39
 .GLOBAL TEXT SECTION

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1      .SBTTL GLOBAL TEXT SECTION
2
3
4      ; THE GLOBAL TEXT SECTION CONTAINS FORMAT STATEMENTS,
5      ; MESSAGES, AND ASCII INFORMATION THAT ARE USED IN
6      ; MORE THAN ONE TEST.
7
8
9      .SBTTL          DEVICE SUPPORTED
10     ;
11     ; NAMES OF DEVICES SUPPORTED BY PROGRAM
12     ;
13
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25     DEVTYP <DMP OR DMV 11>
26
27     L$DVTYP::
28         .ASCIZ /DMP OR DMV 11/
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36     .SBTTL          PROGRAM IDENTIFICATION
37     ; TEST DESCRIPTION
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	.SBTTL			.NLIST BEX		GLOBAL FORMAT STATEMENTS, MESSAGES, AND ASCII INFO
1						
2						
3						
4	023354	104	103	114	CLT\$PM:	.ASCIZ /DCLT>/
5	023362	045	116	045	CLTERM:	.ASCIZ /#N#A?ILL CMD-BAD SYNTAX?/
6	023412	045	116	045	CLINUF:	.ASCIZ /#N#A?INCMPLTE CMD?/
7	023435	045	116	045	CLINBG:	.ASCIZ /#N#A?NUM TOO BIG?/
8	023457	045	116	045	CLIBRX:	.ASCIZ /#N#A?BAD RADIX?/
9	023477	045	116	045	CLIBDL:	.ASCIZ /#N#A?"LOOP" VALID ONLY IN ACTIVE?/
10	023541	045	116	045	CLINPS:	.ASCIZ /#N#A?"ECHO" VALID ONLY IN PASSIVE?/
11	023604	045	116	045	CLIBCR:	.ASCIZ /#N#A?ILL CHR- "A-Z,0-9,SP,TAB" ONLY?/
12	023651	045	116	045	CLISEO:	.ASCIZ /#N#A?"SIZE=0" NOT VALID?/
13	023702	045	116	045	CLIPPE:	.ASCIZ /#N#A?TRIB CMDS ILLEGAL IN PT-PT MODE?/
14	023750	045	116	045	CLIPW:	.ASCIZ /#N#A?TRANSMIT & EXPECT LIST MUST BE IDENTICAL FOR LOOP?/
15	024040	045	116	045	HLP0:	.ASCIZ /#N#A?THIS IS DCLT. TYPE "H" OR "?" FOR DETAILS/
16	024116	045	116	045	HLPF:	.ASCIZ /#N#T/
17	024123	104	103	114	HLP1:	.ASCIZ /DCLT CMDS:/
18	024136	040	103	114	HLP2:	.ASCIZ / CLEAR OR SHOW EXPECTLIST OR TRANSMITLIST/<15><12>
19	024212	040	120	122		.ASCIZ / PRINT OR EXIT/<15><12>
20	024232	040	104	125		.ASCIZ ? DUMP START-END/B?
21	024254	040	124	122	HLP2B:	.ASCIZ ? TRIB SHOW, TRIB ESTABLISH=, 'W,N(D)..OR TRIB KILL=N,ALL?
22	024344	015	012	040	HLP2C:	.ASCIZ .15><12>/ WHERE W=INDICATES WRITE POLL PARAMS/
23	024417	040	123	105	HLP3:	.ASCIZ ? SET EXPECTMSG OR TRANSMITMSG=TYPE/SIZE=N OR /COPY=N?
24	024504	040	123	105	HLP3A:	.ASCIZ / SET EXPECT=TRANSMIT/
25	024531	040	040	040	HLP4:	.ASCIZ ? TYPE=ONES,ZEROES,1ALT,0ALT,ITFP,CCITT,ALPHA?
26	024610	040	040	040	HLP4A:	.ASCIZ / OR "OPR SPCD=A-Z,SP,TAB,0-9 IN QUOTES"/
27	024666	040	122	125	HLP5:	.ASCIZ ? RUN MODE=MTYP/LOOP=LTYP/CHECK,STATUS,ECHO,MODEM,PASS=N?
28	024756	040	040	040	HLP6:	.ASCIZ / MTYP=TRAN,REC,ACT,PAS,TAL,LIS,DOWN/<15><12>
29	025025	040	040	040		.ASCIZ / LTYP=INT,CAB,LOC,REM/
30	025055	116	105	127	EQUQ:	.ASCIZ /NEW POLL PARAMETERS (WORD)=/
31	025111	116	105	127	EQUQ1:	.ASCIZ /NEW POLL PARAMETERS (BYTE LOW)=/
32	025151	116	105	127	EQUQ2:	.ASCIZ /NEW POLL PARAMETERS (BYTE HI)=/
33	025210	123	101	124	DLLQ1:	.ASCIZ /SATELLITE PASSWORD=
34	025234	045	116	045	POLPM:	.ASCIZ /#N#S5#APOLL PARAMETERS FOR TRIB #D5/
35	025301	045	116	045	POLPM3:	.ASCIZ /#N#AGLOBAL POLL PARAMETERS/
36	025334	122	120	124	CLT\$RP:	.ASCIZ /RPT>/
37	025341	045	116	045	RHLP0:	.ASCIZ /#N#ATYPE "H" OR "?" FOR HELP!/?
38	025377	104	103	114	RHLP1:	.ASCIZ /DCLT REPORT CMDS:/
39	025421	040	105	130	RHLP2:	.ASCIZ / EXIT OR LOG/
40	025436	040	124	123	RHLP3:	.ASCIZ ? TSS NNN(D)/SW OR GSS/SW?
41	025470	040	040	040	RHLP4:	.ASCIZ ? WHERE /SW= /FULL,/ERROR,/OFFSET=NN(D)?
42	025544	045	116	045	RPTIV:	.ASCIZ /#N#A?TRIB STATUS OFFSET=#02#A#TOO BIG?/
43	025613	045	116	045	SHMSG:	.ASCIZ ?#N#AMSG: TYPE=#T#A/SIZE=#D3?
44	025647	132	105	122	SHTYP0:	.ASCIZ /ZEROES/
45	025656	117	116	105	SHTYP1:	.ASCIZ /ONES/
46	025663	061	101	114	SHTYP2:	.ASCIZ /1ALT/
47	025670	060	101	114	SHTYP3:	.ASCIZ /0ALT/
48	025675	103	103	111	SHTYP4:	.ASCIZ /CCITT/
49	025703	111	124	105	SHTYP5:	.ASCIZ /ITEP/
50	025710	101	114	120	SHTYP6:	

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GLOBAL FORMAT STATEMENTS, MESSAGES, AND ASCII INFO

58	026231	045	116	045	SHTLP:	.ASCIZ	\#N#A?CABLE,LOC,REM LOOP NOT VALID IN "MULTIPT MODE"? \
59	026316	045	116	045	SHTLPA:	.ASCIZ	/#N#A?TRIBS MUST BE ESTABLISHED TO EXECUTE?/
60	026371	045	116	045	SHTLPB:	.ASCIZ	/#N#A?TRIB STATION CANNOT DO LOOP?/
61	026433	045	116	045	SHTLPC:	.ASCIZ	/#N#A?ONLY ONE TRIB (TRIB ADDR 1) ALLOWED/
62	026504	045	116	045	SHTLPD:	.ASCIZ	/#N#S5#AFUR LOOP IN MULTIPPOINT?/
63	026543	045	116	045	SHTIV:	.ASCIZ	\#N#A?TRIB ADDRESS= #Z3#A INVALID? \
64	026605	045	116	045	SHTBR:	.ASCIZ	/#N#ARX BUFFER NOT BIG ENOUGH#N#A TOO MANY TRIBS OR MSGS/
65	026674	122	105	103	M00:	.ASCIZ	/RECEIVE/
66	026704	124	122	101	M01:	.ASCIZ	/TRANSMIT/
67	026715	120	101	123	M02:	.ASCIZ	/PASSIVE/
68	026725	101	103	124	M03:	.ASCIZ	/ACTIVE/
69	026734	104	117	127	M04:	.ASCIZ	/DOWNLINELOAD/
70	026751	124	101	114	M05:	.ASCIZ	/TALK/
71	026756	114	111	123	M06:	.ASCIZ	/LISTEN/
72	026765	000			LP0:	.ASCIZ	//
73	026766	057	114	117	LP00:	.ASCIZ	?/LOOP=?
74	026775	111	116	124	LP1:	.ASCIZ	?INTERNAL?
75	027006	103	101	102	LP2:	.ASCIZ	?CABLE?
76	027014	114	117	103	LP3:	.ASCIZ	?LOCALMODEM?
77	027027	122	105	115	LP4:	.ASCIZ	?REMODEM?
78	027043	116	117		PNST:	.ASCII	/NO/
79	027045	123	124	101	PST:	.ASCIZ	/STATUS/
80	027054	116	117		PNCK:	.ASCII	/NO/
81	027056	103	110	105	PCK:	.ASCIZ	/CHECK/
82	027064	116	117		PNEC:	.ASCII	/NO/
83	027066	105	103	110	PEC:	.ASCIZ	/ECHO/
84	027073	116	117		PNMS:	.ASCII	/NO/
85	027075	115	117	104	PMS:	.ASCIZ	/MODEM/
96							
97	027103	045	116	045	LISP:	.ASCIZ	/#N#ALIS>/
98	027114	124	114	113	OPRMM:	.ASCIZ	/TLK>/
99	027121	124	110	111	L5060:	.ASCIZ	/THIS A 50. OR 60. HZ. LSI-11:/
100							EVEN

; FORMAT STATEMENTS USED IN PRINT CALLS

107	027160	045	116	045	DLLCM:	.ASCIZ	/#N#ADOWN LINE LOAD COMPLETED SUCCESSFULLY/
108							
109	027232	045	116	045	BDCLK:	.ASCIZ	/#N#ACLOCK NOT FOUND/
110	027256	045	116	045	NOCLK:	.ASCIZ	/#N#ABAD CLOCK - PROGRAM WILL HANG ON "TIMEOUT"!!/
111	027337	115	101	130	TABEX:	.ASCIZ	/MAX. CHAR. MSG COUNT EXCEEDED -/
112	027377	102	125	106	BUFEX:	.ASCIZ	/BUFFER FULL -/
113	027415	045	116	045	MSGTRN:	.ASCIZ	/#N#T#A MSG. NOT BUILT !!/
114	027446	045	116	045	MSGTRU:	.ASCIZ	/#N#ACHAR. COUNT EXCEEDS BUFF LIMIT - MSG TRUNCATED/
115	027531	045	116	045	SHFO:	.ASCIZ	?#N#S5#AMODE=#T#T#T#A/PASS=#Z5?
116							
122							
123	027567	045	116	045	SHF1:	.ASCIZ	?#N#S5#S5#S5#A/#T#A/#T#A/#Y#A/#T?
124	027627	045	123	065	EFM2:	.ASCIZ	/#S5#ATOTAL MISMATCHES IN MSG = #D5/
125	027672	045	116	045	PCPM:	.ASCIZ	/#N#S3#ACALLED FROM PC=#06/
126	027724	045	123	065	EFM11:	.ASCIZ	/#S5#ACOMPARE COUNT=#D5#S3#ARECEIVE COUNT=#D5/

; EVENT DESCRIPTION MESSAGES

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130
131 030001      124      122      101 EDTXQ: .ASCIZ /TRANSMIT MSG QUEUED/
132 030025      124      122      101 EDTXC: .ASCIZ /TRANSMIT MSG COMPLETED/
133 030054      122      105      103 EDRXQ: .ASCIZ /RECEIVE SPACE QUEUED/
134 030101      122      105      103 EDRXC: .ASCIZ /RECEIVE MSG COMPLETED/
135 030127      104      105      126 EDDER: .ASCIZ /DEVICE ERROR/
136 030144      104      101      124 EDDCK: .ASCIZ /DATA COMPARISON STARTED/
137 030174      104      105      126 EDDVI: .ASCIZ /DEVICE INIT AND SETUP/
138 030222      104      101      124 EDDLE: .ASCIZ /DATA COMPARISON LENGTH ERROR/
139 030257      104      101      124 EDDDE: .ASCIZ /DATA COMPARISON DATA ERROR/
140 030312      105      116      104 EDEOP: .ASCIZ /END OF PASS/
141 030326      101      102      116 EDMOS: .ASCIZ /ABNORMAL MODEM STATUS CHANGE/
142
143
144                ;EVENT REPORTING MESSAGES
145
146                ;THE FOLLOWING ARE USED IN THE DUMP SUB ROUTINE
147
148 030363      045      123      063 BASH3: .ASCIZ /*S3#03/
149 030372      045      123      063 BASH2: .ASCIZ /*S3#06/
150 030401      045      116      045 BASH1: .ASCIZ /*N#06/
151
152 030407      045      116      045 NULEVT: .ASCIZ /*N#ATHE DCLT EVENT LOG IS EMPTY/
153 030447      045      116      045 EVTF0: .ASCIZ /*N#A>>> DCLT EVENT LOG ENTRY <<<<<<<<<<<<<<<<<<<<<</
154 030545      045      116      045 EVTF1: .ASCIZ /*N#D5#A:#Z2#A:#Z2#S3#T/
155 030574      045      116      045 EVTF2: .ASCIZ /*N#S3#AADDR OF MSG=#06#S3#ABYTE COUNT=#D5/
156 030646      045      116      045 EVTF3: .ASCIZ /*N#S3#T#N/
157 030660      045      123      063 EVTF3C: .ASCIZ /*S3#06#S3#06/
158 030675      045      123      063 EVTF3D: .ASCIZ /*S3#06#S3#06#S3#T/
159 030717      045      123      063 EVTF3F: .ASCIZ /*S3#06#S3#06#S3#ATTRIB ADDR=#Z3/
160 030756      045      116      045 EVTF6: .ASCIZ /*N#S3#ATO-FROM TRIB ADDRESS-#Z3/
161
162 031016      045      116      045 EVTF4B: .ASCIZ /*N#S3#APASS=#D5#S3#AERRORS=#D5/
163 031055      045      116      045 EVTF44: .ASCIZ /*N#S3#ARX THRESH=#D5#S3#ATX THRESH=#D5/
164 031124      045      116      045 EVTF4: .ASCIZ /*N#S3#AADDR OF MSG=#06#S3#ABYTE COUNT=#D5#S3#AND. OF CMP ERRS=#D5/
165 031226      045      116      045 EVTF4A: .ASCIZ /*N#S3#AADDR OF MSG=#06#S3#ARX BYTES=#D5#S3#ACOMPARE BYTES=#D5/
166
167 031324      045      123      065 EVTF5A: .ASCIZ /*S5#ABYTE # IN MSG.#D5#S3#AEXPTD=#03#S3#ARECVD=#03/
168
169 031410      045      116      045 EVMOCG: .ASCIZ /*N#S9#ACHANGED TO:/
170
171                ; *****
172                ;DO NOT SEPARATE THE NEXT LIST OF MESSAGES - MODEM SIGNAL HEADER AND REPORT
173
174 031433      045      116      045 EVMOND: .ASCIZ /*N#S8#AMODEM STATUS: CTS DSR DCD RTS RI SQD TM/
175 031513      045      116      045 EVMOST: .ASCII /*N#S9#S9#S5#A/
176 031530      130      040      040 EVMCTS: .BYTE 'X,40,40,40
177 031534      130      040      040 EVMDSR: .BYTE 'X,40,40,40
178 031540      130      040      040 EVMDCD: .BYTE 'X,40,40,40
179 031544      130      040      040 EVMRTS: .BYTE 'X,40,40,40
180 031550      130      040      040 EVMRI: .BYTE 'X,40,40,40
181 031554      130      040      040 FVMSQD: .BYTE 'X,40,40,40
182 031560      130      040      040 EVMTH: .BYTE 'X,40,40,40
183 031564      000              .BYTE 0
184
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193
194                .EVEN
195
196                ;EXECUTION STATUS MESSAGES TO BE PRINTED TO KEEP OPERATOR AWAKE

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K/

SEQ 88

C:\CLMCO DMP/V-11 DCU I MACRO V05.00 Thursday 22-Mar-84 16:24 Page 41-1
ASCII FORMATS FOR TSS AND GSS SLOTS

58 036432	045	116	045	GSS25A: .ASCIIZ	/N03S5ARX HDR 5N03S5ARX HDR 6/
59 036477	045	116	045	GSS26A: .ASCIIZ	/N06S2AR TIMER/
60 036521	045	116	045	GSS27A: .ASCIIZ	/N06S2AD TIMER/
61 036543	045	116	045	GSS30A: .ASCIIZ	/N06S2APOLL DELAY TIMER/
62 036576	045	116	045	GSS31A: .ASCIIZ	/N03S5APOLL UPDATE PTRN03S5ADEAD SCAN/
63 036653	045	116	045	GSS32A: .ASCIIZ	/N03S5ACARRIER LOSS TIMN03S5AUSART HANG CTR/
64 036736	045	116	045	GSS33A: .ASCIIZ	/N06S2ANUM SYNC/
65 036761	045	116	045	GSS34A: .ASCIIZ	/N06S2ACARRIER WAIT TIMER COUNTER/
66 037026	045	116	045	GSS35A: .ASCIIZ	/N06S2ADELTA T/
67 037050	045	116	045	GSS36A: .ASCIIZ	/N06S2ADEAD I/
68 037071	045	116	045	GSS37A: .ASCIIZ	/N06S2APOLL DELAY/
69					
88					
89					
90 037116	104	105	126	DVEM0: .ASCII	/DEVICE DID NOT RETURN RUN BIT/
91 037153	015	012	040	.ASCIIZ	<15><12>/ SEL0 SEL2/
92					
93 037177	106	101	111	DVEM1: .ASCII	/FAILURE IN MICRODIAGNOSTICS/
94 037233	015	012	040	.ASCIIZ	<15><12>/ SEL0 SEL6/
95					
96 037257	124	111	115	DVEM2: .ASCII	/TIME OUT WAITING FOR TX OR RX TO COMPLETE/
97 037330	015	012	040	.ASCIIZ	<15><12>/ SEL0 SEL2/
98					
99 037354	124	111	115	DVEM3: .ASCII	/TIME OUT WAITING FOR RDI/
100 037404	015	012	040	.ASCIIZ	<15><12>/ SEL0 SEL2/
101					
102 037430	103	117	116	DVEM4: .ASCII	/CONTROL OR INFORMATION OUT ERROR/
103 037470	015	012	040	.ASCIIZ	<15><12>/ SEL2 SEL6/
104					
105 037514	111	114	114	DVEM5: .ASCII	/ILLEGAL TRANSMIT COMPLETE/
106 037545	015	012	040	.ASCIIZ	<15><12>/ SEL4 SEL6/
107					
108 037571	111	114	114	DVEM6: .ASCII	/ILLEGAL RECEIVE COMPLETE/
109 037621	015	012	040	.ASCIIZ	<15><12>/ SEL4 SEL6/
110					
111 037645	121	125	105	DVEM7: .ASCII	/QUE OVERFLOW BUFFER COMPLETE/
112 037701	015	012	040	.ASCIIZ	<15><12>/ SEL4 SEL6/
113					
114 037725	122	114	104	DVEM8: .ASCII	/RLD OR MODE ENABLE OF PASSWORD SW NOT SET/
115 037776	015	012	040	.ASCIIZ	<15><12>/ SEL0 SEL2/
116					
117 040022	040	104	117	DLLAB: .ASCII	/DOWN LINE LOAD ABORTED/
118 040051	015	012	040	.ASCIIZ	<15><12>/ RXBUF TXBUF /
119					
120					
121 040076	123	105	114	SLTHEM: .ASCIIZ	/SELECT THRESHOLD/
122 040117	123	124	101	STRCM: .ASCIIZ	/START RXD IN RUN/
123 040140	115	101	111	MARM: .ASCIIZ	/MAINT RXD IN RUN/
124 040161	115	101	111	MARHM: .ASCIIZ	/MAINT RXD IN HALT/
125 040203	123	124	101	STRMM: .ASCIIZ	/START RXD IN MAINT/
126 040226	122	111	116	RIM: .ASCIIZ	/RING DETECTED/
127 040245	104	105	101	DEADTH: .ASCIIZ	/DEAD TRIB/
128 040257	122	125	116	RUSH: .ASCIIZ	/RUN STATE ERR/
129 040275	102	101	102	BABTM: .ASCIIZ	/BABLING TRIB/
130 040312	123	124	122	STREAM: .ASCIIZ	/STREAMING TRIB/
131 040331	116	117	040	PE100M: .ASCIIZ	/NO MODE DEF/
132 040345	111	114	114	PE102M: .ASCIIZ	/ILLEGAL TYPE CODE/

L7

SEQ 89

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 41-2
ASCII FORMATS FOR TSS AND GSS SLOTS

133 040367	111	114	114	PE104M: .ASCIZ	/ILLEGAL MODE CHANGE/
134 040413	103	117	116	PE106M: .ASCIZ	/CONTROL IN TO UNES. TRIB/
135 040444	103	117	115	PE110M: .ASCIZ	/COMMAND TO TRIB 0/
136 040466	103	117	115	PE112M: .ASCIZ	/COMMAND TO UNHALTED TRIB/
137 040517	115	101	130	PE114M: .ASCIZ	/MAX TRIBS EXCEEDED/
138 040542	105	123	124	PE116M: .ASCIZ	/ESTB TO ALREADY ESTABLISHED/
139 040576	111	114	114	PE120M: .ASCIZ	/ILLEAGAL REQUEST KEY/
140 040622	101	123	123	PE122M: .ASCIZ	/ASSIGN BUFF UNEST. TRIB/
141 040652	101	123	123	PE124M: .ASCIZ	/ASSIGN BUFF HALTD TRIB/
142 040701	101	123	123	PE126M: .ASCIZ	/ASSIGN BUFF BYTE CNT 0/
143 040730	101	123	123	PE130M: .ASCIZ	/ASSIGN TX BUFF TRIB 0/
144 040756	122	040	117	PE132M: .ASCIZ	/R OR W RESERVED TSS/
145 041002	125	123	105	PE134M: .ASCIZ	/USE RESERVED BIT IN BSEL//
146 041034	103	117	115	PE136M: .ASCIZ	/COMMON POOL. ERROR/
147 041056	121	125	117	PE140M: .ASCIZ	/QUOTA OVERFLOW/
148 041075				TXTHEM:	
149 041075				RXTHEM:	
150 041075	123	120	101	PE142M: .ASCIZ	/SPARE/
151 041103	123	120	101	PE144M: .ASCIZ	/SPARE/
152					

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SEQ 90

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 42
ASCII FORMATS FOR TSS AND GSS SLOTS

153	041111	102	125	106	BUFTSM: .ASCIZ	/BUFFER TOO SMALL/
154	041132	116	117	116	NOEXM: .ASCIZ	/NON EXIST MEM/
155	041150	104	111	123	DISCON: .ASCIZ	/DISCONNECT/
156	041162	121	125	105	QUEOM: .ASCIZ	/QUEUE OVER/
157	041175	103	101	122	CARLOS: .ASCIZ	/CARRIER LOSS/
158	041212	111	116	106	INFOM: .ASCIZ	/INFORMATION OUT/
159	041232	124	130	040	TXNC: .ASCIZ	/TX NOT COMPLETE/
160	041252	122	130	040	RXNC: .ASCIZ	/RX NOT COMPLETE/
161	041272	123	105	103	RXM1: .ASCIZ	/SEC REQ ERR WORD 1/
162	041315	123	105	103	RXM2: .ASCIZ	/SEC REQ ERR WORD 2/
163						
164					.EVEN	
165					.LIST	BEX

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SEQ 91

CZCLMCO DMP/11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 43
GLOBAL ERROR REPORT SECTION

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1          .SBTTL  GLOBAL ERROR REPORT SECTION
2
3          ;**
4          ; THE GLOBAL ERROR REPORT SECTION CONTAINS MESSAGE PRINTING AREAS
5          ; USED BY MORE THAN TEST TO OUTPUT ADDITIONAL ERROR INFORMATION.  PRINTB
6          ; (BASIC) AND PRINTX (EXTENDED) CALLS ARE USED TO CALL PRINT SERVICES.
7          ;**
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28 041340          BGNMSG  ERR1
29 041340          PRINTB  #EVT5A,OFFSET,<B,GOOD>,<B,BAD> ;INDIVIDUAL DATA COMPARE ERROR
30 041340          005046          CLR      (SP)
31 041340          013716 017371  B1SB    BAD,(SP)
32 041340          005046          CLR      (SP)
33 041340          153716 017370  B1SB    GOOD,(SP)
34 041340          013746 017346  MOV     OFFSET, -(SP)
35 041340          012746 031324  MOV     #EVT5A, -(SP)
36 041340          012746 000004  MOV     #4, -(SP)
37 041340          010600          MOV     SP,RO
38 041340          104414          TRAP    C$PNTB
39 041340          062706 000012  ADD     #12,SP
40
41          ENDMSG
42
43          L10001:  TRAP    C$MSG
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CZCLMCO DMP-V 11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 43-1
GLOBAL ERROR REPORT SECTION

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53							
54	041460			BGNMSG	ERR13		
	041460					ERR13::	
55	041460			PRINTB	0EVTF3C,TEMP3,TEMP4		
	041460	013746	017360				MOV TEMP4, (SP)
	041464	013746	017356				MOV TEMP3, (SP)
	041470	012746	030660				MOV 0EVTF3C, (SP)
	041474	012746	000003				MOV 03, (SP)
	041500	010600					MOV SP,R0
	041502	104414					TRAP C1PNTB
	041504	062706	000010				ADD 010,SP
56	041510			ENDMSG			
	041510					110004:	
	041510	104423					TRAP C1MSG
57							
58							
59							
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63	041512			BGNMSG	ERR14		
	041512					ERR14::	
64	041512			PRINTB	0EVTF3D,TEMP3,TEMP4,CONOTM		
	041512	013746	017366				MOV CONOTM, (SP)
	041516	013746	017360				MOV TEMP4, (SP)
	041522	013746	017356				MOV TEMP3, (SP)
	041526	012746	030675				MOV 0EVTF3D, (SP)
	041532	012746	000004				MOV 04, (SP)
	041536	010600					MOV SP,R0
	041540	104414					TRAP C1PNTB
	041542	062706	000012				ADD 012,SP
65	041546			ENDMSG			
	041546					110005:	
	041546	104423					TRAP C1MSG
66							
67							
68	041550			BGNMSG	ERR15		
	041550					ERR15::	
69	041550			PRINTB	0EVTF3F,RSEL4,RSEL6,<R,RSEL3>		
	041550	005046					CLR (SP)
	041552	153716	066654				BISB RSEL3,(SP)
	041556	013746	066652				MOV RSEL6, (SP)
	041562	013746	066650				MOV RSEL4, (SP)
	041566	012746	030717				MOV 0EVTF3F, (SP)
	041572	012746	000004				MOV 04, (SP)
	041576	010600					MOV SP,R0
	041600	104414					TRAP C1PNTB
	041602	062706	000012				ADD 012,SP
70	041606			ENDMSG			
	041606					110006:	
	041606	104423					TRAP C1MSG
71							
72	041610			BGNMSG	ERR16		
	041610					ERR16::	

C8

SEQ 93

CZCLMCO DMP V-11 DCLT MACRO V05.00 Thursday 22-Mar 84 16:24 Page 43 2
GLOBAL ERROR REPORT SECTION

```

73 041610          PRINTB 0EVT3F,TSEL4,TSEL6,<B,TSEL3>
    041610 005046
    041612 153716 066646
    041616 013746 066642
    041622 013746 066644
    041626 012746 030717
    041632 012746 000004
    041636 010600
    041640 104414
    041642 062706 000012
74 041646          ENDMSG
    041646
    041646 104423
75
76 041650          EXIT    MSG
    041650 000167
    041652 177772
77

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    CLR      (SP)
    BISH     TSEL3,(SP)
    MOV      TSEL6, -(SP)
    MOV      TSEL4, -(SP)
    MOV      0EVT3F, -(SP)
    MOV      04, -(SP)
    MOV      SP,R0
    TRAP     C$PNTB
    ADD      012,SP

L10007:
    TRAP     C$MSG

    .WORD    J$JMP
    .WORD    L10007-2-

```

CZC1MCO DMF/V-11 DCIT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 44
GLOBAL SUBROUTINES SECTION

```

1      .SBTTL  GLOBAL SUBROUTINES SECTION
2
3      ;
4      ; THE GLOBAL SUBROUTINES SECTION CONTAINS THE SUBROUTINES
5      ; THAT ARE USED IN MORE THAN ONE TEST.
6      ;
7
84     .SBTTL  CLOCK SETUP SUBROUTINE
85
86     ;
87     ;
88     ; FUNCTIONAL DESCRIPTION:
89     ; THIS SUBROUTINE SETS UP THE CLOCK INFORMATION TABLE FOLLOWING A "CLOCK"
90     ; CALL EXECUTED IN THE INITIALIZATION CODE. BUT SINCE THE "CLOCK" CALL
91     ; SAYS NOTHING ABOUT AN LSI-11'S CLOCK, THIS ROUTINE IS ONLY USED IF A
92     ; LINE OR P-CLOCK IS FOUND.
93     ;
94     ; INPUTS:
95     ; R1- POINTS TO SUPERVISOR SPACE WHERE CLOCK INFO WAS RETURNED
96     ; R2- POINTS TO "CLK" TABLE WHERE CLOCK INFO WILL BE KEPT
97     ;
98     ; IMPLICIT INPUTS:
99     ; THE SUPERVISOR SPACE WHERE CLOCK INFO WAS RETURNED BY THE "CLOCK" CALL
100    ;
101    ; OUTPUTS:
102    ; "CLKCSR" GETS LOADED WITH THE CLOCK'S CSR ADDRESS
103    ; "CLKBR" GETS LOADED WITH THE CLOCK'S INTERRUPT LEVEL
104    ; "CLKVEC" GETS LOADED WITH THE CLOCK'S INTERRUPT VECTOR
105    ; "CLKHZ" GETS LOADED WITH THE LINE FREQ. (HERTZ RATE) WHICH DETERMINES
106    ; THE NUMBER OF TICKS IN A SECOND
107    ;
108    ; CALLING SEQUENCE:
109    ; JSR PC,CLKSET ;CALL CLOCK SETUP WITH R1 & R2 SETUP
110    ;
111    ;
112    CLKSET:
113    MOV (R1)+,(R2)+ ;LOAD CLOCK'S CSR ADDR. INTO "CLKCSR"
114    MOV (R1)+,(R2)+ ;LOAD CLOCK'S INT. LEVEL INTO "CLKBR"
115    ASL (R2) ;ADJUST THE INT. LEVEL FOR LOADING INTO
116    ASL (R2) ; THE PSW WITH A "SETVEC" CALL
117    ASL (R2)
118    ASL (R2)
119    ASL (R2)+
120    MOV (R1)+,(R2)+ ;LOAD CLOCK'S INT. VECTOR INTO "CLKVEC"
121    MOV (R1)+,(R2)+ ;LOAD CLOCK'S HERTZ RATE INTO "CLKHZ"
122    RTS PC
123
124 041654 012122
125 041656 012112
126 041660 006312
127 041662 006312
128 041664 006312
129 041666 006312
130 041670 006322
131 041672 012122
132 041674 012122
133 041676 000207

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CZCUMCO DMP/V 11 DCU1 MACRO V05.00 Thursday 22-Mar-84 16:24 Page 45
CLOCK SETUP SUBROUTINE

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33 041700      .SBTTL          CLOCK INTERRUPT SERVICE ROUTINE
    041700      **
    041700      FUNCTIONAL DESCRIPTION:
    041700      THIS IS THE CLOCK INTERRUPT SERVICE ROUTINE WHICH TAKES CARE OF
    041700      KEEPING THE "TIME-SINCE-START" AND COUNTING DOWN ANY OF THE
    041700      "EVENT" TIMERS. THE TIMERS ARE USED TO TIME COMPLETION OF DEVICE
    041700      REQUESTS. THE "TIME-SINCE-START" IS USED TO BE LOGGED WITH EACH ENTRY
    041700      INTO THE EVENT LOG.
    041700
    041700      IMPLICIT INPUTS:
    041700      TIMTCK: THE CURRENT NO. OF TICKS LEFT TO BE COUNTED UNTIL A SECOND
    041700      HAS BEEN COUNTED OFF
    041700      CLKHZ: THE NO. OF TICKS IN A SECOND, DETERMINED BY THE SYS. LINE FREQ.
    041700      TIMMIN & TIMSEC: CURRENT VALUE OF "TIME SINCE-START"
    041700      IN MINUTES & SECONDS
    041700      TIMER 1,2, & 3: CURRENT VALUES OF THE "EVENT TIMERS"
    041700
    041700      IMPLICIT OUTPUTS:
    041700      NEW VALUE OF EVENT TIMER "1" DECREMENTED BY 1 TICK IF IT WAS NON-ZERO
    041700      NEW VALUE OF EVENT TIMER "2" DECREMENTED BY 1 TICK IF IT WAS NON-ZERO
    041700      NEW VALUE OF EVENT TIMER "3" DECREMENTED BY 1 SECOND IF IT WAS NON-ZERO
    041700
    041700      FUNCTIONAL SIDE EFFECTS:
    041700      THE CLOCK IS DISABLED UPON ENTRY AND REENABLED WHEN LEAVING
    041700
    041700      CALLING SEQUENCE:
    041700      THIS ROUTINE IS CALLED WHEN THE CLOCK INTERRUPTS THRU "CLKVEC".
    041700      THE ADDRESS OF THIS ROUTINE WAS LOADED INTO THE CLOCK'S INTERRUPT
    041700      VECTOR WITH A SUPERVISOR "SETVEC" CALL.
    041700      --
    041700
    041700      BGNSRV CLKINT
    041700
    041700      CLKINT::
    041700
    041700      35 041700 005077 155532      CLR      @CLKCSR      ;DISABLE THE CLOCK FROM INTERRUPTING
    041700      36 041704 005337 017454      DEC      TIMTCK      ;DECREMENT THE # OF TICKS/SEC.
    041700      37 041710 001015              BNE      1$          ;GO CHECK TIMERS (162-TICKS, 3-SECONDS)
    041700      38 041712 013737 017444 017454      MOV      CLKHZ,TIMTCK      ;RESET THE # OF TICKS/SEC.
    041700      39 041720 005237 017452      INC      TIMSEC      ;INC # OF SECS-SINCE-START
    041700      40 041724 022737 000074 017452      CMP      @60.,TIMSEC      ;SEE IF WE'VE COUNTED 60 SECS. YET
    041700      41 041732 001004              BNE      1$          ;IF NOT, GO CHECK TIMERS
    041700      42 041734 005237 017450      INC      TIMMIN      ; ELSE INC MINUTES-SINCE-START
    041700      43 041740 005037 017452      CLR      TIMSEC      ; AND RESTART SECOND COUNTER
    041700      44
    041700      45 041744 005737 017456      1$:      TST      TIMER1      ;SEE IF TIMER #1, TIMING ANYTHING
    041700      46 041750 001402              BEQ      2$          ; IF=0, NOTHING BEING TIMED CHECK NEXT TIMER
    041700      47 041752 005337 017456      DEC      TIMER1      ; ELSE DECREMENT THE TIMER VALUE (BY 1 TICK)
    041700      48 041756 005737 017460      2$:      TST      TIMER2      ;SEE IF TIMER #2, TIMING ANYTHING
    041700      49 041762 001402              BEQ      3$          ; IF=0, NOTHING BEING TIMED CHECK NEXT TIMER
    041700      50 041764 005337 017460      DEC      TIMER2      ; ELSE DECREMENT THE TIMER VALUE (BY 1 TICK)
    041700      51 041770 005737 017462      3$:      TST      TIMERS      ;SEE IF TIMER #3, TIMING ANYTHING
    041700      52 041774 001406              BEQ      4$          ; IF=0, NOTHING BEING TIMED, LEAVE
    041700      53 041776 023737 017444 017454      CMP      CLKHZ,TIMTCK      ;SEE IF A SECOND HAS BEEN COUNTED OFF
    041700      54 042004 001002              BNE      4$          ; BR IF NO
    041700      55 042006 005337 017462      DEC      TIMERS      ; ELSE DECREMENT THE TIMER VALUE (BY 1 SEC.)
    041700      56 042012 013777 017446 155416 4$:      MOV      CLKEN,@CLKCSR      ;REENABLE THE CLOCK TO INTERRUPT

```

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CZCLMCO DMP/V-11 DCI I MACRO V05.00 Thursday 22-Mar-84 16:24 Page 45-1
CLOCK INTERRUPT SERVICE ROUTINE

57 042020
042020
042020 000002

ENDSRV

L10010: RTI

CZC/MCO DMP/V-11 DCI T
EVENT LOG SUBROUTINES

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```

1      .SBTTL          EVENT LOG SUBROUTINES
2
3      ;**
4      ; FUNCTIONAL DESCRIPTION:
5      ;   THIS SUBROUTINE HAS A DIFFERENT ENTRY POINT
6      ;   FOR EACH EVENT TO BE LOGGED AND ALWAYS PRINTS
7      ;   THE SHORT "OPERATOR AWAKE" MESSAGE TO CONSOLE THEN LOGS THE
8      ;   EVENT TYPE, TIME, AND THE OTHER 3 WORDS OF INFO PASSED TO THE
9      ;   SUBROUTINE A1 CALLING TIME
10
11      ; INPUTS:
12      ;   TIMMIN & TIMSEC:      CURRENT VALUE OF "TIME SINCE START"
13      ;   TEMP2: WORD #1 OF EVENT LOG INFORMATION (FOR MOST EVENT TYPES)
14      ;   TEMP3: WORD #2 OF EVENT LOG INFORMATION
15      ;   TEMP4: WORD #3 OF EVENT LOG INFORMATION
16      ;   MODS:   CURRENT VALUE OF THE MODEM SIGNALS AVAILABLE FROM THE DEVICE
17
18      ; OUTPUTS:
19      ;   "OPERATOR AWAKE" MESSAGE SENT TO THE CONSOLE
20      ;   NEW EVENT LOGGED IN "EVTLOG" (EVENT LOG)
21      ;   UPDATED "EVTPTN" (EVENT LOG ENTRY POINTER)
22
23      ; SUBORDINATE ROUTINES USED:
24      ;   "DVMODS" THE DEVICE SUBROUTINE THAT RETURNS MODEM STATUS IN "MODS"
25      ;   (FOR SOME EVENT TYPES)
26
27      ; FUNCTIONAL SIDE EFFECTS:
28      ;   TEMP:   USED TO STORE ADDRESS OF "OPERATOR AWAKE" MESSAGE
29      ;   TEMP1:  USED TO SETUP THE VALUE OF THE "EVENT TYPE" BYTE FOR LOGGING
30
31      ; CALLING SEQUENCE:
32      ;   JSR     PC,LOGTXQ      ;CALL THE LOG EVENT SUBROUTINE WITH TEMP,TEMP1,
33      ;   "       "             ; TEMP2, TEMP3, AND TEMP4 SETUP
34      ;   "       "
35      ;   JSR     PC,LOGCMP
36      ;**
37
38 042022 LOGTXQ:
39 042022 012737 031571 017352      MOV     #STXQ,TEMP1      ;SET UP MSG. TO PRINT
40 042030 012737 000000 017350      MOV     #TXQ,TEMP      ;SET UP EVENT TYPE
41 042036 000522                      BR      LOGS1          ;GO LOG EVENT AND TIME
42
43 042040 LOGTXC:
44 042040 012737 031602 017352      MOV     #STXC,TEMP1      ;SET UP MSG. TO PRINT
45 042046 012737 000002 017350      MOV     #TXC,TEMP      ;SET UP EVENT TYPE
46 042054 000513                      BR      LOGS1          ;GO LOG EVENT AND TIME
47
48 042056 LOGRXQ:
49 042056 012737 031613 017352      MOV     #SRXQ,TEMP1      ;SET UP MSG. TO PRINT
50 042064 012737 000004 017350      MOV     #RXQ,TEMP      ;SET UP EVENT TYPE
51 042072 000504                      BR      LOGS1          ;GO LOG EVENT AND TIME
52
53 042074 LOGRXC:
54 042074 012737 000006 017350      MOV     #RXC,TEMP      ;SET UP EVENT TYPE
55 042102 000500                      BR      LOGS1          ;GO LOG EVENT AND TIME
56 042104 LGDVE:
57 042104 012737 031624 017352      MOV     #SDVE,TEMP1      ;SET UP MSG. TO PRINT

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CZCLMCO DMP/V-11 DCUT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 46-1
EVENT LOG SUBROUTINES

```

58 042112 012737 000010 017350      MOV    #DFR,TEMP      ;SET UP EVENT TYPE
59 042120 000511                      BR      LOGS3          ;GO LOG EVENT AND TIME
60
61 042122                      LOGDVI:
62 042122 012737 031646 017352      MOV    #SDVI,TEMP1    ;SET UP MSG. TO PRINT
63 042130 012737 000012 017350      MOV    #DVI,TEMP      ;SET UP EVENT TYPE
64 042136 113737 017402 017354      MOVB   MODTYP,TEMP2
65 042144 113737 017404 017355      MOVB   MLTYP,TEMP2+1
66 042152 013737 017412 017356      MOV    RPASS,TEMP3
67 042160 013737 017410 017360      MOV    PARAM,TEMP4    ;SET UP EVNT ENTRIES
68 042166 000466                      BR      LOGS3          ;GO LOG EVENT AND TIME
69
70 042170                      LOGCMP:
71 042170 012737 031635 017352      MOV    #SCM,TEMP1    ;SET UP MSG. TO PRINT
72 042176 012737 000014 017350      MOV    #DCK,TEMP      ;SET UP EVENT TYPE
73 042204 000415                      BR      LOGS3A
74 042204                      LOGCML:
75 042206 012737 031657 017352      MOV    #SCML,TEMP1
76 042214 012737 000020 017350      MOV    #DLE,TEMP      ;SET UP MSG. AND TYPE
77 042222 000406                      BR      LOGS3A          ;GO LOG EVENT AND TIME
78 042224                      LOGCMD:
79 042224 012737 031670 017352      MOV    #SCMD,TEMP1
80 042232 012737 000022 017350      MOV    #DDE,TEMP
81 042240 013737 015756 017362      LOGS3A: MOV    TRIBN,TEMP5
82 042246 000436                      BR      LOGS3          ;GO LOG MSG TYPE AND TIME
83
84 042250                      LOGEOP:
85 042250 012737 031701 017352      MOV    #SEOP,TEMP1
86 042256 012737 000024 017350      MOV    #EOP,TEMP      ;GO LOG MSG TYPE AND TIME
87 042264 000427                      BR      LOGS3
88
89 042266                      LOGMSC:
90 042266 012737 031712 017352      MOV    #SMSC,TEMP1
91 042274 012737 000016 017350      MOV    #MSC,TEMP
92 042302 000420                      BR      LOGS3
93
94 042304 013746 017310                      LOGS1: MOV    ERRCNT, -(SP)    ;SAVE CURRENT ERROR COUNT
95 042310 013737 015756 017362      MOV    TRIBN,TEMP5    ;SAVE TRIBN
96 042316 004737 063756                      JSR    PC,DVMODS        ;GO GET MODEM STATUS
97 042322 012604                      MOV    (SP)+,R4        ;GET SAVED ERRCNT VALUE
98 042324 020437 017310                      CMP    R4,ERRCNT        ;WERE ANY ERRORS FOUND
99 042330 001402                      BEQ     1$              ;BR IF NONE
100 042332 000137 042552                      JMP     LOGEX           ;ELSE, LEAVE WITHOUT LOGGING ANYTHING
101                                     ; BUT THE DEVICE ERROR FROM "DVMODS"
102 042336 013737 020524 017360      1$:  MOV    MODS,TEMP4    ;AND PUT IT IN TEMP4
103
104 042344                      LOGS3:
105 042344 022737 000006 017350      CMP     #RXC,TEMP      ;IF RXC DON'T PRINT
106 042352 001434                      BEQ     LOGS5
107 042354 032737 000001 017410      BIT     #STATB,PARAM  ;IF NO STATUS SELECTED
108 042362 001430                      BEQ     LOGS5          ;GO TO 5
109
110
111 042364 022737 000010 017300      CMP     #10,UNCNT      ;HAVE WE DONE 10?
112 042372 001012                      BNE     LOGS4          ;IF NOT GO TO 4
113 042374 005037 017300                      CLR     UNCNT         ;ELSE CLEAR IT
114

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CZCLMCO DMP/V-11 DCIT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 46-2
EVENT LOG SUBROUTINES

```

115 042400          PRINTF  #CR          ;ELSE PRINT CR
      042400 012746 031566
      042404 012746 000001
      042410 010600
      042412 104417
      042414 062706 000004
116 042420          LOGS4:
117 042420 005237 017300      INC      LNCNT      ;INC COUNTER OF # OF AWAKE MSGS
118 042424          PRINTF  TEMP1      ;PRINT OPERATOR AWAKE MSG.
      042424 013746 017352
      042430 012746 000001
      042434 010600
      042436 104417
      042440 062706 000004
119 042444 010346          LOGS5: MOV      R3,-(SP)      ;SAVE R3 ON THE STACK
120 042446 013703 017464      MOV      EVTPTR,R3
121 042452 113723 017350      MOV      TEMP,(R3)+      ;LOG EVENT
122 042456 013737 017444 017350      MOV      CLKHZ,TEMP
123 042464 163737 017454 017350      SUB      TIMTCK,TEMP
124 042472 113723 017350      MOV      TEMP,(R3)+      ;LOG TIME SINCE START
125 042476 113723 017452      MOV      TIMSEC,(R3)+
126 042502 113723 017450      MOV      TIMMIN,(R3)+      ;TICKS, SECS AND MINS.
127 042506 013723 017354      MOV      TEMP2,(R3)+      ;LOG EVNT ENTRY 3
128 042512 013723 017356      MOV      TEMP3,(R3)+      ;LOG EVNT ENTRY 4
129 042516 013723 017360      MOV      TEMP4,(R3)+      ;LOG EVNT ENTRY 5
130 042522 013723 017362      MOV      TEMP5,(R3)+      ;LOG EVNT ENTRY 6
131 042526 020327 020522      CMP      R3,#EVTEND
132 042532 103404          BLO      LOGS2
133
134 042534 012713 177777      MOV      #1,(R3)      ;IF EVENT LOG FULL GO
135 042540 012703 017466      MOV      #EVTLOG,R3      ;CONTINUE;ELSE GO TO 2
136 042544 010337 017464          LOGS2: MOV      R3,EVTPT      ;LOG A TABLE END
137 042550 012603          LOGS2: MOV      (SP)+,R3      ;PUT R3 TO START OF TABLE
138 042552 000207          LOGS2: MOV      (SP)+,R3      ;RESTORE POINTER
139
140          LOGEX: RTS      PC      ;RESTORE R3

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CZCUMCO DMP V-11 DCIT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 47
DUMP EVENT LOG AND BASE TABLE

```

1          .SBTTL          DUMP EVENT LOG AND BASE TABLE.
2
3
4 042554 010246          REPORT: MOV      R2,-(SP)          ;SAVE R2,R3,R4 ON THE STACK
5 042556 010346          MOV      R3,-(SP)
6 042560 010446          MOV      R4,-(SP)
7
8          ;PRINT REPORT HELP MESSAGE
9
10         PRINTF  @RHLPO
11         042562 012746 025341          MOV      @RHLPO,-(SP)
12         042566 012746 000001          MOV      @1,-(SP)
13         042572 010600          MOV      SP,R0
14         042574 104417          TRAP      C$PNTF
15         042576 062706 000004          ADD      @4,SP
16         042602 105037 003411          GETRCL: CLRB      P$GOBD          ;CLEAR GOOD BAD FLAG
17         042606 105037 003410          CLRB      P$NNUF
18
19         ;PRINT PROMPT RPT>
20
21         GMANID  CLI$RP,CMDBUF,A,0,1,72.,NO
22
23         042612 104443          TRAP      C$GMAN
24         042614 000406          BR        10000$
25         042616 003130          .WORD     CMDBUF
26         042620 000142          .WORD     T$CODE
27         042622 025334          .WORD     CLI$RP
28         042624 000000          .WORD     0
29         042626 000001          .WORD     T$LOLIM
30         042630 000110          .WORD     T$HILIM
31
32         10000$:
33         042632 012737 003130 003374          MOV      @CMDBUF,P$BUFA
34         042640 012737 044774 003376          MOV      @CLIINT,P$TREE
35         042646 012737 044360 003400          MOV      @CLIRAC,P$ACT
36         042654 005037 003254          CLR        QUALFG
37         042660 004737 047646          JSR        PC,P$TRV
38         042664 105737 003411          TSTB      P$GOBD
39         042670 001412          BEQ        1$
40         042672          PRINTF  @CLIERM
41
42         042672 012746 023362          MOV      @CLIERM,-(SP)
43         042676 012746 000001          MOV      @1,-(SP)
44         042702 010600          MOV      SP,R0
45         042704 104417          TRAP      C$PNTF
46         042706 062706 000004          ADD      @4,SP
47
48         25 042712 000137 042602          1$: JMP        GETRCL
49         26 042716 105737 003410          TSTB      P$NNUF
50         27 042722 001412          BEQ        10$
51         28 042724          PRINTF  @CLINUF
52
53         042724 012746 023412          MOV      @CLINUF,-(SP)
54         042730 012746 000001          MOV      @1,-(SP)
55         042734 010600          MOV      SP,R0
56         042736 104417          TRAP      C$PNTF
57         042740 062706 000004          ADD      @4,SP
58
59         29 042744 000137 042602          JMP        GETRCL
60
61         30
62         31 042750 023727 003252 000005 10$: CMP      KEYWD1,@RPTSS
63         32 042756 001003          BNE
64         33 042760 004737 043006          JSR        PC,RPTTSS          ;JUMP TO REPORT TSS

```

CZCLMCO DMP/V-11 DCI T MACRO V05.00 Thursday 22-Mar-84 16:24 Page 47-1
DUMP EVENT LOG AND BASE TABLE

34	042764	000706				BR	GETRCL		; IF EQUAL JUMP BACK
35	042766	023727	003252	000002	20\$:	CMP	KEYWD1, #RPEXT		; SEE IF EXIT REPORT SECTION
36	042774	001302				BNE	GETRCL		
37	042776	012604			ENDALL:	MOV	(SP)+, R4		; RESTORE R4, R3, R2
38	043000	012603				MOV	(SP)+, R3		
39	043002	012602				MOV	(SP)+, R2		
40	043004	000207				RTS	PC		; RETURN TO CALLING ROUTINE
41									
42									
43	043006	012737	000046	021024	RPTTSS:	MOV	#46, TSSA		; SET KEY UP TO FIRST ERROR
44	043014	005737	015756			TST	TRIBN		
45	043020	001003				BNE	RDTSS2		; BRANCH IF TSS
46	043022	012737	000054	021024		MOV	#54, TSSA		; IF GSS USE 55
47	043030	012737	000057	021022	RDTSS2:	MOV	#57, TSSE		; SET UP 57 AS END
48	043036	122737	000105	021026		CMPB	#105, TSSKEY		; IS THIS AN E
49	043044	001422				BEQ	RDTSS		; AND GO READ THEM
50	043046	012737	000037	021024		MOV	#37, TSSA		
51	043054	012737	000077	021022		MOV	#77, TSSE		; SET UP LIMITS
52	043062	122737	000106	021026		CMPB	#106, TSSKEY		; IS THIS FULL
53	043070	001410				BEQ	RDTSS		; IF SO READ FULL
54	043072	013737	021026	021024		MOV	TSSKEY, TSSA		
55	043100	005337	021024			DEC	TSSA		
56	043104	013737	021026	021022		MOV	TSSKEY, TSSE		
57									
58	043112	005237	021024		RDTSS:	INC	TSSA		
59	043116	152777	000200	157726		BISB	#RQI, #BSEL0		; MAKE RQEST
60	043124	004737	065114			JSR	PC, TOORIO		
61	043130	012737	177777	017326		MOV	#-1, TSSFLG		; SET FLAG
62	043136	113777	015756	157714		MOVB	TRIBN, #BSEL3		
63	043144	013777	021024	157714		MOV	TSSA, #SEL6		
64	043152	112777	000001	157676		MOVB	#01, #BSEL2		; DO CONTROL IN READ TSS
65	043160	023737	021024	021022		CMP	TSSA, TSSE		; ARE WE DONE
66	043166	001351				BNE	RDTSS		; IF NOT GO BACK FOR MORE
67	043170	152777	000200	157654		BISB	#RQI, #BSEL0		; MAKE RQEST
68	043176	004737	065114			JSR	PC, TOORIO		
69	043202	113777	015756	157650		MOVB	TRIBN, #BSEL3		
70	043210	105077	157652			CLRB	#SEL6		
71	043214	112777	000001	157634		MOVB	#01, #BSEL2		; DO CONTROL IN (NO REQUEST)
72									; THIS GETS LAST OUTPUT
73	043222	000207				RTS	PC		; RETURN WHEN DONE
74									
75									
76									
77									
78	043224	010246			REPLUG:	MOV	R2, -(SP)		; SAVE R2, R3, R4 ON THE STACK
79	043226	010346				MOV	R3, -(SP)		
80	043230	010446				MOV	R4, -(SP)		
81									
82	043232	013702	017464			MOV	EVIPT, R2		; MAKE R2 A POINTER TO EVENT TABLE
83	043236	023727	017466	177777		CMP	EVILOG, #-1		; SEE IF EVENT TABLE IS EMPTY
84	043244	001034				BNE	RPTO		; BR IF NO
85	043246					PRINTS	#NULEVT		; IF EMPTY TELL OPERATOR.
	043246	012746	030407						MOV #NULEVT, -(SP)
	043252	012746	000001						MOV #1, (SP)
	043256	010600							MOV SP, R0
	043260	104416							TRAP C\$PNTS
	043262	062706	000004						ADD #4, SP

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DUMP EVENT LOG AND BASE TABLE

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86 043266 000137 044204          JMP      ENDEVT          ;AND END
87
88 043272 162702 000014          RPT:    SUB      #14,R2          ;NOW POINT BACK TO TOP OF ENTRY U
89                                  ;JUST PRINTED
90
91 043276 020227 017466          CMP      R2,#EVTLOG        ;POINTING TO TOP OF EVNT LOG QUEUE?
92 043302 001010          BNE      RPT1          ; BR IF NO
93 043304 012702 020522          MOV      #EVTEND,R2        ;SET R2 TO POINT TO BOTTOM OF LOG
94 043310 026227 177776 177777  CMP      -2(R2),#-1
95 043316 001007          BNE      RPT0          ;IF END OF LOG IS NOT EMPTY
96 043320 000137 044204          JMP      ENDEVT          ;CONTINUE...ELSE EXIT
97
98 043324 020237 017464          RPT1:   CMP      R2,EVTPTTR        ;ARE WE BACK TO POINTER?
99 043330 001002          BNE      RPT0          ;IF NOT CONTINUE
100 043332 000137 044204          JMP      ENDEVT          ;IF SO EXIT....
101
102 043336 162702 000014          RPT0:    SUB      #14,R2          ;POINT R2 TO START OF ENTRY
103 043342          RPTAA:   PRINTS   #EVTFO          ;PRINT EVENT ENTRY HEADER
104 043342 012746 030447          MOV      #EVTFO,-(SP)
105 043346 012746 000001          MOV      #1,-(SP)
106 043352 010600          MOV      SP,R0
107 043354 104416          TRAP     C$PNTS
108 043356 062706 000004          ADD      #4,SP
109 043362 112203          MOVB     (R2)+,R3          ;PUT EVENT TYPE INTO R3
110 043364 112237 020614          MOVB     (R2)+,EVTICK        ;PUT EVENT TIME (TICKS,SECS,MINS IN TEMP LOC.S)
111 043370 112237 020610          MOVB     (R2)+,EVTSEC
112 043374 112237 020612          MOVB     (R2)+,EVTMIN
113 043400          PRINTS   #EVTFO1,EVTMIN,EVTSEC,EVTICK,EVTLS1(R3) ;PRINT EVENT TIME AND DESCRIPT.
114 043400 016346 020562          MOV      EVTLST(R3),-(SP)
115 043404 013746 020614          MOV      EVTICK,-(SP)
116 043410 013746 020610          MOV      EVTSEC,-(SP)
117 043414 013746 020612          MOV      EVTMIN,-(SP)
118 043420 012746 030545          MOV      #EVTFO2,-(SP)
119 043424 012746 000005          MOV      #5,-(SP)
120 043430 010600          MOV      SP,R0
121 043432 104416          TRAP     C$PNTS
122 043434 062706 000014          ADD      #14,SP
123 043440 000173 020624          JMP      @RPTDSP(R3)          ;DISPATCH TO DECODING SECTION FOR SPECIFIC TYPE
124
125 043444 012237 020616          RPTTXQ: MOV      (R2)+,EVTADD        ;STORE MESSAGE ADDRESS FOR PRINTING
126 043450 012237 020620          MOV      (R2)+,EVTBCT          ;STORE BYTE COUNT FOR PRINTING
127 043454 012203          MOV      (R2)+,R3          ;STORE MODEM STATUS FOR PRINTING
128 043456 004737 044326          JSR      PC,PNTTRB            ;PRINT TRIB NO.
129 043462          PRINTS   #EVTFO2,EVTADD,EVTBCT          ;PRINT ADDR,BYTE CNT
130 043462 013746 020620          MOV      EVTBCT,-(SP)
131 043466 013746 020616          MOV      EVTADD,-(SP)
132 043472 012746 030574          MOV      #EVTFO3,-(SP)
133 043476 012746 000003          MOV      #3,-(SP)
134 043502 010600          MOV      SP,R0
135 043504 104416          TRAP     C$PNTS
136 043506 062706 000010          ADD      #10,SP
137 043512 004737 044214          JSR      PC,RPTMSB            ;GO PRINT MODEM STATUS
138 043516 000137 043272          JMP      RPT                  ;GO BACK FOR NEXT EVENT ENTRY
139
140 043522 012237 020622          RPTDER: MOV      (R2)+,EVTIMP        ;GET ADDRESS OF DEVICE INFO MESSAGE
141 043526 012237 020652          MOV      (R2)+,DEV1          ;STORE DEVICE REG CONTENTS FOR PRINTING
142 043532 012237 020654          MOV      (R2)+,DEV2

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DUMP EVENT LOG AND BASE TABLE

122	043536	012237	017362	MOV	(R2)+,TEMP5			
123	043542			PRINTS	#EVTF3,EVTIMP	;PRINT DEVICE REG CONTENTS.		
	043542	013746	020622				MOV	EVTIMP,-(SP)
	043546	012746	030645				MOV	#EVTF3,-(SP)
	043552	012746	000002				MOV	#2,-(SP)
	043556	010600					MOV	SP,R0
	043560	104416					TRAP	C:PNTS
	043562	062706	000006				ADD	#6,SP
124	043566			PRINTS	#EVTF3C,DEV1,DEV2			
	043566	013746	020654				MOV	DEV2,-(SP)
	043572	013746	020652				MOV	DEV1,-(SP)
	043576	012746	030660				MOV	#EVTF3C,-(SP)
	043602	012746	000003				MOV	#3,-(SP)
	043606	010600					MOV	SP,R0
	043610	104416					TRAP	C:PNTS
	043612	062706	000010				ADD	#10,SP
125	043616	000137	043272	JMP	RPT	;GO BACK FOR NEXT EVENT ENTRY		
126								
127	043622	005037	020652	RPTDVI: CLR	DEV1			
128	043626	005037	020654	CLR	DEV2	;CLEAR UPPER BYTES OF DEV1 & DEV2 BEFORE USE		
129	043632	112237	020652	MOVB	(R2)+,DEV1	;STORE SETUP OPERATION PARAMETERS FOR PRINTING		
130	043636	112237	020654	MOVB	(R2)+,DEV2			
131	043642	012237	020656	MOV	(R2)+,DEV3			
132	043646	012237	020660	MOV	(R2)+,DEV4			
133	043652	010246		MOV	R2,-(SP)	;SAVE R2 ON THE STACK		
134	043654	004737	047344	JSR	PC,SHWOP	;GO PRINT MODE, MAINT-LOOP TYPE, PARAMTERS.		
135	043660	012602		MOV	(SP)+,R2	;RESTORE R2		
136	043662	012237	017362	MOV	(R2)+,TEMP5	;DUMMY MOVE		
137	043666	000137	043272	JMP	RPT	;GO BACK FOR NEXT EVENT ENTRY		
138	043672	012237	020616	RPTTEOP: MOV	(R2)+,EVTADD			
139	043676	012237	020620	MOV	(R2)+,EVTBCT			
140	043702	012237	020622	MOV	(R2)+,EVTIMP			
141	043706	012237	017362	MOV	(R2)+,TEMP5	;DUMMY MOVE		
142								
143								
144								
145	043712							
	043712	013746	020620	PRINTS	#EVTF4B,EVTADD,EVTBCT			
	043716	013746	020616				MOV	EVTBCT,-(SP)
	043722	012746	031016				MOV	EVTADD,-(SP)
	043726	012746	000003				MOV	#EVTF4B,-(SP)
	043732	010600					MOV	#3,-(SP)
	043734	104416					MOV	SP,R0
	043736	062706	000010				TRAP	C:PNTS
							ADD	#10,SP
146	043742			PRINTS	#EVTF44,EVTIMP,TEMP5			
	043742	013746	017362				MOV	TEMP5,-(SP)
	043746	013746	020622				MOV	EVTIMP,-(SP)
	043752	012746	031055				MOV	#EVTF44,-(SP)
	043756	012746	000003				MOV	#3,-(SP)
	043762	010600					MOV	SP,R0
	043764	104416					TRAP	C:PNTS
	043766	062706	000010				ADD	#10,SP
147	043772	000137	043272	JMP	RPT	;THEN GO GET NEXT EVENT ENTRY		
148								
149								
150	043776	012237	020616	RPTDDE: MOV	(R2)+,EVTADD	;STORE MESSAGE ADDRESS FOR PRINTING		
151	044002	012237	020620	MOV	(R2)+,EVTBCT	;STORE BYTE COUNT FOR PRINTING		

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DUMP EVENT LOG AND BASE TABLE

152	044006	012237	020622	MOV	(R2)+,EVTTMP	;STORE TOTAL # OF CMP ERRORS	
153	044012	004737	044326	JSR	PC,PNTTRB	;PRINT TRIB NO.	
154	044016			PRINTS	#EVT4,EVTADD,EVTBCT,EVTMP	;PRINT ADDR, BYTE CNT, # CMP ERRS	
	044016	013746	020622			MOV	EVTMP, -(SP)
	044022	013746	020620			MOV	EVTBCT, -(SP)
	044026	013746	020616			MOV	EVTADD, -(SP)
	044032	012746	031124			MOV	#EVT4, -(SP)
	044036	012746	000004			MOV	#4, -(SP)
	044042	010600				MOV	SP,RO
	044044	104416				TRAP	C\$PNTS
	044046	062706	000012			ADD	#12,SP
155	044052	000137	043272	JMP	RPT	;THEN GO GET NEXT EVENT ENTRY	
156							
157	044056			RPTDLE:			
158	044056	012237	020616	RPTDCK:	MOV	(R2)+,EVTADD	;STORE MSG ADDR FOR PRINT
159	044062	012237	020620		MOV	(R2)+,EVTBCT	;STORE BYTE COUNT
160	044066	012237	020622		MOV	(R2)+,EVTMP	;STORE BYTE COUNT COMP
161	044072	004737	044326		JSR	PC,PNTTRB	;PRINT TRIB NO.
162	044076				PRINTS	#EVT4A,EVTADD,EVTBCT,EVTMP	;PRINT ADDR,RXBYTES,CMPBYTES.
	044076	013746	020622			MOV	EVTMP, -(SP)
	044102	013746	020620			MOV	EVTBCT, -(SP)
	044106	013746	020616			MOV	EVTADD, -(SP)
	044112	012746	031226			MOV	#EVT4A, -(SP)
	044116	012746	000004			MOV	#4, -(SP)
	044122	010600				MOV	SP,RO
	044124	104416				TRAP	C\$PNTS
	044126	062706	000012			ADD	#12,SP
163							
164	044132	000137	043272	JMP	RPT	;THEN GO GET NEXT EVENT ENTRY	
165							
166							
167	044136			RPTMSC:			
168							
169	044136	012203		MOV	(R2)+,R3	;PUT OLD MODEM STATUS IN R3 FOR PRINTING	
170	044140	004737	044214	JSR	PC,RPTMSB	;GO PRINT OLD MODEM STATUS	
171	044144			PRINTS	#EVMOCG	;GO PRINT "CHANGED TO:"	
	044144	012746	031410			MOV	#EVMOCG, -(SP)
	044150	012746	000001			MOV	#1, (SP)
	044154	010600				MOV	SP,RO
	044156	104416				TRAP	C\$PNTS
	044160	062706	000004			ADD	#4,SP
172	044164	012203		MOV	(R2)+,R3	;PUT NEW MODEM STATUS IN R3 FOR PRINTING	
173	044166	004737	044214	JSR	PC,RPTMSB	;GO PRINT NEW MODEM STATUS	
174	044172	012203		MOV	(R2)+,R3	;POP NULL WORD FROM ENTRY OUT OF LOG	
175	044174	012237	017362	MOV	(R2)+,TEMP5	;DUMMY MOVE	
176	044200	000137	043272	JMP	RPT	;THEN GO GET NEXT EVENT	
177							
178	044204			ENDEVT:		;RETURN TO CALLER AFTER REG RESTORE	
179	044204	012604		MOV	(SP)+,R4	;RESTORE R4,R3,R2	
180	044206	012603		MOV	(SP)+,R3		
181	044210	012602		MOV	(SP)+,R2		
182	044212	000207		RTS	PC	;RETURN TO CALLING ROUTINE	
183							
184							
185							
186							
187							

;REPORT MODEM STATUS SUBROUTINE
; PART OF STATISTICAL REPORTING (DUMPING EVENT LOG)

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DUMP EVENT LOG AND BASE TABLE

188	044214			RPTMSB; PRINTS	0EVMOH0		;PRINT MODEM STATUS HEADER	
	044214	012746	031433				MOV	0EVMOH0, -(SP)
	044220	012746	000001				MOV	01, -(SP)
	044224	010600					MOV	SP, R0
	044226	104416					TRAP	C:PNTS
	044230	062706	000004				ADD	04, SP
189	044234	012704	020526		MOV	0MOBITS, R4		;MAKE R4 A POINTER TO MODEM SIG. BIT DEF. TABLE
190	044240	012705	020544		MOV	0MOMSGS, R5		;MAKE R5 A PCINTER TO MODEM MSG. POSITION TABLE
191	044244	005714		61:	TST	(R4)		;SEE IF BIT AVAILABLE FROM DEVICE
192	044246	001004			BNE	71		;BR IF THAT MODEM SIG. AVAILABLE
193	044250	112735	000130		MOVB	0'X, 0(R5),		;ELSE PUT "X" IN REPORT IF SIGNAL NOT AVAILABLE
194	044254	005724			TST	(R4),		;BUMP R4 TO POINT TO NEXT BIT DEFINITION
195	044256	000407			BR	91		;GO SEE IF CHECKED ALL MODEM SIGNALS
196	044260	032403		71:	BIT	(R4), R3		;IF THERE, SEE IF THAT BIT IN DEVICE'S ENTRY=1
197	044262	001403			BEQ	81		;BR IF BIT (SIGNAL) VALUE =0
198	044264	112735	000061		MOVB	0'1, 0(R5),		;IF=1, PUT "1" IN REPORT MESSAGE
199	044270	000402			BR	91		;GO SEE IF ALL MODEM SIGNALS CHECKED
200	044272	112735	000060	81:	MOVB	0'0, 0(R5),		;IF BIT(SIGNAL)=0, PUT "0" IN REPORT MESSAGE
201	044276	020427	020544	91:	CMP	R4, 0MOBITE		;SEE IF ALL BITS(SIGNALS) CHECKED
202	044302	002760			BLT	61		;LOOP UNTIL ALL SIGNALS(BITS) CHECKED
203	044304				PRINTS	0EVMOST		;THEN PRINT MODEM SIGNAL VALUE MESSAGE
	044304	012746	031513				MOV	0EVMOST, -(SP)
	044310	012746	000001				MOV	01, (SP)
	044314	010600					MOV	SP, R0
	044316	104416					TRAP	C:PNTS
	044320	062706	000004				ADD	04, SP
204	044324	000207			RTS	PC		;RETURN TO EVENT DECODING
205								
206								
207								
208	044326	012237	017362		PNITRB; MOV	(R2), TEMP5		
209	044332				PRINTS	0EVTF6, TEMP5		;PRINT TRIB NUMBER,
	044332	013746	017362				MOV	TEMP5, -(SP)
	044336	012746	030756				MOV	0EVTF6, (SP)
	044342	012746	000002				MOV	02, (SP)
	044346	010600					MOV	SP, R0
	044350	104416					TRAP	C:PNTS
	044352	062706	000006				ADD	06, SP
210	044356	000207			RTS	PC		;RETURN TO EVENT

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CLI FOR REPORT CODING SECTION

,SHTTL			CL.I FOR REPORT CODING SECTION		
CLIRAC;					
1	044360		ASL	R2	
2	044360	006302	MOV	10\$(R2),R2	;FORM ADDRESS OF ACTION ROUTINE
3	044362	016202	ADD	010\$,R2	
4	044366	062702	JSR	PC,(R2)	
5	044372	004712	RTS	PC	
6	044374	000207			
7					
8					
9	044376	000034	10\$:	.WORD	ACTRNL-10\$
10	044400	000036		.WORD	ACTRNL-10\$;RPHLP
11	044402	000102		.WORD	ACTREX-10\$;RPEXT
12	044404	000112		.WORD	ACTRLG-10\$;RPLOG
13	044406	000126		.WORD	ACTRGS-10\$;RPGSS
14	044410	000156		.WORD	ACTRTS-10\$;RPTSS
15	044412	000202		.WORD	ACTRTN-10\$;RPTSN
16	044414	000150		.WORD	ACTRSE-10\$;RPSSE
17	044416	000274		.WORD	ACTRSE-10\$;RPSWF
18	044420	000310		.WORD	ACTRSO-10\$;RPSWO
19	044422	000026		.WORD	ACTRNF-10\$;RNOTNF

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REPORT COMMAND ACTION ROUTINES

1					.SRTI	REPORT COMMAND ACTION ROUTINES	
2	044424	112737	177777	003410	ACTRNF: MOV	0-1,P\$NNUF	;SET FLAG TO SAY MORE NEEDED
3	044432	000207			ACTRNL: RTS	PC	
4	044434	012702	003304		ACTRHL: MOV	0RHLPTB,R2	;SETUP R2 AS A POINTER TO HELP MSG TABLE
5	044440				1\$:	PRINTF 0HLPF,(R2)	;PRINT HELP INFORMATION MESSAGES
	044440	012246					MOV (R2)+,-(SP)
	044442	012746	024116				MOV 0HLPF,-(SP)
	044446	012746	000002				MOV 02,-(SP)
	044452	010600					MOV SP,R0
	044454	104417					TRAP C\$PNTF
	044456	062706	000006				ADD 06,SP
6	044462	020227	003314		CMP	R2,0RHLPTB	;SEE IF ALL INFO PRINTED YET
7	044466	001364			BNE	1\$	;IF NO KEEP PRINTING
8	044470	012737	000001	003252	MOV	0RPHLP,KEYWD1	
9	044476	000207			RTS	PC	
10	044500	012737	000002	003252	ACTREX: MOV	0RPEXT,KEYWD1	;SET UP EXIT WORD
11	044506	000207			RTS	PC	
12	044510	004737	043224		ACTRLG: JSR	PC,REPLOG	;GO REPORT DCLT EVENT LOG
13	044514	012737	000003	003252	MOV	0RPLOG,KEYWD1	
14	044522	000207			RTS	PC	
15	044524	105037	015756		ACTRGS: CLRB	TRIBN	;FOR GLOBAL STATUS MAKE TRIN =0
16	044530	012737	000105	021026	MOV	0105,TSSKEY	
17	044536	012737	000005	003252	MOV	0RPTSS,KEYWD1	;SET UP KEY WORD
18	044544	000207			RTS	PC	;AND RETURN
19	044546	105037	003410		ACTRSE: CLRB	P\$NNUF	;CLEAR NOT NUF FLAG
20	044552	000207			RTS	PC	
21	044554	012737	000105	021026	ACTRTS: MOV	0105,TSSKEY	
22	044562	012737	000005	003252	MOV	0RPTSS,KEYWD1	;SET UP KEY WORD
23	044570	112737	177777	003410	MOVB	0-1,P\$NNUF	
24	044576	000207			RTS	PC	;AND RETURN
25	044600	105037	003410		ACTRTN: CLRB	P\$NNUF	;CLEAR NOT NUF
26	044604	012705	000040		MOV	032,R5	
27	044610	012702	015712		MOV	0TRIBLS,R2	
28	044614	122237	003404		3\$:	CMPB (R2)+,P\$NUM	
29	044620	001420			BEQ	4\$	
30	044622	005305			DEC	R5	
31	044624	001373			BNE	3\$	
32	044626				PRINTF	0SHTNF,P\$NUM	
	044626	013746	003404				MOV P\$NUM,(SP)
	044632	012746	026165				MOV 0SHTNF,-(SP)
	044636	012746	000002				MOV 02,-(SP)
	044642	010600					MOV SP,R0
	044644	104417					TRAP C\$PNTF
	044646	062706	000006				ADD 06,SP
33	044652	112737	177777	003411	MOVB	0-1,P\$GDBD	
34	044660	000403			BR	5\$	
35	044662	113737	003404	015756	4\$:	MOVB P\$NUM,TRIBN	
36	044670	000207			5\$:	RTS	PC
37	044672	105037	003410		ACTRSE: CLRB	P\$NNUF	
38	044676	012737	000106	021026	MOV	0106,TSSKEY	
39	044704	000207			RTS	PC	
40	044706	105037	003410		ACTRSQ: CLRB	P\$NNUF	
41	044712	023727	003404	000037	CMP	P\$NUM,037	
42	044720	003416			BIF	0\$	
43	044722				PRINTF	0RPTIV,P\$NUM	
	044722	013746	003404				MOV P\$NUM,(SP)
	044726	012746	025544				MOV 0RPTIV,-(SP)

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REPORT COMMAND ACTION ROUTINES

	044732	012746	000002			
	044736	010600				
	044740	104417				
	044742	062706	000006			
44	044746	112737	177777	003411		MOVB 4-1,P\$GDBD
45	044754	000406				BR 3\$
46	044756	013737	003404	021026	2\$:	MOV P\$NUM,TSSKEY
47	044764	052737	000040	021026		BIS 0BIT5,TSSKEY
48	044772	000207			3\$:	RTS PC

```
MOV    #2, -(SP)
MOV    SP, R0
TRAP   C$PNTF
ADD    #6, SP
```

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 50
 REPORT CODE COMMAND LINE PARSING TREE

	.SBTTL	REPORT CODE COMMAND LINE PARSING TREE
1		
2		
3 044774	CLIRT: CLI	CLISPA,0,R10\$;SKIP ANY SPACES
4 045000	R10\$: CLI	<'?'>,RPHLP,R11\$;IS FIRST NON-SP CHAR A "?"?
5 045004	CLI	CLIEXI,0 ;EXIT
6 045006	R11\$: CLI	CLISTR,RPHLP,R12\$,<'HELP'>
7 045022	CLI	CLIEXI,0
8 045024	R12\$: CLI	CLISTR,RPEXT,R13\$,<'EXIT'>
9 045040	CLI	CLIEXI,0
10 045042	R13\$: CLI	CLISTR,RPGSS,R14\$,<'GSS'>
11 045054	CLI	CLIBR,0,R20\$
12 045060	R14\$: CLI	CLISTR,RPLOG,R15\$,<'LOG'>
13 045072	CLI	CLIEXI,0
14 045074	R15\$: CLI	CLISTR,RPTSS,R30\$,<'TSS'>
15 045106	CLI	CLISPA,RNOTNF,R30\$
16 045112	CLI	CLIDEC,RPTSN,R30\$
17 045116	R20\$: CLI	<'/'>,RNOTNF,R125\$
18 045122	CLI	CLISTR,RPSWE,R21\$,<'ERROR'>
19 045136	CLI	CLIEXI,0
20 045140	R21\$: CLI	CLISTR,RPSWF,R22\$,<'FULL'>
21 045154	CLI	CLIEXI,0
22 045156	R22\$: CLI	CLISTR,RNOTNF,R30\$,<'OFFSET'>
23 045174	CLI	<'>',0,R30\$
24 045200	CLI	CLIOCI,RPSWO,R30\$
25 045204	CLI	CLIEXI,0
26 045206	R30\$: CLI	CLIEXR,0
27 045210	R125\$: CLI	CLIEXI,0
28		
29		

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DUMP BYTES OR WORDS

```

1      .SBTTL          DUMP BYTES OR WORDS
2
3
4      ;**
5      ; FUNCTIONAL DESCRIPTION:
6      ;   DUMPSR - DUMP BYTES OR WORDS SUBROUTINE
7
8      ;   THIS SUBROUTINE PRINTS THE CONTENTS OF THE LOCATIONS BETWEEN
9      ;   A STARTING AND END ADDRESS IN LOCS. "STADD" AND "ENADD".
10     ;   THE WORD OR BYTE CONTENTS ARE PRINTED 8 TO A LINE WITH THE
11     ;   ADDRESS OF THE FIRST BYTE AS THE FIRST 6 OCTAL CHARS. FOLLOWED
12     ;   BY A SEMICOLON.
13
14     ; INPUTS:
15     ;   STADD= STARTING ADDRESS (FIRST LOC. TO PRINT)
16     ;   ENADD= END ADDRESS (LAST LOCATION TO DUMP)
17     ;   BYTBIT= 1 IF SUPPOSED TO PRINT "BYTES"
18     ;             0 IF SUPPOSED TO PRINT "WORDS"
19
20     ; OUTPUTS:
21     ;   CONTENTS OF A RANGE OF LOC.S PRINTED ON THE OPERATORS CONSOLE.
22
23     ; CALLING SEQUENCE:
24     ;   JSR PC,DUMPSR          ;CALL DUMP BYTES SUBROUTINE
25
26     ;--
27
28 045212 013702 017312      DUMPSR: MOV      STADD,R2          ;SET R2 UP TO STARTING ADDR.
29 045216 005003            DUM4:  CLR      R3              ;CLEAR R3
30 045220            PRINTF  #BASM1,R2          ;PRINT ADDRESS
31
32 045220 010246            MOV      R2,-(SP)
33 045222 012746 030401      MOV      #BASM1,-(SP)
34 045226 012746 000002      MOV      #2,-(SP)
35 045232 010600            MOV      SP,R0
36 045234 104417            TRAP     C$PNTF
37 045236 062706 000006      ADD      #6,SP
38
39 045242 005737 017316      DUM3:  TST      BYTBIT          ;IS THIS BYTE OR WORD
40 045246 001416            BEQ      DUM1          ;BR IF WORD
41 045250 112237 017350      MOV      (R2)+,TEMP        ;MOV BYTE TO TEMP
42 045254            PRINTF  #BASM3,<B,TEMP>          ;PRINT BYTE
43
44 045254 205046            CLR      -(SP)
45 045256 153716 017350      BISB     TEMP,(SP)
46 045262 012746 030363      MOV      #BASM3,-(SP)
47 045266 012746 000002      MOV      #2,-(SP)
48 045272 010600            MOV      SP,R0
49 045274 104417            TRAP     C$PNTF
50 045276 062706 000006      ADD      #6,SP
51
52 045302 000411            BR       DUM2
53 045304            DUM1:  PRINTF  #BASM2,(R2)+        ;PRINT WORD
54
55 045304 012246            MOV      (R2)+,-(SP)
56 045306 012746 030372      MOV      #BASM2,-(SP)
57 045312 012746 000002      MOV      #2,-(SP)
58 045316 010600            MOV      SP,R0
59 045320 104417            TRAP     C$PNTF
60 045322 062706 000006      ADD      #6,SP
61
62 045326 020237 017314      DUM2:  CMP      R2,ENADD        ;COMPARE FOR LAST ADD
63 045332 003005            BGT      DUMEX          ;IF DONE EXIT

```

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CZCUMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 51-1
DUMP BYTES OR WORDS

39	045334	005203		INC	R3	;ELSE BUMP R3
40	045336	022703	000010	CMP	#8.,R3	;HAVE WE PRINTED 8 ACROSS
41	045342	001725		BEQ	DUM4	;IF SO GO BACK TO 4
42	045344	000736		BR	DUM3	;ELSE GO BACK AND PRINT ANOTHER
43						;BYTE OR WORD
44	045346	000207		DUMEX:	RTS	;RETURN TO CALLER
45					PC	

CZCUMCO DMP V-11 DCIT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 52
 UPDATE TOTAL CHAR. COUNT SUBROUTINE

```

1      .SRTI      UPDATE TOTAL CHAR. COUNT SUBROUTINE
2
3      ;**
4      ; FUNCTIONAL DESCRIPTION:
5      ;   UPDATES TOTAL CHAR. COUNT TOTCC BASED ON CURCC.
6      ;   LAST MESSAGE IS TRUNCATED TO FIT INTO THE
7      ;   BUFFER IF TOTAL CHAR. COUNT EXCEEDS "BUFLIM" A MESSAGE
8      ;   IS PRINTED TELLING THE OPERATOR THE TRUNCATION OCCURRED.
9
10     ; INPUTS:
11     ;   CURCC* CHAR. COUNT OF MESSAGE BEING ADDED
12     ;   TOTCC* TOTAL CHAR COUNT OF BUFFER ITS BEING ADDED TO
13
14     ; OUTPUTS:
15     ;   MESSAGE TO OPERATOR IF MESSAGE TRUNCATED TO FIT
16
17     ; FUNCTIONAL SIDE EFFECTS:
18     ;   LOCATION "TEMP" USED FOR CALCULATIONS
19
20     ; CALLING SEQUENCE:
21     ;   JSR      PC,ADDC      ;UPDATED TOTAL CHAR. COUNT
22     ;--
23
24 045350 063737 017334 017344 ADDCC: ADD    CURCC,TOTCC      ;ADD CURRENT TO TOTAL
25 045356 022737 001000 017344      CMP    #BUFLIM,TOTCC    ; COMPARE TO "BUFLIM"
26 045364 103027                      BHS    ADDC1          ; IF NOT MORE THEN "BUFLIM" EXIT
27
28                      ; PRINT MESSAGE AND TRUNCATE COUNT
29
30 045366                      PRINTF  #MSGTRU
31 045368 012746 027446                      MOV    #MSGTRU, -(SP)
32 045372 012746 000001                      MOV    #1, (SP)
33 045376 010600                      MOV    SP,R0
34 045400 104417                      TRAP   C$PNTF
35 045402 062706 000004                      ADD    #4,SP
36 045406 163737 017334 017344      SUB    CURCC,TOTCC      ; SUB CURRENT FROM TOTAL
37 045414 012737 001000 017350      MOV    #BUFLIM,TEMP    ; MOV "BUFLIM" TO TEMP
38 045422 163737 017344 017350      SUB    TOTCC,TEMP      ; SUB TOTAL FROM "BUFLIM"
39 045430 013737 017350 017334      MOV    TEMP,CURCC      ; AND ESTABLISH NEW CURRENT
40 045436 063737 017334 017344      ADD    CURCC,TOTCC    ; ADD "ADJUSTED CURRENT" TO TOTAL CHAR. CNT.
41 045444 000207 ADDC1: RTS    PC      ;RETURN TO CALLER

```

CZCLMCO DMP-V-11 DCIT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 53
 BUILD MESSAGE BUFFERS SUBROUTINE

```

1      .SBTTL      BUILD MESSAGE BUFFERS SUBROUTINE
2
3      ;**
4      ; FUNCTIONAL DESCRIPTION:
5      ;   BLDUF-- BUILD POINTER TABLE AND BUFFERS
6
7      ;   THIS SUBROUTINE ADDS A MESSAGE TO THE TRANSMIT OR EXPECT LIST
8      ;   USING THE POINTER, BYTE COUNT, AND ADDRESS PASSED TO IT.
9
10     ; INPUTS:
11     ;   CURCC= CHAR. COUNT OF MESSAGE TO BE ADDED
12     ;   CURADD= ADDRESS OF MESSAGE TO BE ADDED
13     ;   CPTR= ADDRESS OF POINTER TABLE WORD WHERE MESSAGE POINTERS ARE
14     ;         TO BE BUILT
15     ;   MSGTYP= VALUE TO USE AS AN INDEX TO FIND SOURCE OF MESSAGE DATA
16     ;           INDEX INTO DMSGCT() AND DMSGAD().
17
18     ; OUTPUTS:
19     ;   A MESSAGE ADDED TO EITHER TXBUF OR CMPBUF
20     ;   APPROPRIATE POINTERS IN PTRTAB POINTER TABLE.
21
22     ; CALLING SEQUENCE:
23     ;   JSR PC,BLDUF      ;BUILD MESSAGE IN BUFFER AND ADD PTRS.
24     ;--
25
26     BLDUF:
27         MOV     R2, -(SP)      ;SAVE R2 AND R3 ON THE STACK
28         MOV     R3, -(SP)
29         MOV     CPTR,R2
30
31     BLD1:  MOV     CURADD,(R2)+ ;PUT CURRENT ADD ON POINTER TAB
32           MOV     CURCC,(R2)+ ;PUT CURRENT CC ON POINTER TAB
33           MOV     R2,CPTR      ;PUT UPDATED R2 BACK TO CURRENT POINT
34           MOV     MSGTYP,R2    ;GET MESSAGE TYPE TO USE AS INDEX
35           ASL     R2           ;DOUBLE FOR WORD INDEX
36           MOV     CURADD,TEMP  ;MOVE CURRENT ADD TO TEMP
37           ADD     CURCC,TEMP    ;ADD CHAR COUNT TO IT TO GET END
38           MOV     CURADD,R3    ;SET R3 TO CURRENT START ADD
39           MOV     DMSGCT(R2),TEMP2 ;GET BYTE COUNT
40           MOV     DMSGAD(R2),R4 ;PUT STARTING FROM ADD IN R4
41           ADD     R4,TEMP2      ;ADD IT TO TEMP2 TO GET END OF FROM
42           MOVH    (R4)+,(R3)+ ;MOV BYTE FROM PATTERN TO BUFFER
43           CMP     R3,TEMP      ;ALL DONE?
44           BEQ     BLDBEX       ;IF SO EXIT
45           CMP     R4,TEMP2      ;IS PATTERN COUNT EXPIRED
46           BEQ     BLDB2       ;IF SO GO START AGAIN
47           BR      BLDB3        ;IF NOT GET ANOTHER BYTE
48           ADD     CURCC,CURADD ;BUMP CURADD
49           MOV     (SP)+,R3     ;RESTORE R3 AND R2
50           MOV     (SP)+,R2
51           RTS     PC           ;RETURN TO CALLER
52
53     BLDB2: MOV     DMSGCT(R2),TEMP2 ;GET BYTE COUNT
54           MOV     DMSGAD(R2),R4 ;PUT STARTING FROM ADD IN R4
55           ADD     R4,TEMP2      ;ADD IT TO TEMP2 TO GET END OF FROM
56           MOVH    (R4)+,(R3)+ ;MOV BYTE FROM PATTERN TO BUFFER
57           CMP     R3,TEMP      ;ALL DONE?
58           BEQ     BLDBEX       ;IF SO EXIT
59           CMP     R4,TEMP2      ;IS PATTERN COUNT EXPIRED
60           BEQ     BLDB2       ;IF SO GO START AGAIN
61           BR      BLDB3        ;IF NOT GET ANOTHER BYTE
62
63     BLDB3: MOVH    (R4)+,(R3)+ ;MOV BYTE FROM PATTERN TO BUFFER
64           CMP     R3,TEMP      ;ALL DONE?
65           BEQ     BLDBEX       ;IF SO EXIT
66           CMP     R4,TEMP2      ;IS PATTERN COUNT EXPIRED
67           BEQ     BLDB2       ;IF SO GO START AGAIN
68           BR      BLDB3        ;IF NOT GET ANOTHER BYTE
69
70     BLDBEX: ADD     CURCC,CURADD ;BUMP CURADD
71           MOV     (SP)+,R3     ;RESTORE R3 AND R2
72           MOV     (SP)+,R2
73           RTS     PC           ;RETURN TO CALLER

```

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 54
 CREATE FACSIMILE OF TX BUFFER AND MESSAGE LIST

```

1      .SBTTL  CREATE FACSIMILE OF TX BUFFER AND MESSAGE LIST
2
3      ;**
4      ;FUNCTIONAL DESCRIPTION:
5      ;   FACSIMILE: THIS ROUTINE IS USED TO CREATE A FACSIMILE OF THE
6      ;   OF THE TRANSMIT LIST AND TRANSMIT BUFFER IN THE
7      ;   EXPECT LIST AND EXPECT BUFFER. THE ROUTINE IS
8      ;   NORMALLY CALLED WHEN USER COMMAND "SET E [XPECT]=
9      ;   T [RANSMIT] IS ENTERED.
10
11      ;
12      ;
13      ;
14      ;
15      ;
16      ;
17      ;
18      ;
19      ;
20      ;
21      ;
22      ;
23      ;
24      ;
25      ;
26      ;
27      ;
28      ;
29      ;
30      ;
31      ;
32      ;
33      ;
34      ;
35      ;
36      ;
37      ;
38      ;
39      ;
40      ;
41      ;
42      ;
43      ;
44      ;
45      ;
46      ;
47      ;
48      ;
49      ;
50      ;
51      ;
52      ;
53      ;
54      ;
55      ;
56      ;
57      ;

```

CALLING SEQUENCE: JSR PC,FACSIMILE

DEFINITIONS CMPBUF = EXPECTED DATA BUFFER HOLDS MAX 512 BYTES
 TXBUF = TRANSMIT DATA BUFFER HOLDS MAX 512 BYTES
 ITOTCC = 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
 BUFLIM = NUMBER OF BYTES IN BUFFER

BEGIN FACSIMILE ROUTINE
 (*COPY TXBUF **> CMPBUF*)
 ..SAVE R1
 ..INIT R1
 ..REPEAT
[CMPBUF]R1=[TXBUF]R1
R1=R1+1
 ..UNTIL R1 = BUFLIM

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

(*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 = ITOTCC
 END FACSIMILE ROUTINE

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 54-1
CREATE FACSIMILE OF TX BUFFER AND MESSAGE LIST

```

58 045572                                FACSIMILE:
59 045572 010146                        MOV    R1,-(SP)                ;SAVE R1
60 045574 005001                        CLR     R1                    ;INIT R1
61 045576 116161 003416 004416 10$:    MOVB   TXBUF(R1),CMPBUF(R1)    ;COPY TX BUFFER TO EXPECTED BUFFER
62 045604 005201                        INC     R1                    ;BUMP INDEX
63 045606 020127 001000                CMP     R1,#BJFLIM             ;ALL DATA COPIED ?
64 045612 001371                        BNE     10$                    ;NO,BRANCH
65
66 045614 012701 000017                20$:  MOV    #MSGLIM,R1          ;MESSAGE LIMIT
67 045620 006301                        ASL     R1                    ;MULTIPLY BY 2
68 045622 006301                        ASL     R1                    ;MULTIPLY BY 2
69 045624 012737 011416 017240        MOV     #PTRTAB,CMPPTR        ;TOP OF POINTER TABLE
70 045632 060137 017240                ADD     R1,CMPPTR            ;START OF EXPECTED POINTER TABLE
71 045636 005001                        CLR     R1                    ;INIT R1
72
73                                ;SET UP WHILE - DO LOOP
74 045640 012737 011416 017236        MOV     #PTRTAB,IXPTR          ;TX POINTER NOW AT TOP OF TABLE
75 045646 012737 004416 017246        MOV     #CMPBUF,CCURAD        ;TRANSFER ADDRESS OF 1ST MESSAGE
76 045654 062737 000002 017236        ADD     #2,IXPTR            ;BUMP POINTER
77 045662 017737 151350 017244        MOV     #TXPTR,CTOTCC        ;BYTE COUNTER 1ST MESSAGE
78 045670 005037 017242                CLR     CMPTOT              ;INIT EXPECTED MESSAGE COUNT
79
80                                ;WHILE TX MESSAGE TOTAL <> EXPECTED MESSAGE TOTAL DO
81 045674 023737 017260 017242 30$:  CMP     TXMTOT,CMPTOT        ;ALL MESSAGES COPIED ?
82 045702 001430                        BEQ     40$                    ;YES,BRANCH
83 045704 013777 017246 151326        MOV     CCURAD,#CMPPTR        ;TRANSFER ADDRESS OF MESSAGE
84 045712 062737 000002 017240        ADD     #2,CMPPTR            ;BUMP POINTER
85 045720 013777 017244 151312        MOV     CTOTCC,#CMPPTR        ;BYTE COUNT OF MESSAGE
86 045726 062737 000004 017236        ADD     #4,IXPTR            ;BUMP TX MESSAGE POINTER
87 045734 063737 017244 017246        ADD     CTOTCC,CCURAD        ;CALC. TRANSFER ADDRESS
88 045742 017737 151270 017244        MOV     #TXPTR,CTOTCC        ;BYTE COUNT NEXT MESSAGE
89 045750 062737 000002 017240        ADD     #2,CMPPTR            ;BUMP POINTER
90 045756 005237 017242                INC     CMPTOT              ;INCREMENT MESSAGE COUNT
91 045762 000744                        BR      30$                    ;DO IT AGAIN
92
93 045764 013737 017262 017244 40$:  MOV     TTOTCC,CTOTCC        ;COPY TOTAL CHARACTER COUNT
94
95                                ;END ROUTINE
96 045772 012601                        MOV     (SP)+,R1            ;RESTORE R1
97 045774 000207                        RTS      PC                    ;RETURN
98
99
100

```

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 55
DO ALL GLOBAL PARMAS

```

1      .SBTTL      DO ALL GLOBAL PARMAS
2
3
4      ;**
5      ; FUNCTIONAL DESCRIPTION:      DOGLOB - ASK QUESTIONS ABOUT ALL GLOBALS
6      ;
7      ;      THIS ROUTINE ASKS QUESTIONS TO ALL GLOBAL POLL PARMS
8      ;      IF NESCESSARY THEN CLEARS THE WRITE GLOBAL FLAG
9      ;
10     ; CALLING SEQUENCE:
11     ;      JSR      PC,DOGLOB
12     ;--
13     DOGLOB: MOV     R2,-(SP)      ;SAVE R2,R3,R4 ON THE STACK
14             MOV     R3,-(SP)
15             MOV     R4,-(SP)
16             CLRB    WRFLG        ;CLEAR WRITE GLOBAL FLAG
17             PRINTF  #POLPM3      ;PRINT GLOBAL PARAMS ARE
18             MOV     #POLPM3,-(SP)
19             MOV     #1,-(SP)
20             MOV     SP,R0
21             TRAP    C$PNTF
22             ADD     #4,SP
23
24             CLR     R3
25             MOV     #32,R2
26             DOGL1: INC     R2
27             MOV     R2,R4
28             ASL     R4
29             MOV     GLOBPLS(R3),TEMP ;GET DEFAULT
30             MOV     GSSLST(R4),CONOTM
31             PRINTF  CONOTM,TEMP
32
33             MOV     TEMP,(SP)
34             MOV     CONOTM,-(SP)
35             MOV     #2,-(SP)
36             MOV     SP,R0
37             TRAP    C$PNTF
38             ADD     #6,SP
39
40             GMANID  EQUQ,TEMP,0,-1,0,-1,YES      ;GET INPUT
41
42             TRAP    C$GMAN
43             BR      10001$
44             .WORD   TEMP
45             .WORD   T$CODE
46             .WORD   EQUQ
47             .WORD   -1
48             .WORD   T$LOLIM
49             .WORD   T$HILIM
50
51             MOV     TEMP,GLOBPLS(R3)      ;PUT ANSWER BACK
52             ADD     #2,R3
53             B1T     #TRBB,DEVPAR      ;IS THIS TRIB
54             BEQ     DOGL4
55
56             DOGL2: CMP     #57,R2      ;ALL DONE
57             BNE     DOGL1
58
59             DOGL4: MOV     (SP)+,R4      ;RESTORE R4,R3,R2
60             MOV     (SP)+,R3
61             MOV     (SP)+,R2

```

N9

SEQ 117

CZCLMCO DMP/V-11 DCL T MACRO V05.00 Thursday 22-Mar-84 16:24 Page 55-1
DO ALL GLOBAL PARMAS

38 046162 000207

RTS PC

;RETURN TO CALLING ROUTINE

CZCLMCO DMP-V 11 DCUT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 56
 QUEUE UP ALL REC BUFFERS FOR MULTIPPOINT

```

1      .SBTTL      QUEUE UP ALL REC BUFFERS FOR MULTIPPOINT
2
3
4
5      ***
6      FUNCTIONAL DESCRIPTION:      QURXAL - QUEUE ALL REC BUFFERS
7
8      THIS ROUTINE QUEUES ALL REC BUFFERS FOR VALID TRIBS
9      IF MODE IS POINT TO POINT TRIB LIST WILL STILL BE ONE.
10
11      SUBORDINATE ROUTINES USED:
12      GTVIND - LOADS INDEX WITH OFFSET TO NEXT
13              VALID TRIB AND LOADS TRIBN WITH
14              ADDRESS OF NEXT VALID TRIB
15              MOVES RXPTR FOR THIS TRIB TO
16              CPTRR FROM CPTRLS.
17      LOGAQR - QUES REC BUFFER POINTED TO BY
18              CPTRR AND LOGS THIS IN EVENT LOG
19              MOVES VALUE OF CPTRR TO SLOT IN
20              CPTRLS FOR THIS TRIB
21
22      CALLING SEQUENCE:
23      JSR      PC,RXQUAL
24
25
26 046164 012737 177777 015762 RXQUAL: MOV     #1,INDEX      ;SET INDEX TO 1
27 046172 004737 046462      RXQU1: JSR     PC,GTVIND      ;GET NEXT VALID INDEX
28 046176 022737 000040 015762      CMP     #32,INDEX      ;IS ALL DONE
29 046204 001412      BEQ     RXQUEX      ;IF SO EXIT
30 046206 004737 046526      JSR     PC,ULRPLS      ;LOAD CPTRR FOR THIS TRIB
31 046212 052737 000004 017414      BIS     #QRX,FLAG      ;SET THE QRX,FLAG
32 046220 004737 047307      JSR     PC,LOGAQR
33 046224 004737 046506      JSR     PC,DRPLS
34 046230 000760      FR      RXQU1
35 046232 000207      RXQUEX: RTS     PC
36

```

CZCINCP DMP V 11 DCI 1 MACRO V05.00 Thursday 22-Mar-84 16:24 Page 57
LOAD CPTRLS LIST INITIALLY

```

1      .SBTTL          LOAD CPTRLS LIST INITIALLY
2
3
4      ; **
5      ; FUNCTIONAL DESCRIPTION:      LCPRLS  -LOAD CPTR LIST INITIALLY
6      ;
7      ; THIS ROUTINE LOADS UP THE CPTRLS LIST FOR ALL
8      ; VALID TRIB ADDRESS IN THE TRIBLS IT ALSO LOADS
9      ; THE DVRCLS LIST FOR MSG COUNTS.
10     ;
11     ; INPUTS:      RXMTOT - TOTAL NUMBER OF RX MSGS PER TRIB
12     ;
13     ; OUTPUTS:     CPTRLS - LOADED WITH POINTERS TO THE RXPTR TABLE
14     ;               FOR EACH TRIB
15     ;               DVRCLS - LOADED WITH RXTOT COUNT FOR EACH TRIB
16     ;
17     ; SUBORDINATE ROUTINES USED:
18     ;               GTVIND - GETS NEXT VALID INDEX BY
19     ;               LCPRL1 - CHECKING TRIBLS FOR NON ZERO ENTRY
20     ;                       LOADS POINTER TABLE FOR TRIB AT THIS
21     ;                       INDEX VALUE AND RXMTOT TO DVRCLS FOR
22     ;                       THIS TRIB.
23     ;
24     ; CALLING SEQUENCE:
25     ;               JSR      PC,LCPRLS
26     ; **
27 046234 012737 177777 015762 LCPRLS: MOV      # 1,INDEX      ;SET UP INDEX VALUE TO -1
28 046242 004737 046462      LCPRL1: JSR      PC,GTVIND      ;GET VALID INDEX
29 046246 022737 000040 015762      CMP      #32,,INDEX      ;IS IT 32?
30 046254 001403      BEQ      LCPREX      ;BRANCH IF 32.
31 046256 004737 046266      JSR      PC,LCPRL1      ;IF NOT LOAD CPTRLS FOR THIS TRIB.
32 046262 000767      BR      LCPRL1      ;GO BACK FOR NEXT
33 046264 000207      LCPREX: RTS      PC      ;RETURN TO CALLER WHEN DONE WITH ALL.
34
35
36

```

CZCUMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 58
 LOAD CPTRLS AND DVRCLS FROM INDEX

```

1      .SRTTL      LOAD CPTRLS AND DVRCLS FROM INDEX
2
3
4      ;*
5      ;* FUNCTIONAL DESCRIPTION:      LCPRL1 - LOAD CPTRLS AND DVRCLS FROM INDEX
6      ;*
7      ;* THIS ROUTINE LOADS UP THE CPTRLS LIST FOR THE
8      ;* INDEX VALUE AND THE DVRCLS IS LOADED WITH RXMTOT.
9
10     ;* INPUTS:      RXMTOT - TOTAL NUMBER OF RX MSGS PER TRIB
11     ;*              PTR23 - START OF RX POINTER TABLE
12
13     ;* OUTPUTS:      CPTRLS - LOADED WITH POINTERS TO THE RXPTR LIST
14     ;*              DVRCLS - LOADED WITH RXMTOT COUNT
15
16     ;* SUBORDINATE ROUTINES USED:
17     ;*              MTPLY - MULTIPLIES VALUE IN INDEX BY VALUE IN
18     ;*                      TEMP AND THEN ADDS THAT RESULT TO VALUE
19     ;*                      IN TEMP2 AND PUTS FINAL RESULT IN TEMP2
20
21     ;* CALLING SEQUENCE:
22     ;*              JSR      PC,LCPRL1
23     ;*
24
25     24 046266 012737 011606 017354 LCPRL1: MOV      #PTR23,TEMP2      ;SET UP TEMP 2 AS BASE
26     25 046274 013737 015762 017232      MOV      INDEX,MPLY      ;SET UP MULTIPLIER
27     26 046302 012737 000074 017350      MOV      #60.,TEMP      ;SET UP MULTIPLICAN
28     27 046310 004737 046436      JSR      PC,MTPLY      ;GO MULTIPLY
29     28 046314 013703 015762      LCPRL2: MOV      INDEX,R3
30     29 046320 113763 017276 015612      MOV      RXMTOT,DVRCLS(R3)      ;LOAD UP COUNT LIST
31     30 046326 006303      ASL      R3      ;MAKE R3 WORD INDEX
32     31 046330 013763 017354 015412      MOV      TEMP2,CPTRLS(R3)      ;SET UP POINTER TABLE
33     32 046336 000207      RTS      PC      ;RETURN TO CALLER
34

```

CZCLMCO DMP/V-11 DCUT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 59
 CLEAR RECEIVE POINTER LIST

```

1          .SBTTL          CLEAR RECEIVE POINTER LIST
2
3          ;**
4          ; FUNCTIONAL DESCRIPTION:      CLRPLS - CLEAR RX POINTER LIST
5          ;                          THIS ROUTINE CLEARS ALL 32 SLOTS OF THE CTRLS
6          ;
7          ; OUTPUTS:      CTRLS - IS ZERO'D IN ALL SLOTS
8          ;
9          ; CALLING SEQUENCE:
10         ;              JSR      PC,CLRPLS
11         ;**
12
13 046340 012737 000040 017350 CLRPLS: MOV      #32,,TEMP
14 046346 012703 015412          MOV      #CTRLS,R3      ;LOAD START OF LIST TO R3
15 046352 005023          CLRPL1: CLR      (R3)+          ;CLEAR THIS SLOT
16 046354 005337 017350          DEC      TEMP
17 046360 001374          BNE      CLRPL1      ;IF NOT DONE GO BACK
18 046362 000207          CLRPEX: RTS      PC      ;RETURN TO CALLER WHEN DONE
19
20
21

```

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 60
LOAD TX POINTER LIST INITIALLY

```

1      .SBTTL          LOAD TX POINTER LIST INITIALLY
2
3      ;**
4      ; FUNCTIONAL DESCRIPTION:      LCPTLS - LOAD TRANSMIT POINTER LIST
5      ;                             THIS ROUTINE LOADS CPTLS WITH TX POINTERS
6      ;                             FOR EACH VALID TRIB.
7      ;
8      ; INPUTS:
9      ;                             TXMTOT - TOTAL NUMBER OF TX MSGS
10     ;                             PTRTAB - POINTER TO TOP OF TX POINTER TABLE
11
12     ; OUTPUTS:
13     ;                             CCTLS - LOADED WITH POINTERS TO TX POINTER TABLE
14     ;                             DVTCLS - TX MSG COUNT LIST LOADED WITH MSG COUNTS
15     ;                             FOR ALL VALID TRIBS
16
17     ; SUBORDINATE ROUTINES USED:
18     ;                             GTVIND - GETS NEXT VALID INDEX BY
19     ;                             CHECKING TRIBLS FOR NON ZERO ENTRY
20
21     ;                             LDTPLS - LOADS VALUE FROM CPTR TO CPTLS INDEXED
22     ;                             BY TRIBN
23
24     ;                             LDTCLS - LOADS DVTCT TO DVTCLS INDEXED BY TRIBN
25
26     ; CALLING SEQUENCE:
27     ;                             JSR      PC,LCPTLS
28     ; --
29 046364 013737 017260 017256 LCPTLS: MOV TXMTOT,DVTCT ;LOAD UP COUNT
30 046372 012737 011416 017340      MOV #PTRTAB,CPTR
31 046400 012737 177777 015762      MOV # -1,INDEX ;LOAD INDEX WITH -1
32 046406 004737 046462      LCPT1: JSR PC,GTVIND ;GET VALID INDEX
33 046412 022737 000040 015762      CMP #32,INDEX ;IS THIS THE END
34 046420 001405      BEQ LCPTEX ;EXIT IF SO
35 046422 004737 046644      JSR PC,LDTPLS ;LOAD TX POINTER LIST
36 046426 004737 046704      JSR PC,LDTCLS ;LOAD TX COUNT LIST
37 046432 000765      BR LCPT1 ;GO BACK
38 046434 000207      LCPTEX: RTS PC ;RETURN TO CALLER
39

```

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 61
MULTIPY

```

1      .SBTTL      MULTIPY
2
3
4      ;**
5      ; FUNCTIONAL DESCRIPTION:      MTPLY- MULTIPY
6      ; THIS ROUTINE MULTIPLIES THE VALUE IN MPLY BY
7      ; THE VALUE IN TEMP AND THEN ADDS IN THE VALUE OF TEMP2
8      ; WITH THE RELSUT GOING TO TEMP2
9      ;
10     ; INPUTS:      TEMP2 - INITIALLY VALUE
11     ;              TEMP  - VALUE TO MULTIPLY BY
12     ;              MPLY  - NUMBER OF TIMES TO MULITPLY
13     ;
14     ; OUTPUTS:      TEMP2 - RESULT OF [MPLY * TEMP]+TEMP2
15     ;
16     ; CALLING SEQUENCE:
17     ;              JSR      PC,MTPLY
18     ;--
19 046436 005737 017232      MTPLY:  TST      MPLY
20 046442 001406              BEQ      MTPLEX      ;IF MULITPLIER IS ZERO QUIT
21 046444 063737 017350 017354      ADD      TEMP,TEMP2      ;ADD THE FACTOR TO BASE
22 046452 005337 017232              DEC      MPLY      ;COUNT DOWN THE MULTIPLIER
23 046456 000767              BR       MTPLY      ;GO BACK FOR MORE
24 046460 000207      MTPLEX:  RTS      PC      ;RETURN TO CALLER
25

```

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 62
GET NEXT VALID INDEX

```

1      ,SBTTL          GET NEXT VALID INDEX
2
3      ;**
4      ; FUNCTIONAL DESCRIPTION:      GTVIND - GET NEXT VALID INDEX
5      ;
6      ;      THIS LOADS INDEX WITH INDEX VALUE OF NEXT VALID TRIB. THIS ALSO
7      ;      LOADS TRIBN WITH THE ADDRESS.
8      ;      TRIB BEING THE LOCATION IN THE TRIBLS THAT HAS A NON-ZERO
9      ;      ENTRY.
10     ;
11     ; INPUTS:      INDEX -      SET TO VALUE OF LAST INDEX
12     ; OUTPUTS:     INDEX -      SET TO VALUE OF THIS TRIB
13     ;              TRIBN -      ADDRESS OF THIS TRIB
14     ; CALLING SEQUENCE:
15     ;              JSR      PC,GTVIND
16     ; --
17
18 046462 013703 015762      GTVIND: MOV      INDEX,R3
19 046466 005203              GTVI1:  INC      R3
20 046470 116337 015712 015756      MOVB     TRIBLS(R3),TRIBN      ;LOAD TRIBN
21 046476 001773              BEQ      GTVI1      ;IF ZERO GO GET ANOTHER
22 046500 010337 015762      MOV      R3,INDEX      ;LOAD INDEX VALUE IF NOT ZERO
23 046504 000207              RTS      PC      ;RETURN TO CALLER WHEN DONE
24

```

CZCUMCO DMP V 11 DCI MACRO V05.00 Thursday 22-Mar-84 16:24 Page 63
LOAD REC POINTER LIST

```

1      .SBTTL          LOAD REC POINTER LIST
2      ;**
3      ; FUNCTIONAL DESCRIPTION:    LDRPLS - LOAD RX POINTER LIST FROM CPTRR
4      ;                          THIS ROUTINE MOVES DATA FROM CPTRR TO THE SLOT IN THE
5      ;                          CPTRLS INDEXED BY INDW.
6      ; INPUTS:                   INDW - WORD INDEX INTO LIST
7      ; OUTPUTS:                  CPTRLS - CORRECT SLOT LOADED WITH DATA FROM CPTRR
8      ; SUBORDINATE ROUTINES USED:
9      ;                          GETIND - GETS INDW FOR THIS TRIBN
10     ; CALLING SEQUENCE
11     ;                          JSR      PC,LDRPLS
12     ;
13
14 046506 004737 047154      LDRPLS: JSR      PC,GETIND          ;GET INDW FOR THIS TRIBN
15 046512 013703 015760      MOV      INDW,R3                ;MOVE WORD INDEX TO R3
16 046516 013763 017336 015412  MOV      CPTRR,CPTRLS(R3)      ;LOAD CPTRLS LIST
17 046524 000207              RTS      PC                    ;RETURN TO CALLER
18
19     .SBTTL          UNLOAD CPTRR LIST
20     ;**
21     ; FUNCTIONAL DESCRIPTION:    ULRPLS - UNLOAD RX POINTER LIST
22     ;                          THIS ROUTINE MOVES DATA FROM CPTRLS SLOT INDEXED
23     ;                          BY INDW TO CPTRR.
24     ; IMPLICIT INPUTS:
25     ;                          TRIBN - ADDRESS OF CURRENT TRIB
26     ; OUTPUTS:                  CPTRR - VALUE FROM CPTRLS
27     ; SUBORDINATE ROUTINES USED:
28     ;                          GETIND - GET INDW FOR THIS TRIBN
29     ; CALLING SEQUENCE:
30     ;                          JSR      PC,ULRPLS
31     ;
32
33 046526 004737 047154      ULRPLS: JSR      PC,GETIND          ;GET INDEX
34 046532 013703 015760      MOV      INDW,R3                ;MOVE WORD INDEX TO R3
35 046536 016337 015412 017336  MOV      CPTRLS(R3),CPTRR      ;LOAD CPTRR FROM LIST INDEX
36 046544 000207              RTS      PC                    ;RETURN TO CALLER

```

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 64
GET REC POINTER TO CPTR

```

1          .SBTTL          GET REC POINTER TO CPTR
2
3          ;**
4          ; FUNCTIONAL DESCRIPTION:      GRPTCP - GET RX POINTER TO CPTR
5          ; THIS ROUTINE GETS THE RX POINTER TO CPTR FOR USE IN BUILD
6          ; BUFFER.
7
8          ; INPUTS:          INDEX - INDEX VALUE FOR TRIB
9
10         ; OUTPUTS:         CPTR - LOADED WITH ADDRESS OF RX BUFFER FOR THIS TRIB
11         ; SUBORDINATE ROUTINES USED:
12         ; MTPLY - MULTIPLIES INDEX BY TEMP AND ADDS TEMP2 TO RESULT
13         ; CALLING SEQUENCE:
14         ; JSR      PC,GRPTCP
15         ; **
16
17
18 046546 013737 015762 017232 GRPTCP: MOV     INDEX,MPLY      ;SET UP MULPILIER
19 046554 012737 000074 017350      MOV     #60,,TEMP
20 046562 013737 017234 017354      MOV     RXPTR,TEMP2
21 046570 004737 046436          JSR      PC,MTPLY      ;[INDEX VALUE X 60.] + RXPTR = POINTER ADDRESS
22 046574 013737 017354 017340      MOV     TEMP2,CPTR      ;SET UP POINTER ADDR.
23 046602 000207          RTS     PC

```

CZCUMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 65
LOAD DVRCT LIST

```

1      .SBTTL          LOAD DVRCT LIST
2      ;**
3      ; FUNCTIONAL DESCRIPTION:      LDRCLS - LOAD RX COUNT LIST
4      ; THIS ROUTINE LOADS THE VALUE FROM DVRCT TO
5      ; THE SLOT IN DVRCLS INDEXED BY TRIBN
6      ; INPUTS:      TRIBN - ADDRESS OF TRIB IN USE
7      ;               DRVCT - COUNT VALUE TO GO TO LIST
8      ; OUTPUTS:      DVRCLS- VALUE OF DRVCT
9      ; SUBORDINATE ROUTINES USED:
10     ; GETIND - GET INDEX FROM TRIBLS
11     ; CALLING SEQUENCE:
12     ; JSR      PC,LDRCLS
13     ; --
14
15 046604 004737 047154      LDRCLS: JSR      PC,GETIND      ;GET INDEX
16 046610 013703 015762      MOV      INDEX,R3      ;LOAD R3 WITH BYTE INDEX
17 046614 113763 017274 015612      MOVB   DVRCT,DVRCLS(R3)      ;LOAD LIST WITH COUNT
18 046622 000207      RTS      PC      ;RETURN TO CALLER
19
20     .SBTTL          UNLOAD DVRCT LIST
21     ;**
22     ; FUNCTIONAL DESCRIPTION:      ULRCLS - UNLOAD RX COUNT LIST
23     ; THIS ROUTINE UNLOADS THE VALUE TO DVRCT FROM
24     ; THE SLOT IN DVRCLS INDEXED BY TRIBN
25     ; INPUTS:      TRIBN - ADDRESS OF TRIB IN USE
26     ;               DVRCLS- VALUE OF DRVCT
27     ; OUTPUTS:      DRVCT - COUNT VALUE FROM LIST
28     ; SUBORDINATE ROUTINES USED:
29     ; GETIND - GET INDEX FROM TRIBLS
30     ; CALLING SEQUENCE:
31     ; JSR      PC,ULRCLS
32     ; --
33
34
35 046624 004737 047154      ULRCLS: JSR      PC,GETIND      ;GET INDEX
36 046630 013703 015762      MOV      INDEX,R3      ;MOVE INDEX TO R3
37 046634 116337 015612 017274      MOVB   DVRCLS(R3),DVRCT      ;UNLOAD LIST
38 046642 000207      RTS      PC      ;RETURN TO CALLER

```

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 66
 LOAD CPTR LIST (TRANSMIT POINTER)

```

1      .SBTTL          LOAD CPTR LIST (TRANSMIT POINTER)
2
3      ;**
4      ; FUNCTIONAL DESCRIPTION:      LDTPLS - LOAD TX POINTER LIST
5      ; THIS ROUTINE LOADS THE VALUE FROM CPTR TO
6      ; THE TX POINTER LIST INDEXED BY TRIBN INDEX.
7      ; INPUTS:      TRIBN - ADDRESS OF TRIB IN USE
8      ; OUTPUTS:      CPTTLS - SLOT LOADED WITH CPTR DATA
9      ; SUBORDINATE ROUTINES USED:
10     ; GETIND - GET INDEX VALUE FROM TRIBLS
11     ; CALLING SEQUENCE:
12     ; JSR      PC,LDTPLS
13     ; --
14
15     046644 004737 047154 LDTPLS: JSR      PC,GETIND      ;GET INDEX
16     046650 013703 015760      MOV      INDW,R3          ;MOVE INDEX TO R3
17     046654 013763 017340 015512      MOV      CPTTLS(R3) ;LOAD LIST
18     046662 000207      RTS      PC                      ;RETURN TO CALLER
19
20     .SBTTL          UNLOAD CPTR LIST (TRANSMIT POINTER)
21
22     ;**
23     ; FUNCTIONAL DESCRIPTION:      ULTPLS - UNLOAD TX POINTER LIST
24     ; THIS ROUTINE MOVES DATA FROM TX POINTER LIST
25     ; TO CPTR.
26     ; INPUTS:      TRIBN - ADDRESS OF TRIB IN USE
27     ; OUTPUTS:      CPTR - VALUE FROM THE TX POINTER LIST
28     ; SUBORDINATE ROUTINES USED:
29     ; GETIND - GET INDEX FROM TRIBLS
30     ; CALLING SEQUENCE:
31     ; JSR      PC,ULTPLS
32     ; --
33
34     046664 004737 047154 ULTPLS: JSR      PC,GETIND      ;GET INDEX
35     046670 013703 015760      MOV      INDW,R3          ;MOVE WORD INDEX TO R3
36     046674 016337 015512 017340      MOV      CPTTLS(R3),CPTR ;GET PTR FROM LIST
37     046702 000207      RTS      PC                      ;RETURN TO CALLER
38

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CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 67
 LOAD DVTCT LIST (TRANSMIT COUNT)

```

1      .SBTTL          LOAD DVTCT LIST (TRANSMIT COUNT)
2
3      ;**
4      ; FUNCTIONAL DESCRIPTION:      LDTCLS - LOAD TX COUNT LIST
5      ;                             THIS ROUTINE LOADS A VALUE FROM DVTCT TO
6      ;                             THE TX COUNT LIST (DVTCLS). INDEXED BY TRIBN.
7
8      ; INPUTS:      TRIBN      -      ADDRESS OF TRIB IN USE
9      ;              DVTCT      -      CURRENT TX COUNT FOR TRIB
10     ; OUTPUTS:      DVTCLS     -      SLOT LOADED WITH DVTCT
11     ; SUBORDINATE ROUTINES USED:
12     ;              GETIND     -      GET INDEX FROM TRIBLS
13     ; CALLING SEQUENCE:
14     ;              JSR      PC,LDTCLS
15     ; --
16
17 046704 004737 047154      LDTCLS: JSR      PC,GETIND      ;GET INDEX
18 046710 013703 015762      MOV      INDEX,R3      ;MOVE BYTE INDEX TO R3
19 046714 113763 017256 015652      MOVB     DVTCT,DVTCLS(R3);LOAD LIST
20 046722 000207      RTS      PC      ;RETURN TO CALLER
21
22     .SBTTL          UNLOAD DVTCT LIST (TX COUNT)
23
24     ;**
25     ; FUNCTIONAL DESCRIPTION:      ULTCLS - UNLOAD TX COUNT LIST
26     ;                             THIS ROUTINE TAKES DATA FROM DVTCLS AND MOVES
27     ;                             IT TO DVTCT
28     ; INPUTS:      TRIBN      -      ADDRESS OF TRIBN IN USE
29     ;              DVTCT      -      VALUE
30     ; SUBORDINATE ROUTINES USED:
31     ;              GETIND     -      GET INDEX VALUE FROM TRIBLS
32     ; CALLING SEQUENCE:
33     ;              JSR      PC,ULTCLS
34     ; --
35
36 046724 004737 047154      ULTCLS: JSR      PC,GETIND      ;GET INDEX
37 046730 013703 015762      MOV      INDEX,R3      ;MOVE BYTE INDEX TO R3
38 046734 116337 015652 017256      MOVB     DVTCLS(R3),DVTCT
39 046742 000207      RTS      PC      ;RETURN TO CALLER
40

```

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SEQ 130

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 68
GET ALL RX POINTERS FROM LIST TO CPTRR

```

1      ,SBTTL      GET ALL RX POINTERS FROM LIST TO CPTRR
2
3
4      ;**
5      ; FUNCTIONAL DESCRIPTION:      GARPFL - GET ALL RX POINTERS FROM LIST
6      ; THIS ROUTINE CHECKS ALL RX POINTERS FOR VALID TRIBS
7      ; IN CPTRLS AND MAKES SURE THEY ARE ALL ZERO.
8      ;
9      ; OUTPUTS:      CPTRR - ZERO IF ALL CPTRLS IS ZERO
10     ; NON ZERO IF NOT.
11
12     ; SUBORDINATE ROUTINES USED:
13     ;      GTVIND - GET VALID INDEX
14     ;      ULRPLS - UNLOAD CPTRR LIST TO CPTRR
15     ; CALLING SEQUENCE:
16     ;      JSR      PC,GARPFL
17     ; --
18
19 046744 013737 015756 017362 GARPFL: MOV      TRIBN,TEMP5
20 046752 012737 177777 015762      MOV      *-1,INDEX
21 046760 004737 046462      GARP1:  JSR      PC,GTVIND      ;GET VALID INDEX
22 046764 022737 000040 015762      CMP      *-32,INDEX      ;COMPARE INDEX
23 046772 001405      BEQ      GARPEX      ;EXIT IF DONE
24 046774 004737 046526      JSR      PC,ULRPLS      ;LOAD CPTRR WITH VALUE
25 047000 005737 017336      TST      CPTRR      ;TEST THE VALUE
26 047004 001765      BEQ      GARP1      ;IF ZERO CHECK NEXT
27 047006 013737 017362 015756 GARPEX: MOV      TEMP5,TRIBN
28 047014 000207      RTS      PC      ;RETURN TO CALLER WHEN DONE

```

CZCLMCO DMP-V 11 DCI 1 MACRO V05.00 Thursday 22-Mar-84 16:24 Page 69
GET ALL TX COUNTS FROM LIST TO DVICT

```

1      ;SDBTL      GET ALL TX COUNTS FROM LIST TO DVICT
2      ;RETURN WITH DVICT=1 IF ANY COUNT HAS SOME IN IT
3      ;IF ALL COUNTS ARE ZERO EXIT
4
5      ***
6      ; FUNCTIONAL DESCRIPTION:      GATCFL - GET ALL TX COUNTS FROM LIST
7      ; THIS ROUTINE GETS AND CHECKS ALL TX COUNTS TO BE ZERO
8      ; OUTPUTS:      DVICT - ZERO IF LIST IS ZERO
9      ;                  NON ZERO IF NOT
10     ; SUBORDINATE ROUTINES USED:
11     ; GTVIND      GET NEXT VALID INDEX
12     ; CALLING SEQUENCE:
13     ; JSR      PC,GATCFL
14
15 047016 013737 015756 017362 GATCFL: MOV      TRIBN,TEMP5
16 047024 012737 177777 015762      MOV      @ 1,INDEX
17 047032 005037 017256      CLR      DVICT      ;CLEAR COUNT
18 047036 004737 046462      GATC1: JSR      PC,GTVIND      ;GET VALID INDEX
19 047042 022737 000040 015762      CMP      @32,INDEX      ;IS INDEX -32 ALL DONE
20 047050 001410      BEQ      GATCEX      ;IF SO EXIT
21 047052 013703 015762      MOV      INDEX,R3
22 047056 105763 015652      TSTB     DVTCLS(R3)      ;IS THIS COUNT 0
23 047062 001765      BEQ      GATC1      ;IF THIS ONE IS ZERO
24 047064 012737 000001 017256      MOV      @01,DVICT      ;LOAD COUNT WITH A 1
25 047072 013737 017362 015756 GATCEX: MOV      TEMP5,TRIBN
26 047100 000207      RTS      PC      ;RETURN TO CALLER
27

```

CZCLMCO DMP-V 11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 70
GET NEXT TX POINTER FROM LIST

```

1      .SBTTL      GET NEXT TX POINTER FROM LIST
2
3      ***
4      ; FUNCTIONAL DESCRIPTION:      GNTXPR - GET NEXT TX POINTER
5      ; THIS ROUTINE GETS THE NEXT TX POINTER TO CPTR
6      ; OUTPUTS:      CPTR - POINTER FOR NEXT TRANSMIT MSG
7      ; SUBORDINATE ROUTINES USED:
8      ; GTVIND - GET VALID INDEX
9      ; CALLING SEQUENCE:
10     ; JSR      PC,GNTXPR
11     ;
12     GNTXPR: CMP      #32,,INDEX      ;IS INDEX = DONE
13             BNE      GNTX1
14     GNTX2: MOV      #1,INDEX
15     GNTX1: JSR      PC,GTVIND
16             CMP      #32,,INDEX
17             BEQ      GNTX2
18             JSR      PC,ULTCLS      ;GET COUNT FROM LIST
19             TST      DVICT      ;TEST COUNT
20             BEQ      GNTXPR
21             JSR      PC,ULTPLS      ;UNLOAD POINTER
22             RTS      PC      ;RETURN TO CALLER
23
24     .SBTTL      GET INDEX BYTE AND WORD
25
26     ***
27     ; FUNCTIONAL DESCRIPTION:      GETIND - GET INDEX FOR WORD AND BYTE
28     ; THIS ROUTINE GETS INDEX LOADED WITH INDEX AND INDW WITH INDEX
29     ; FOR WORD. IF TRIBLS ENTRY IS EQUAL TO TRIBN
30     ; OUTPUTS:      INDEX - BYTE INDEX
31     ; INDW - WORD INDEX
32     ; CALLING SEQUENCE:
33     ; JSR      PC,GETIND
34     ;
35
36     GETIND: MOV      #1,R3      ;LOAD R3 WITH 1
37             INC      R3      ;BUMP R3
38             CMP      #32,,R3      ;ARE WE ALL DONE
39             BEQ      GETIND      ;IF SO GO BACK
40             CMPB     TRIBLS(R3),TRIBN ;ELSE COMPARE FOR THIS TRIB
41             BNE      GETI1      ;BRANCH IF NO MATCH
42     GETI2: MOV      R3,INDEX      ;STORE OFF BYTE INDEX
43             ASL      R3      ;MAKE UP WORD INDEX
44             MOV      R3,INDW      ;STORE OFF WORD INDEX
45             RTS      PC      ;RETURN TO CALLER

```

C2CLMCO DMP/V 11 DCIT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 71
 WRITE DEFAULTS TO TRIB AND GLOBAL SLOTS

```

1      .SBTTL      WRITE DEFAULTS TO TRIB AND GLOBAL SLOTS
2
3      ;**
4      ; FUNCTIONAL DESCRIPTION:      WRDEFP - WRITE DEFAULT POLL PARAMETERS
5      ;
6      ;      THIS ROUTINE WRITES ALL POLLIS WITH DEFAULTS AND ALSO
7      ;      WRITE S THE GLOBAL LIST WITH DEFAULTS
8      ; INPUTS:
9      ;
10     ; CALLING SEQUENCE:
11     ;
12     ; --
13     ; WRITE DEFAULT POLL PARMS FOR TRIBS
14
15 047214 010246      WRDEFP; MOV      R2,-(SP)      ;SAVE R2,R3,R4 ON THE STACK
16 047216 010346      MOV      R3,-(SP)
17 047220 010446      MOV      R4,-(SP)
18
19 047222 012704 000040      MOV      @32.,R4
20 047226 012703 016220      MOV      @POLLIS,R3
21 047232 012702 016166      WRDE5B; MOV      @POLDEF,R2
22 047236 012223      WRDE5A; MOV      (R2)+,(R3)+
23 047240 022702 016206      CMP      @GLBDEF,R2      ;ARE WE THRU ONE SET?
24 047244 001374      BNE      WRDE5A
25 047246 005304      DEC      R4
26 047250 001370      BNE      WRDE5B
27
28     ; WRITE DEFAULTS FOR GLOBAL
29
30 047252 012703 017220      MOV      @GLBPLS,R3
31 047256 012702 016206      MOV      @GLBDEF,R2
32 047262 012223      WRDE5D; MOV      (R2)+,(R3)+
33 047264 022702 016220      CMP      @GLBEND,R2
34 047270 001374      BNE      WRDE5D
35 047272 012604      MOV      (SP)+,R4      ;RESTORE R4,R3,R2
36 047274 012603      MOV      (SP)+,R3
37 047276 012602      MOV      (SP)+,R2
38 047300 000207      RTS      PC      ;RETURN TO CALLING ROUTINE
39
40

```

CZCLMCO DMP/V-11 DCIT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 72
LOG AND QUE REC BUFFERS

```

1      .SBTTL          LOG AND QUE REC BUFFERS
2      ;**
3      ; FUNCTIONAL DESCRIPTION:      LOGAQR - QUE AND LOG RX BUFFERS
4      ;                             THIS ROUTINE QUEUES THE REC BUFFER POINTED TO BY
5      ;                             CPTRR
6      ; INPUTS:      CPTRR - POINTS TO POINTER TABLE ENTRY
7      ; IMPLICIT OUTPUTS:
8      ;             BUFFER QUEUED FOR THIS ENTRY
9      ; CALLING SEQUENCE:
10     ;             JSR      PC,LOGAQR
11     ; --
12
13 LOGAQR: MOV      CPTRR,R2      ;LOAD R2 FROM POINTER
14         MOV      (R2),TEMP2    ;SET UP ADDRESS FOR LOGGING
15         MOV      (R2)+,DVRXA   ;SET UP ADDRESS FOR DEVICE
16         MOV      (R2),TEMP3    ;SET UP CHAR COUNT FOR LOGGING
17         MOV      (R2),DVRCC    ;SET UP COUNT FOR DEVICE
18         MOV      R2,CPTRR      ;RESTORE POINTER
19         JSR      PC,DVRXQ      ;QUEUE REC BUFFER
20         JSR      PC,LOGRXQ     ;LOG RXQ
21         RTS      PC           ;RETURN TO CALLER
22

```

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 73
 SHOW MODE OF OPERATION, LOOP TYPE AND QUALIFIERS

```

1      .SBTTL          SHOW MODE OF OPERATION, LOOP TYPE AND QUALIFIERS
2
3
4      ;**
5      ; FUNCTIONAL DESCRIPTION:
6      ;   SHWOP - SHOW MODE OF OPERATION, LOOP, QUALIFIERS
7      ;   PRINTED ON THE OPERATOR'S CONSOLE.
8
9      ; INPUTS:
10     ;   DEV1=  MODE TYPE (MODTYP)
11     ;   DEV2=  MAINT LOOP TYPE (MLTYP)
12     ;   DEV3=  "RUN PASS" COUNT (RPASS) - COUNT DOWN
13     ;   DEV4=  PARAMETERS WORD (PARAM)
14
15     ; IMPLICIT INPUTS:
16     ;   MODES=  TABLE OF ADDRESSES OF MODE NAME STRINGS
17     ;   LOOPS=  TABLE OF ADDRESSES OF LOOP TYPE NAMES
18
19     ; CALLING SEQUENCE:
20     ;   JSR PC,SHWOP
21     ;--
22 047344 013702 020652      SHWOP:  MOV     DEV1,R2          ;GET THE MODE TYPE IN R2
23 047350 006302              ASL     R2                    ;MAKE IT A WORD TABLE OFFSET
24 047352 016237 003344 017350  MOV     MODES(R2),TEMP      ;GET ADDRESS OF MODE-IN-ASCII
25 047360 013702 020654              MOV     DEV2,R2          ;GET MAINTENANCE LOOP TYPE
26 047364 006302              ASL     R2
27 047366 012737 026766 017356  MOV     @LP00,TEMP3         ;LOAD TEMP3 TO POINT TO "/LOOP="
28 047374 005702              TST     R2                    ;SEE IF /LOOP=XXXXX OR NONE
29 047376 001003              BNE     10$                     ;BR IF /LOOP= OF SOME KIND
30 047400 012737 026765 017356  MOV     @LP0,TEMP3          ;IF NO LOOP THEN DON'T PRINT "/LOOP="
31 047406 016237 003362 017352 10$:  MOV     LOOPS(R2),TEMP1    ;GET ADDRESS OF LOOP-IN-ASCII
32 047414 013737 020656 017354  MOV     DEV3,TEMP2         ;GET NUMBER OF PASSES
33 047422              PRINTS  @SHF0,TEMP,TEMP3,TEMP1,TEMP2
34 047422 013746 017354              MOV     TEMP2,-(SP)
35 047426 013746 017352              MOV     TEMP1,-(SP)
36 047432 013746 017356              MOV     TEMP3,-(SP)
37 047436 013746 017350              MOV     TEMP,-(SP)
38 047442 012746 027531              MOV     @SHF0,(SP)
39 047446 012746 000005              MOV     @5,-(SP)
40 047452 010600              MOV     SP,R0
41 047454 104416              TRAP     C$PNTS
42 047456 062706 000014              ADD     @14,SP
43
44 34
45 047462 005002              CLR     R2                    ;NOW SET UP FOR QUALIFIERS IN ASCII
46 047464 012737 027045 017350  MOV     @PST,TEMP
47 047472 032737 000001 020660  BIT     @STATB,DEV4
48 047500 001003              BNE     1$                     ;SEE IF /STATUS OR /NOSTATUS
49 047502 012737 027043 017350  MOV     @PNST,TEMP
50 047510 012737 027056 017352 1$:  MOV     @PCK,TEMP1
51 047516 032737 000002 020660  BIT     @DATCKB,DEV4
52 047524 001003              BNE     2$                     ;SEE IF /CHECK OR /NOCHECK
53 047526 012737 027054 017352  MOV     @PNCK,TEMP1
54 047534 012737 027066 017354 2$:  MOV     @PEC,TEMP2
55 047542 032737 000004 020660  BIT     @ECHOB,DEV4
56 047550 001003              BNE     3$                     ;SEE IF /ECHO OR /NOECHO
57 047552 012737 027064 017354  MOV     @PNEC,TEMP2
58 047552 012737 027064 017354
59
60
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CZCLMCO DMP/V-11 DCIT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 73-1
 SHOW MODE OF OPERATION, LOOP TYPE AND QUALIFIERS

```

65
66 047560 012737 027075 017362 3$: MOV    #PMS,TEMP5
67 047566 032737 000010 020660      BIT    #MOCHK,DEV4      ;SEE IF MODEM OR /NOMODEM
68 047574 001003                BNE     5$      ;BRANCH IF MODEM
69 047576 012737 027073 017362      MOV    #PNMS,TEMP5
70
71 047604                5$: PRINTS  #SHF1,TEMP,TEMP1,TEMP2,TEMP5      ;,TEMP3,TEMP4 **RFU**
    047604 013746 017362                MOV    TEMP5,-(SP)
    047610 013746 017354                MOV    TEMP2,-(SP)
    047614 013746 017352                MOV    TEMP1,-(SP)
    047620 013746 017350                MOV    TEMP,-(SP)
    047624 012746 027567                MOV    #SHF1,-(SP)
    047630 012746 000005                MOV    #5,-(SP)
    047634 010600                MOV    SP,R0
    047636 104416                TRAP   C$PNIS
    047640 062706 000014                ADD    #14,SP
72 047644 000207                RTS     PC      ;RETURN
73
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 TRAVERSE COMMAND LINE SUBROUTINES

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1      .SBTTL          TRAVERSE COMMAND LINE SUBROUTINES
2
3      ***
4      ; P$TRV SUBROUTINE
5      ;
6      ; PARSE THE COMMAND LINE SUBROUTINE
7      ; TAKE ACTIONS (VIA ACTION TREE) AS PARSING LINE
8      ; PARSING DIRECTIONS FROM "CLI PARSING NODES"
9      ; REGS USED:
10     ;
11     ; R1,R5=SCRATCH                                P$NUM=NUMERIC CODE FROM DATA
12     ; R2=ACTION CODE PARAMETER FROM TREE
13     ; R3=PARSE TREE POINTER
14     ; R4=INPUT STRING POINTER
15     ; CALLING SEQUENCE:
16     ; JSR      PC,P$TRV
17     ; ---
18
19 P$TRV:
20     MOV      P$BUFA,R4
21     MOV      P$TREE,R3
22 P$TR5:    TSTB      (R4)                                ;SEE IF ANY CHARS LEFT IN INPUT STRING
23     BEQ      P$EXIT                                     ;BR IF NO
24     CMPB     (R3),#11.                                  ;SEE IF SPECIAL CLI CHAR CODE OR ASCII
25     BGT      #0$                                         ;BR IF REGULAR ASCII CHAR.
26     MOVB     (R3),R5                                     ;GET SPECIAL CHAR CODE INTO R5
27     ASL      R5
28     MOV      10$(R5),R5                                  ;BUILD TRAVERSE ROUTINE ADDRESS
29     ADD      #10$,R5
30     JSR      PC,(R5)                                     ;JSR TO SPECIAL CLI TRAVERSE ROUTINE
31     BR       P$TR5                                       ;GO SEE IF MORE OF STRING LEFT
32
33
34 10$:      .WORD    TRVERR-10$                            ;TRAVERSE TABLE FOR "CLI FUNCTIONS"
35           .WORD    TRVEXI-10$                            ;1
36           .WORD    TRVBR-10$                             ;2
37           .WORD    TRVBIF-10$                            ;3
38           .WORD    TRVSPA-10$                            ;4
39           .WORD    TRVNUM-10$                            ;5
40           .WORD    TRVALP-10$                            ;6
41           .WORD    TRVALN-10$                            ;7
42           .WORD    TRVOCT-10$                            ;8
43           .WORD    TRVDEC-10$                            ;9
44           .WORD    TRVSTR-10$                           ;10
45
46           ;NOT A SPECIAL CODE
47
48 20$:      CMPB     (R3),(R4)                                ;SEE IF FIRST CHAR OF STRING IS A MATCH
49           BEQ      22$                                     ;BR IF A MATCH
50           JSR      PC,TRVBRC                              ;IF NOT A MATCH, GO TAKE MISS BRANCH
51           BR       P$TR5                                  ; THEN GO BACK PT'G TO MISS NODE
52 22$:      JSR      PC,TRVACT                              ;IF A MATCH, GO DO ACTION DEFINED BY
53           ADD      #4,R3                                  ; ACTION CODE IN CLI NODE, THEN
54                                           ; ADJUST PTR TO NEXT CLI NODE.
55           INC      R4                                     ;ADJUST BUF PTR TO NEXT CHAR IF MATCH
56           BR       P$TR5
57

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TRAVERSE COMMAND LINE SUBROUTINES

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58 047764 000207      P$EXIT: RTS      PC      ;RETURN FROM PARSE
59
60
61
62
63 047766 116302 000001      ;GOTO USER ACTION ROUTINE
64 047772 042702 177400      TRVACT: MOVB 1(R3),R2      ;GET ACTION CODE FROM CLI NODE
65 047776 013705 003400      BIC 0177400,R2      ;CLEAR ANY SIGN EXTENSION
66 050002 004715      MOV P$ACT,R5      ;GET ADDRESS OF CLI ACTION ROUTINE
67 050004 000207      JSR PC,(R5)      ;GO DO ACTION DEFINED BY CODE
68
69
70 050006 016305 000002      RTS PC      ;RETURN TO CALLING CODE
71 050012 060503      ;TAKE BRANCH IN TREE
72 050014 000207      TRVBRC: MOV 2(R3),R5      ;GET BRANCH DISPLACEMENT FROM TREE
73
74
75 050016 062703 000004      ADD R5,R3      ; AND POINT R3 TO THE "MISS" NODE
76 050022 000207      RTS PC      ; RETURN TO P$TRV
77
78
79 050024 004737 047766      ;NO BRANCH TAKEN
80 050030 112737 177777 003411      TRVNOB: ADD 04,R3      ;THINGS OK, UPDATE R3 TO POINT TO NEXT
81 050036 005726      RTS PC      ; NODE AND RETURN TO P$TRV
82 050040 000137 047764
83
84 050044 004737 047766      ;-----
85 050050 105037 003411      TRVERR: JSR PC,TRVACT      ;TAKE ERROR ACTION
86 050054 005726      MOVB 0-1,P$GDBD      ;SET ERROR RETURN FLAG
87 050056 000137 047764      TST (SP);      ;GET RID OF "JSR PUSH TO TRVERR"
88
89 050062 004737 047766      JMP P$EXIT      ;RETURN DIRECT TO EXIT OF P$TRV ROUTINE
90 050066 000137 050006      ;
91
92 050072 004737 047766      TRVEXI: JSR PC,TRVACT      ;TAKE EXIT ACTION
93 050076 105737 003411      CLRB P$GDBD      ;SET GOOD/BAD FLAG TO "SUCCESS (0)"
94 050102 001402      TST (SP);      ;GET RID OF "JSR PUSH TO TRVEXI"
95 050104 000137 050006      JMP P$EXIT      ;RETURN DIRECT TO EXIT OF P$TRV ROUTINE
96 050110 000137 050016      ;
97
98 050114 005005      TRVBR: JSR PC,TRVACT      ;GO TAKE BRANCH ACTION
99 050116 121427 000011      JMP TRVBRC
100 050122 001003
101 050124 005204      TRVBIF: JSR PC,TRVACT
102 050126 005205      TSTR P$GDBD      ;SEE IF P$GDBD SET OR CLEARED BY ACTION
103 050130 000772      BEQ 1$      ;IF CLEAR FALL THRU TO NEXT NODE
104
105 050132 121427 000040      1$: JMP TRVBRC      ;ELSE TAKE THE "MISS" BRANCH
106 050136 001003      ;JUST UPDATE TO NEXT NODE IF THINGS OK
107 050140 005204
108 050142 005205      TRVSPA: CLR R5      ;CLEAR "SPACE OR TAB FOUND" FLAG
109 050144 000764      1$: CMPB (R4),011      ;SEE IF CHAR. IN CMD LINE= TAB
110 050146 005705      BNE 2$      ;BR IF NO, NOT A TAB
111 050150 001404      INC R4      ;INC INPUT STRING POINTER
112 050152 004737 047766      INC R5      ;INDICATE A TAB FOUND
113 050156 000137 050016      BR 1$      ;GO CHECK NEXT CHAR
114 050162 000137 050006      2$: CMPB (R4),040      ;SEE IF CHAR. IN CMD LINE= SPACE
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TRAVERSE COMMAND LINE SUBROUTINES

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115
116
117 050166 012737 000012 003406 TRVDEC: MOV    #10.,P$RADX      ;USE DECIMAL AS RADIX AND ASSUME +
118 050174 000137 050206          JMP    TRVNMA
119 050200          TRVOCT: ;(SAME AS TRVNUM SINCE DEFAULT RADIX IS OCTAL)
120 050200 012737 000010 003406 TRVNUM: MOV    #8.,P$RADX      ;USE OCTAL AS RADIX AND ASSUME +
121 050206 005005          TRVNMA: CLR    R5                ;CLEAR DIGIT COUNTER
122 050210 121427 000053          CMPB   (R4),#'+          ;SEE IF THERE'S A + SIGN THERE
123 050214 001001          BNE     10$                ; BR IF NO
124 050216 000406          BR      11$                ; ELSE P$RADX ALREADY SAYS +, JUST BR
125 050220 121427 000055          10$: CMPB   (R4),#'-          ;SEE IF THERE'S A - SIGN THERE
126 050224 001004          BNE     1$                  ; BR IF NO
127 050226 112737 177777 003407          MOVB   #-1,P$RADX+1    ;SET "MINUS FLAG" (HI BYTE OF P$RADX)
128 050234 005204          11$: INC     R4                ;BUMP R4 TO POINT TO FIRST CHAR
129
130 050236 121427 000060          1$: CMPB   (R4),#60          ;SEE IF CHAR. LESS THAN A "0"
131 050242 002434          BLT      2$                  ;BR IF YES (NOT NUMERIC)
132 050244 121427 000067          CMPB   (R4),#67          ;SEE IF CHAR. GREATER THAN A "7"
133 050250 003426          BLE     13$                ; BR IF YES
134 050252 123727 003406 000012          CMPB   P$RADX,#10.      ;SEE IF IN DECIMAL MODE
135 050260 001417          BEQ     12$                ; BR IF YES (CAN USE HIGHER LIMIT)
136 050262 121427 000071          CMPB   (R4),#71          ;SEE IF DIGIT WAS A 8 OR 9
137 050266 003022          BGT     2$                  ;BR IF NON-NUMERIC
138 050270          PRINTF   @CLIBRX                    ;ELSE WAS A 8 OR 9 WHEN IN OCTAL RADIX
139 050270 012746 023457          MOV     @CLIBRX,-(SP)
140 050274 012746 000001          MOV     #1,-(SP)
141 050300 010600          MOV     SP,R0
142 050302 104417          TRAP    C$PNTF
143 050304 062706 000004          ADD     #4,SP
144 050310 112737 177777 003411          MOVB   #-1,P$GDBD      ;SET ERROR RETURN FLAG
145 050316 000474          BR      5$                  ; PRINT ERROR AND TAKE MISS
146
147 050320 121427 000071          12$: CMPB   (R4),#71          ;SEE IF CHAR. GREATER THAN A "9"
148 050324 003003          BGT     2$                  ;BR IF YES (NOT NUMERIC)
149 050326 005204          13$: INC     R4                ;UPDATE CMD LINE PTR TO NEXT CHAR.
150 050330 005205          INC     R5                ;INDICATE A NUMERIC FOUND
151 050332 000741          BR      1$                  ;GO LOOK AT NEXT CHAR.
152
153 050334 005705          2$: TST     R5                ;SEE IF FOUND ANY NUMERICS
154 050336 001464          BEQ     5$                  ;BR IF NO, TAKE "MISS" BRANCH
155 050340 010401          MOV     R4,R1                ;GET POINTER TO START OF NUMERIC STRING
156 050342 160501          SUB     R5,R1
157 050344 005037 003404          CLR     P$NUM                ;CLEAR LOC. WHERE VALUE WILL BE STORED
158 050350 112102          3$: MOVB   (R1)+,R2          ;GET ASCII CHAR AND CONVERT IT TO A #
159 050352 162702 000060          SUB     #60,R2
160 050356 006337 003404          ASL     P$NUM                ;SHIFT CURRENT VALUE TO MAKE ROOM
161 050362 103437          BCS     7$                  ;ERROR IF NUMBER TOO BIG
162 050364 013737 003404 003402          MOV     P$NUM,P$CNT          ;SAVE FOR LATER IN CASE DECIMAL RADIX
163 050372 006337 003404          ASL     P$NUM                ;ERROR IF NUMBER TOO BIG
164 050376 103431          BCS     7$                  ;SEE IF DECIMAL RADIX
165 050400 006337 003404          ASL     P$NUM                ;BR IF NOT EQUAL
166 050404 103426          BCS     7$
167 050406 123727 003406 000012          CMPB   P$RADX,#10.
168 050414 001004          BNE     4$
169 050416 063737 003402 003404          ADD     P$CNT,P$NUM
170 050424 103416          BCS     7$
171 050426 060237 003404          4$: ADD     R2,P$NUM

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TRAVERSE COMMAND LINE SUBROUTINES

167	050432	103413		BCS	7\$		;ERROR IF NUMBER TOO BIG
168	050434	005305		DEC	R5		
169	050436	001344		BNE	3\$		
170	050440	105737	003407	TSTB	P\$RADX+1		;SEE IF NUM WAS PRECEDED BY A - SIGN
171	050444	001402		BEQ	15\$		; BR IF NO
172	050446	005437	003404	NEG	P\$NUM		; ELSE NEGATE THE NUMBER BEFORE LEAVING
173	050452	004737	047766	JSR	PC,TRVACT		;SINCE NUMERIC FOUND, GO TAKE ACTION
174	050456	000137	050016	JMP	TRVNOB		;GO POINT R3 TO NEXT NODE
175							
176	050462			7\$:	PRINTF	#CLINBG	;PRINT NUMBER TOO BIG ERROR
	050462	012746	023435				MOV #CLINBG,-(SP)
	050466	012746	000001				MOV #1,-(SP)
	050472	010600					MOV SP,R0
	050474	104417					TRAP C\$PNTF
	050476	062706	000004				ADD #4,SP
177	050502	112737	177777	003411	MOVB	#-1,P\$GDBD	;SET ERROR RETURN FLAG
178	050510	000137	050006	5\$:	JMP	TRVBRC	;TAKE "MISS" BRANCH
179							
180							
181	050514	005005		TRVALP:	CLR	R5	;CLEAR ALPHA FOUND FLAG
182	050516	121427	000101	1\$:	CMPB	(R4),#101	;SEE IF CHAR. LESS THAN A "A"
183	050522	002406			BLT	2\$	;BR IF YES (NOT ALPHA)
184	050524	121427	000132		CMPB	(R4),#132	;SEE IF CHAR. GREATER THAN A "Z"
185	050530	003003			BGT	2\$	;BR IF YES (NOT ALPHA)
186	050532	005204			INC	R4	;UPDATE CMD LINE PTR TO NEXT CHAR
187	050534	005205			INC	R5	;INDICATE AN ALPHA WAS FOUND
188	050536	000767			BR	1\$	;GO LOOK AT NEXT CHAR.
189	050540	005705		2\$:	TST	R5	;SEE IF ANY ALPHA'S WERE FOUND
190	050542	001404			BEQ	3\$	;BR IF NO
191	050544	004737	047766		JSR	PC,TRVACT	;IF ANY FOUND TAKE ACTION
192	050550	000137	050016		JMP	TRVNOB	;THEN UPDATE R3 TO NEXT NODE -NO BRANCH
193	050554	000137	050006	3\$:	JMP	TRVBRC	;NONE FOUND, TAKE MISS BRANCH
194							
195	050560	005005		TRVALN:	CLR	R5	;CLEAR ALPHANUM FOUND FLAG
196	050562	121427	000060	10\$:	CMPB	(R4),#60	;SEE IF CHAR. LESS THAN A "0"
197	050566	002417			BLT	2\$	;BR IF YES (NOT NUMERIC OR ALPHA)
198	050570	121427	000072		CMPB	(R4),#72	;SEE IF CHAR. GREATER THAN A "9"
199	050574	003003			BGT	1\$	;BR IF YES (NOT NUMERIC)
200	050576	005204			INC	R4	;UPDATE CMD LINE PTR TO NEXT CHAR.
201	050600	005205			INC	R5	;INDICATE A NUMERIC FOUND
202	050602	000767			BR	10\$	;GO LOOK AT NEXT CHAR.
203	050604	121427	000101	1\$:	CMPB	(R4),#101	;SEE IF CHAR. LESS THAN A "A"
204	050610	002406			BLT	2\$	;BR IF YES (NOT ALPHA)
205	050612	121427	000132		CMPB	(R4),#132	;SEE IF CHAR. GREATER THAN A "Z"
206	050616	003003			BGT	2\$	;BR IF YES (NOT ALPHA)
207	050620	005204			INC	R4	;UPDATE CMD LINE PTR TO NEXT CHAR
208	050622	005205			INC	R5	;INDICATE AN ALPHA FOUND
209	050624	000756			BR	10\$	;GO LOOK AT NEXT CHAR.
210	050626	005705		2\$:	TST	R5	;SEE IF ANY ALPHANUM'S WERE FOUND
211	050630	001404			BEQ	3\$	;BR IF NO
212	050632	004737	047766		JSR	PC,TRVACT	;IF ANY FOUND TAKE ACTION
213	050636	000137	050016		JMP	TRVNOB	;THEN UPDATE R3 TO NEXT NODE -NO BRANCH
214	050642	000137	050006	3\$:	JMP	TRVBRC	;NONE FOUND, TAKE MISS BRANCH
215							
216							
217							
218	050646	010401		TRVSTR:	MOV	R4,R1	;POINT R1 TO CMD STRING

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 TRAVERSE COMMAND LINE SUBROUTINES

219	050650	010305		MOV	R3,R5	
220	050652	062705	000006	ADD	#6,R5	;POINT R5 TO MATCH STRING FROM CLI NODE
221	050656	005037	003402	CLR	P\$CNT	;CLEAR CHAR MATCH COUNT
222	050662	105715		2\$: TSTB	(R5)	;SEE IF END OF MATCH STRING YET
223	050664	001411		BEQ	10\$	;BR IF YES
224	050666	105711		TSTB	(R1)	;SEE IF END OF CMD LINE YET
225	050670	001407		BEQ	10\$	;BR IF YES
226	050672	121115		CMPB	(R1),(R5)	;SEE IF CHARACTERS MATCH
227	050674	001005		BNE	10\$	;BR IF NO
228	050676	005237	003402	INC	P\$CNT	;MATCH -INCREMENT MATCH COUNT
229	050702	005201		INC	R1	;UPDATE STRING POINTERS
230	050704	005205		INC	R5	
231	050706	000765		BR	2\$	;BR TO CONTINUE CHECKING CHARS.
232						
233	050710	005737	003402	10\$: TST	P\$CNT	;WHEN DONE SEE IF ANY MATCHES FOUND
234	050714	001406		BEQ	15\$	;BR IF NO, GO TAKE THE MISS BRANCH
235	050716	010104		MOV	R1,R4	;POINT CMD POINTER TO END OF STRING &
236	050720	004737	047766	JSR	PC,TRVACT	;IF A MATCH FOUND, GO DO MATCH ACTION
237	050724	066303	000004	ADD	4(R3),R3	;UPDATE R3 TO NEXT NODE (NO BRANCH)
238	050730	000207		RTS	PC	; (NO RETURN THRU TRVNOB SINCE DIFFERENT
239						; DISPLACEMENT DUE TO MATCH STRING)
240	050732	000137	050006	15\$: JMP	TRVBRC	; GO TAKE BRANCH
241						
242						; (PARSED OK), -1 IF ILL CMD.....
243						
244						

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```

1          .SBTTL  REPORT CODING SECTION
2
3
4          ;++
5          ; THE REPORT CODING SECTION CONTAINS THE
6          ; "PRINTS" CALLS THAT GENERATE STATISTICAL REPORTS.
7          ;--
8
9 050736          BGNRPT
10 050736
11
12
13
14
15
16
17
18
19
20
21
22
23 050736  004737  042554          JSR      PC,REPORT          ;CALL SUBROUTINE TO DUMP EVENT LOG
24                                     ; AND BASE TABLE
25
26
27
28
29
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31
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33
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35
36
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39
40
41 050742          ENDRPT
42 050742
43 050742  104425          L10011:
44                                     TRAP      C$RPT

```

N11

SEQ 143

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PROTECTION TABLE

1		.SBTTL	PROTECTION TABLE	
2				
3		;	++	
4		;	THIS TABLE IS USED BY THE RUNTIME SERVICES	
5		;	TO PROTECT THE LOAD MEDIA.	
6		;	--	
7				
8	050744		BGNPROT	
9	050744			L\$PROT::
10	050744	177777	-1	;OFFSET INTO P-TABLE FOR CSR ADDRESS
11	050746	177777	-1	;OFFSET INTO P-TABLE FOR MASSBUS ADDRESS
12	050750	177777	-1	;OFFSET INTO P-TABLE FOR DRIVE NUMBER
13				
14	050752		ENDPROT	
15				

CZCUMCO DMP V 11 DCLT MACRO V05.00 Thursday 22-Mar 84 16:24 Page 77
INITIALIZE SECTION

```

1      .SBT11 INITIALIZE SECTION
2
3      ***
4      ; THE INITIALIZE SECTION CONTAINS THE CODING THAT IS PERFORMED
5      ; AT THE BEGINNING OF EACH PASS.
6      ***
7
8      050752      BGNINIT
9      050752
10
11      33
12      34 050752 005737 017376      TST      DCLFLG      ;IS DCLFLG SET
13      35 050756 001403              BEQ      INIT1        ;BRANCH IF NOT
14      36 050760 005037 017376      CLR      DCLFLG      ;IF SET CLEAR IT
15      37 050764              DOCLN
16      38 050766 005037 017416      CLR      RUNNING      ; INIT "DCLT RUNNING" FLAG
17      39 050772 012737 177777 017400 INIT1: MOV      @-1,RESFLG ;SET RESTART FLAG
18      40 051000 012700 000040      READDEF @EF,START ;IF HERE CAUSE OF START, DO SOME INIT
19      051004 104447              TRAP      @EF,START,RO
20      41 051006              BCOMPLETE      START
21      051006 103417              TRAP      @EF,START,RO
22      42 051010              BCS      START
23      051010 012700 000037      READDEF @EF,RESTART ;IF HERE CAUSE OF RESTART, DO SOME INIT
24      051014 104447              TRAP      @EF,RESTART,RO
25      43 051016              BCOMPLETE      RESTART
26      051016 103514              TRAP      @EF,RESTART,RO
27      44 051020              BCS      RESTART
28      051020 012700 000036      READDEF @EF,CONTINUE ;IF HERE CAUSE OF A CONTINUE
29      051024 104447              TRAP      @EF,CONTINUE,RO
30      45 051026              BCOMPLETE      S1
31      051026 103002              TRAP      @EF,CONTINUE,RO
32      46 051030 000137 051652      BCC      S1
33      47 051034 012700 000035      JMP      ENDIT
34      051034 104447      READDEF @EF,NEW ;IF NOT HERE CAUSE OF A CONTINUE
35      48 051042              BCOMPLETE      NEW
36      051042 103522              TRAP      @EF,NEW,RO
37      49 051044 000524              BCC      NEW
38      50              BR      GETPRM
39      51 051046 005037 017400      CLR      RESFLG      ;IF YES, BR AROUND LOGUNIT 0 SETAP
40      52 051052 104433      BRESET ;CLEAR RESTART FLAG SINCE HERE ON START
41      53 051054 005037 017442      CLR      CLKVEC      ;INIT ENTIRE BUS
42      54              TRAP      @EF,NEW,RO
43      55 051060 012702 017436      MOV      @CLKCSR,RO ;CLEAR CLK VECTOR PTR. AS A FLAG IN
44      56 051064 012700 000114      CLOCK 1,R1 ;NO CLOCK IS FOUND.
45      051070 104462              TRAP      @EF,NEW,RO
46      051072 010001              TRAP      @EF,NEW,RO
47      57 051074              BCOMPLETE      S2
48      051074 103004              TRAP      @EF,NEW,RO
49      58 051076 004737 041654      JSR      PC,CLKSET ;IF NOW THERE GO LOOK FOR A P. CLOCK
50      59 051102 012737 000100 017446 MOV      @CLKEN,CLKEN ;GO SET UP CLOCK INFO TABLE & CLK VEC.
51      60 051110 000457      BR      RESTART ;SETUP THE ENABLE LINE CLOCK DATA
52      61

```

```

62 051112          S2:  CLOCK  P,R1          ;LOOK FOR A P-CLOCK SINCE NO LINE CLOCK
    051112 012700 000120          ;MOV      #P,R0
    051116 104462          ;TRAP      C#CLK
    051120 010001          ;MOV      R0,R1
63 051122          BNCOMPLET  S3          ; IF NONE THERE GO SEE IF THIS IS 1ST
    051122 103017          ;BCC      S3
64 051124 004737 041654          JSR      PC,CLKSET
65 051130 062737 000002 017436  ADD      #2,CLKCSR
66 051136 012777 001600 146272  MOV      #PCLKCT,BCLKCSR
67 051144 162737 000002 017436  SUB      #2,CLKCSR
68 051152 012737 000111 017446  MOV      #PCLKEN,CLKEN
69 051160 000433          BR      RESTRT
70
71 051162          S3:  READBUS          ;READ BUS TYPE TO SEE IF ON AN ISI
    051162 104407          ;TRAP      C#RDBU
72 051164          BNCOMPLET  S4          ;BR IF NOT, NO CHANCE OF A CLOCK
    051164 103021          ;BCC      S4
73 051166 012737 000100 017442  MOV      #100,CLKVEC
74 051174 005037 017440          CLR      CLKBR
75 051200 012737 017446 017436  MOV      #CLKEN,CLKCSR
76 051206          GMANID  L5060,CLKHZ,D,377,50,,60,,YES
    051206 104443          ;TRAP      C#GMAN
    051210 000406          BR      10000$
    051212 017444          .WORD      CLKHZ
    051214 000052          .WORD      T$COOF
    051216 027121          .WORD      L5060
    051220 000377          .WORD      377
    051222 000062          .WORD      T$COLIM
    051224 000074          .WORD      T$HILIM
    051226          ;10000$:
77 051226 000410          BR      RESTRT
78
79
80 051230          S4:  PRINTF  #BDCLK          ;MOV      #BDCLK, (SP)
    051230 012746 027232          ;MOV      #1, (SP)
    051234 012746 000001          ;MOV      SP,R0
    051240 010600          ;TRAP      C#PNTF
    051242 104417          ;ADD      #4,SP
    051244 062706 000004          ;CLEAR TIME SINCE START LOCATIONS
81 051250 005037 017450          RESTRT: CLR      TIMMIN
82 051254 005037 017452          CLR      TIMSEC
83 051260 013737 017444 017454  MOV      CLKHZ,TIMTCK
84 051266 012702 017466          MOV      #EVTLOG,R2
85 051272 010237 017466          MOV      R2,EVTPT
86 051276 012722 177777          1$:  MOV      #1,(R2)
87 051302 020227 020522          CMP      R2,EVTEND
88 051306 001373          BNE      1$
89
90 051310 012737 177777 017372  NEW:  MOV      #1,LOGUNT
91
92 051316 005237 017372          GETPRM: INC      LOGUNT
93 051322 023737 017372 002012  CMP      LOGUNT,1$UNIT
94 051330 002367          BGE      NEW
95
96 051332          GPHARD  LOGUNT,R1          ;GET THE P-TABLE FOR THIS LOG. UNIT
    051332 015700 017372          ;MOV      LOGUNT,R0
    051336 104442          ;TRAP      C#GPHRD

```

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INITIALIZE SECTION

```

    051340 010001
97 051342                                     BNCOMPLETE GETPRM      ;IF NO P TABLE AVAIL., GO GET NEXT ONE
    051342 103365                                     BCC GETPRM
98
99 051344 011137 01.406      MOV      (R1),FHDPLX      ;PUT FULL OR HALF DUPLEX ANSWER IN LOC.
100
113
114      ;DEVICE DEPENDENT PART OF GETTING INFO FROM P-TABLE
115
116 051350 016137 000002 023052      MOV      2(R1),SEL0      ;STORE AWAY CSR ADDRESSES
117 051356 016137 000002 023054      MOV      2(R1),BSEL1
118 051364 005237 023054      INC      BSEL1
119 051370 016137 000002 023056      MOV      2(R1),SEL2
120 051376 062737 000002 023056      ADD      #2,SEL2
121 051404 016137 000002 023060      MOV      2(R1),BSEL3
122 051412 062737 000003 023060      ADD      #3,BSEL3
123 051420 016137 000002 023062      MOV      2(R1),SEL4
124 051426 062737 000004 023062      ADD      #4,SEL4
125 051434 016137 000002 023064      MOV      2(R1),BSEL5
126 051442 062737 000005 023064      ADD      #5,BSEL5
127 051450 016137 000002 023066      MOV      2(R1),SEL6
128 051456 062737 000006 023066      ADD      #6,SEL6
129 051464 016137 000002 023070      MOV      2(R1),BSEL7
130 051472 062737 000007 023070      ADD      #7,BSEL7
131
132 051500 016137 000004 023072      MOV      4(R1),INVEC      ;STORE AWAY INPUT INTERRUPT VECTOR
133 051506 016137 000004 023074      MOV      4(R1),OUTVEC
134 051514 062737 000004 023074      ADD      #4,OUTVEC      ;BUILD OUTPUT INTERRUPT VECTOR
135 051522 016137 000006 023076      MOV      6(R1),INTPRI      ;STORE AWAY INTERRUPT PRIORITY
136 051530 016137 000010 023102      MOV      10(R1),DEVPAR      ;STORE AWAY PARAMS
137 051536 016137 000012 023100      MOV      12(R1),OPTYP      ;STORE AWAY DEVICE OPTION TYPE
138 051544 032737 000003 023100      BIT      #3,OPTYP      ;IS THIS A DMV
139 051552 001417                                     BEQ      11$
140 051554 012737 000454 016202      MOV      #300.,DMVDF1
141 051562 012737 001130 016204      MOV      #600.,DMVDF2
142 051570 012737 001130 016210      MOV      #600.,DMVDF3
143 051576 012737 000024 016212      MOV      #24,DMVDF4
144 051604 012737 001750 016214      MOV      #1000.,DMVDF5      ;SET UP DMV DEFAULTS
145 051612 005037 023104      11$: CLR      STATYP      ;CLEAR STATION TYPE
146 051616 032737 000001 023102      BIT      #MTP,DEVPAR      ;IS THIS MULTIPOINT
147 051624 001407                                     BEQ      1$
148 051626 052737 000004 023104      BIS      #BIT2,STATYP      ;BRANCH IF PT TO PT
149 051634 032737 000002 023102      BIT      #TRBB,DEVPAR      ;IF MULTIPOINT SET BIT
150 051642 001003                                     BNE      ENDIT      ;IS THIS A TRIB
151 051644 052737 000002 023104      1$: BIS      #BIT1,STATYP      ;BRANCH IF CONTROL
152 051652                                     ;SET STATION TYPE
153 051652                                     ;SETUP CLOCK VECTOR
    051652 012746 000340      SETVEC   CLKVEC,#CLKINT,#340
    051656 012746 041700      MOV      #340,(SP)
    051662 013746 017442      MOV      #CLKINT,(SP)
    051666 012746 000003      MOV      CLKVEC,(SP)
    051672 104437      MOV      #5,(SP)
    051674 062706 000010      TRAP     CSVEC
                                     ADD      #10,SP
154
155      ;DEVICE DEPENDENT VECTOR SETUP
156
165 051700      SETVEC   INVEC,#DVINS,INTPRI      ;SETUP INPUT INTERRUPT VECTOR

```

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 77-3
INITIALIZE SECTION

	051700	013746	023076				MOV	INTPRI, -(SP)
	051704	012746	066656				MOV	#DVINS, -(SP)
	051710	013746	023072				MOV	INVEC, -(SP)
	051714	012746	000003				MOV	#3, -(SP)
	051720	104437					TRAP	C\$SVEC
	051722	062706	000010				ADD	#10, SP
166	051726			SETVEC	OUTVEC, #DVOUTS, INTPRI	;SETUP OUTPUT INTERRUPT VECTOR		
	051726	013746	023076				MOV	INTPRI, -(SP)
	051732	012746	066674				MOV	#DVOUTS, -(SP)
	051736	013746	023074				MOV	OUTVEC, -(SP)
	051742	012746	000003				MOV	#3, -(SP)
	051746	104437					TRAP	C\$SVEC
	051750	062706	000010				ADD	#10, SP
167								
168	051754			SETPRI	#PRI00	;SET THE "RUN" PRIORITY TO 0		
	051754	012700	000000				MOV	#PRI00, R0
	051760	104441					TRAP	C\$SPRI
169	051762			EXIT	INIT			
	051762	104432					TRAP	C\$EXIT
	051764	000002					.WORD	L10013-
170								
182								
183				.EVEN				
184								
185	051766			ENDINIT				
	051766					L10013:		
	051766	104411					TRAP	C\$INIT

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AUTODROP SECTION

```
1          .SBTTL  AUTODROP SECTION
2
3          ;++
4          ; THIS CODE IS EXECUTED IMMEDIATELY AFTER THE INITIALIZE CODE IF
5          ; THE "ADR" FLAG WAS SET.  THE UNIT(S) UNDER TEST ARE CHECKED TO
6          ; SEE IF THEY WILL RESPOND.  THOSE THAT DON'T ARE IMMEDIATELY
7          ; DROPPED FROM TESTING.
8          ;--
9
10         051770          BGNAUTO
11         051770
12
13
14
15
16
17
18
19         051770          ENDAUTO
20         051770
21         051770 104461
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CZCLMCO DMP V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 79
 CLEANUP CODING SECTION

```

1          .SBTTL  CLEANUP CODING SECTION
2
3          ;**
4          ; THE CLEANUP CODING SECTION CONTAINS THE CODING THAT IS PERFORMED
5          ; AFTER THE HARDWARE TESTS HAVE BEEN PERFORMED.
6          ;**
7
8 051772          BGNCLN
9 051772
10
11          L$CLEAN::
12
13 18 051772 005037 017416          CLR    RUNING          ; INIT DCLT RUNNING FLAG
14 19 051776 012737 177777 017320  MOV    *-1,CLNSET      ; SET THE CLEANUP FLAG
15 20 052004 004737 064776          JSR    PC,HLITRB      ; HALT ALL TRBS
16 21 052010 005037 017320          CLR    CLNSET
17 22 052014 105037 015756          CLR    TRIBN
18 23 052020 005037 017350          CLR    TEMP          ; MODEM SIGNALS TO CLEAR
19 24 052024 004737 054732          JSR    PC,WRMCS        ; GO CLEAR MODEM SIGNALS
20 25 052030 005077 145402          CLR    @CLKCSR        ; DISABLE CLOCK
21 26 052034          SETPRI  @PRI07          ; SET PROCESSOR PRIORITY BACK TO 7
22      052034 012700 000340          MOV    @PRI07,R0
23      052040 104441          TRAP    C$SPRI
24
25 27 052042          EXIT    CLN
26      052042 104432
27      052044 000002          TRAP    C$EXIT
28                                .WORD    L10015-.
29
30 28
31 40
32 41          .EVEN
33 42
34 43 052046          ENDCLN
35      052046
36      052046 104412          L10015: TRAP    C$CLEAN

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 DROP UNIT SECTION

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1          .SBTTL  DROP UNIT SECTION
2
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4          ;++
5          ; THE DROP-UNIT SECTION CONTAINS THE CODING THAT CAUSES A DEVICE
6          ; TO NO LONGER BE TESTED.
7          ;--
8 052050          BGNDU
9
10         L$DU::
11
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19 052050          EXIT    DU
20 052050          000167
21 052052          000000
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33          .EVEN
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CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 81
ADD UNIT SECTION

```

1          .SBTTL  ADD UNIT SECTION
2
3          ;**
4          ; THE ADD-UNIT SECTION CONTAINS ANY CODE THE PROGRAMMER WISHES
5          ; TO BE EXECUTED IN CONJUNCTION WITH THE ADDING OF A UNIT BACK
6          ; TO THE TEST CYCLE.
7          ;**
8
9 052056      BGNAU
10 052056
11
12
13
14
15
16
17
18
19
20 052056      EXIT    AU
21 052056      000167
22 052060      000000
23
24
25
26
27
28
29
30
31
32
33
34          .EVEN
35
36 052062      ENDAU
37 052062
38 052062      104452

```

L\$AU::

.WORD J\$JMP
.WORD L10017-2-.

L10017: TRAP C\$AU

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 82
 TEST 1: SETUP AND MODES OF OPERATION

```

1          .SBTTL TEST 1: SETUP AND MODES OF OPERATION
2
3
4
5          ;++
6          ; TEST TO DETECT FAULTS IN THE DATA COMMUNICATION LINK. THIS TEST WILL
7          ; THE PROVIDE COVERAGE NECESSARY TO ISOLATE FAILURES TO THE COMPUTER
8          ; EQUIPMENT, THE COMMUNICATION LINK, OR THE MODEM.
9          ;--
10
11
12
13
14
15
16
17
18
19
20
21
22
23 052064          BGNTST
24 052064
25
26
27
28
29
30
31          .SBTTL          PROGRAM SETUP SECTION
32
33 052064 013777 017446 145344          MOV          CLKEN,@CLKCSR          ;ENABLE THE CLOCK
34
35 052072
36 052072 005001          GTXRXB:          CLR          R1
37 052074 012737 000001 017456          GTRA2:          MOV          @1,TIMER1          ;SET TIMER TO COUNT 1 TICK
38 052102 005737 017456          1$:          TST          TIMER1          ;CHECK FOR IT TO BE COUNTED OFF
39 052106 001412          BEQ          GTRA3          ;BRANCH IF CLOCK EXISTS (COUNTED A TICK)
40 052110 005301          DEC          R1
41 052112 001373          BNE          1$          ;KEEP CHECKING UNTIL R1 DOES FULL COUNTDOWN
42 052114          PRINTF          @NOCLK          ;PRINT BAD CLK MSG AND WARN OF HANG IF TIMEOUT
43          052114 012746 027256          MOV          @NOCLK,-(SP)
44          052120 012746 000001          MOV          @1,-(SP)
45          052124 010600          MOV          SP,R0
46          052126 104417          TRAP          C$PNTF
47          052130 062706 000004          ADD          @4,SP
48
49 052134 005737 017400          GTRA3:          TST          RESFLG          ;SEE IF HERE AFTER A RESTART.
50 052140 001120          BNE          GTRA5          ;BR IF HERE CAUSE OF A RESTART
51
52          ; CLEAR COUNTS AND SET UP DEFAULTS
53
54 052142 005037 017344          GTRA4:          CLR          TOTCC          ;CLEAR TOTAL CHAR. COUNT TEMP. LOC.
55 052146 005037 017262          CLR          ITOTCC          ; CLEAR TOTAL CHAR. COUNT FOR TX BUFF
56 052152 005037 017244          CLR          CTOTCC          ; CLEAR TOTAL CHAR. COUNT FOR CMP BUFF
57 052156 012737 011416 017236          MOV          @PTRTAB,TXPTR          ;INIT TRANSMIT MESSAGE POINTER
58
59 052164 005037 017251          CLR          RXPTR          ; ZERO RX POINTER
60 052170 012737 011512 017240          MOV          @PTR13,CMPPTR          ;INIT COMP POINTER
61
62 052176 012737 000005 017332          MOV          @5,MSGTYP          ;SET UP DEFAULT MSG TYPE (QUICK FOX - ITEX MSG)
63 052204 013737 002162 017334          MOV          MSG5C,CURCC          ;SET UP DEFAULT CHAR COUNT
64 052212 012737 003416 017264          MOV          @TXBUF,TCURAD          ;SET UP CURRENT ADD TO START OF TX BUFFER
65 052220 012737 004416 017246          MOV          @CMPBUF,CCURAD          ;SET UP CURRENT ADD TO START OF CMP BUFFER
66
67 052226 013737 017264 017342          MOV          TCURAD,CURADD          ;SETUP CURRENT ADDR TO START OF TXBUF
68 052234 013737 017236 017340          MOV          TXPTR,CPTR          ;SETUP CURRENT POINTER TABLE POINTER FOR TXBUF
69 052242 004737 045446          JSR          PC,BLDBUF          ; GO BUILD POINTER TABLE AND BUFFER
70 052246 012737 000001 017260          MOV          @1,TXMTOT          ;BUMP TOTAL MESSAGE COUNT
71
72 052254 013737 017240 017340          MOV          CMPPTR,CPTR          ;SET UP START OF COMPARE POINTER TABLE

```

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 82-1
PROGRAM SETUP SECTION

```

68 052262 013737 017246 017342      MOV      CCURAD,CURADD      ;SET UP CURRENT ADDR. TO START OF CMPBUF
69 052270 012737 000005 017332      MOV      #5,MSGTYP
70 052276 013737 002162 017334      MOV      MSGSC,CURCC
71 052304 004737 C45446      JSR      PC,BLDBUF      ;PUT DEFAULT MESSAGE INTO CMPBUF
72 052310 012737 000001 017242      MOV      #1,CMPTOT      ;BUMP THE COMP MSG COUNT
73 052316 012737 000003 017402      MOV      #ACT,MODTYP      ;SET DEFAULT MODE = ACTIVE
74 052324 005037 017404      CLR      MLTYP      ;SET DEFAULT MAINTENANCE LOOP MODE =NONE
75 052330 012737 000001 017412      MOV      #1,RPASS      ;SET UP DEFAULT "RUN PASS" COUNT TO 1
76 052336 012737 000002 017410      MOV      #2,PARAM      ;SET UP PROG. PARAMETERS - DATA CHECKING ENABLD
77                                     ;OPERATOR STATUS MSGS. PRINT OFF
78 052344 012737 000061 003252      MOV      #KTRB,KEYWD1      ;SET UP KEYWRD.
79 052352 004737 055472      JSR      PC,ACTKAL      ;ZERO TRIB LIST
80
81 052356 004737 047214      JSR      PC,WRDEFP      ;GO WRITE DEFAULTS TO TRIBS
82
83 052362                                     PRINTF  #HLPC
      052362 012746 024040      MOV      #HLP0, -(SP)
      052366 012746 000001      MOV      #1, -(SP)
      052372 010600      MOV      SP,R0
      052374 104417      TRAP      C$PNTF
      052376 062706 000004      ADD      #4,SP
84 052402 010637 017364      GTRAS: MOV      SP,SAVSP      ;SAVE OFF STACK
85 052406 013737 017402 020652      MOV      MODTYP,DEV1
86 052414 013737 017404 020654      MOV      MLTYP,DEV2
87 052422 013737 017412 020656      MOV      RPASS,DEV3
88 052430 013737 017410 020660      MOV      PARAM,DEV4
89 052436 004737 047344      JSR      PC,SHWOP      ;PRINT TO OPERATOR THE CURRENT MODE.....
90
91 052442      MANUAL      ;SEE IF MANUAL INTERVENTION ALLOWED
      052442 104450      TRAP      C$MANI
92 052444      BCOMPLETE      GETCL      ; BR IF YES (UAM=0 AND NOT CHAINED)
      052444 103412      BCS      GETCL
93 052446 005737 017412      IST      RPASS      ;SEE IF THIS IS FIRST "DCLT PASS"
94 052452 001002      RNE      1$      ; BR IF NOT COMPLETED 1 PASS
95 052454      EXIT      IST      ; IF DONE 1 PASS IN UNATTENDED MODE - EXIT
      052454 104432      TRAP      C$EXIT
      052456 014226      .WORD      L10020-
96 052460 012737 000001 017404 1$: MOV      #TTL,MLTYP      ;SET UP DEFAULT FOR UNATTENDED MODE
97 052466 000137 057056      JMP      GTR9      ; "R M=ACT/LO=1/PAS=1/NOST/CH" AND RUN
98
99      .SBTTL      COMMAND LINE FETCH & INTERPRETATION SECTION
100
101 052472 105037 003411      GETCL: CLRB      P$GOBD      ;CLEAR CMD LINE PARSING ERROR FLAGS
102 052476 105037 003410      CLRB      P$NUOF
103 052502      GMANID      CLI$PM,CMDBUF,A,0,1,72.,NO      ;GET A COMMAND LINE FROM OPR.
      052502 104443      TRAP      C$GMAN
      052504 000406      BR      10000$
      052506 003130      .WORD      CMDBUF
      052510 000142      .WORD      T$CODE
      052512 023354      .WORD      CLI$PM
      052514 000000      .WORD      0
      052516 000001      .WORD      T$QUIM
      052520 000110      .WORD      T$HILIM
      052522      10000$:
104 052522 012737 003130 003374      MOV      #CMDBUF,P$BUF A
105 052530 012737 021170 003376      MOV      #CLITRE,P$TREE
106 052536 012737 053436 003400      MOV      #CLIACT,P$ACT

```


Line	Address	Instruction	Comment
146	053034	005737	017262
147	053040	001002	
148	053042	005037	017260
149	053046	012737	011416
150	053054	013701	017260
151	053060	020127	000017
152	053064	002414	
153	053066		
	053066	012746	027337
	053072	012746	027415
	053076	012746	000002
	053102	010600	
	053104	104417	
	053106	062706	000006
154	053112	000137	052472
155	053116	006301	
156	053120	006301	
157	053122	060137	017236
158	053126	013737	017236
159	053134	013737	017264
160	053142	004737	045350
161	053146	004737	045446
162	053152	013737	017340
163	053160	013737	017344
164	053166	013737	017342
165	053174	005237	017260
166	053200	005337	003256
167	053204	001270	
168	053206	000137	052472
169			
170	053212	013737	017244
171	053220	023727	017344
172	053226	002414	
173	053230		
	053230	012746	027377
	053234	012746	027415
	053240	012746	000002
	053244	010600	
	053246	104417	
	053250	062706	000006
174	053254	000137	052472
175	053260	005737	017244
176	053264	001002	
177	053266	005037	017242
178	053272		
179	053272	012737	011512
180	053300	013701	017242
181			
182	053304	020127	000017
183	053310	002414	
184	053312		
	053312	012746	027337
	053316	012746	027415
	053322	012746	000002
	053326	010600	
	053330	104417	
	053332	062706	000006

```

;IF FIRST "SET" THEN GET RID OF DEFAULT

;GET POSITION OF END OF TX LIST

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

;SETUP CHAR. COUNT, CURRENT ADDR, & PTR

;ADD IN CHAR. COUNT AND CHECK TOTAL
;GO BUILD MESSAGE IN BUFFER AND PTRS.

;UPDATE CHAR. COUNT, CURR ADDR, & PTR

;DEC THE COPY COUNT

;SETUP CHAR. COUNT, CURR. ADDR, & PTR
;SEE IF BUFFER ALREADY FULL
; BR IF NOT FULL (BUFLIM # OF CHARS.)
; ELSE TELL OPR. AND DON'T BUILD MSG.
                                MOV     #BUFX, (SP)
                                MOV     #MSGTRN, -(SP)
                                MOV     #2, -(SP)
                                MOV     SP, RO
                                TRAP    C$PNTF
                                ADD     #6, SP
; THEN GO GET A NEW COMMAND
;IF FIRST "SET" THEN GET RID OF DEFAULT

;INIT COMPARE MESSAGE POINTER

;SEE IF MSG COUNT EXCEEDED.
; BR IF NO
; ELSE TELL OPR. AND DON'T BUILD MSG.
                                MOV     #TABEX, (SP)
                                MOV     #MSGTRN, -(SP)
                                MOV     #2, -(SP)
                                MOV     SP, RO
                                TRAP    C$PNTF
                                ADD     #6, SP

```

N12

SEQ 156

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COMMAND LINE FETCH & INTERPRETATION SECTION

185	053336	000137	052472		JMP	GETCL	; THEN GO GET A NEW COMMAND.
186	053342	006301		18\$:	ASL	R1	;# OF MSGS *4 = NEXT FREE PTR BLOCK
187	053344	006301			ASL	R1	
188	053346	060137	017240		ADD	R1,CMPPTR	
189	053352	013737	017240	017340	MOV	CMPTR,CPTR	
190	053360	013737	017246	017342	MOV	CCURAD,CURADD	
191	053366	004737	045350		JSR	PC,ADDC	;ADD IN XHAR. COUNT AND CHECK TOTAL
192	053372	004737	045446		JSR	PC,BLDBUF	
193	053376	013737	017340	017240	MOV	CPTR,CMPTR	
194	053404	005237	017242		INC	CMPTOT	
195	053410	013737	017342	017246	MOV	CURADD,CCURAD	;UPDATE CHAR. COUNT, CURP ADDR. & PTR
196	053416	013737	017344	017244	MOV	TOTCC,CTOTCC	
197	053424	005337	003256		DEC	QUAL.VL	;IF COPY WAS GIVEN, PUT MSG IN BUFF
198	053430	001270			BNE	2\$	; AGAIN
199	053432	000137	052472		JMP	GETCL	;GO BACK UNTIL GET A "RUN"
200							
201							
202							
203							
204							

CZCLMCO DMP/V 11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 83
 COMMAND LINE FETCH & INTERPRETATION SECTION

```

1
2
3
4
5 053436
6 053436 006302
7 053440 016202 053454
8 053444 062702 053454
9 053450 004712
10 053452 000207
11
12
13 053454 000166
14 053456 000170
15 053460 000200
16 053462 001566
17 053464 000300
18 053466 000210
19 053470 000324
20 053472 000416
21 053474 000740
22 053476 000750
23 053500 000766
24 053502 000776
25 053504 001006
26 053506 001100
27 053510 001574
28 053512 001120
29 053514 001200
30 053516 001206
31 053520 001216
32 053522 001226
33 053524 001236
34 053526 001246
35 053530 001264
36 053532 001352
37 053534 001362
38 053536 001402
39 053540 001410
40 053542 001420
41 053544 001430
42 053546 001440
43 053550 001466
44 053552 001476
45 053554 001602
46 053556 001616
47 053560 001650
48 053562 001660
49 053564 001670
50 053566 001700
51 053570 001710
52 053572 001720
53 053574 000160
54 053576 001156
55 053600 000674
56 053602 000724
57 053604 000716

```

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

ASL	R2	MULTIPLY ACTION CODE BY 2
MOV	101(R2),R2	OFFSET VALUE
ADD	101,R2	ADD BASE VALUE
JSR	PC,(R2)	GO DO ACTION
RTS	PC	RETURN TO TRVACT:

101:

WORD	ACTNUL-101	BRIEF DESCRIPTION OF ACTIONS TAKEN
WORD	ACTCLR 101	CLEAR
WORD	ACTSHO 101	SHOW
WORD	ACTCHK 101	CHECK
WORD	ACTRUN 101	RUN
WORD	ACTHLP 101	HELP
WORD	ACTCSE 101	CLEAR OR SHOW EXPECTED
WORD	ACTCST 101	CLEAR OR SHOW TRANSMIT
WORD	ACTSTE 101	SET EXPECTED
WORD	ACTSTT 101	SET TRANSMIT
WORD	ACTSZE 101	SIZE
WORD	ACTCOP 101	COPY
WORD	ACTNUM 101	NUMERIC VALUE FOR SIZE OR COPY
WORD	ACTOPM 101	QUOTED MESSAGE FROM USER
WORD	ACTSTS 101	STATUS
WORD	ACTEQO 101	END OF QUOTED MESSAGE FROM USER
WORD	ACTMS0 101	ONES DATA
WORD	ACTMS1 101	ZEROS DATA
WORD	ACTMS2 101	INIT
WORD	ACTMS3 101	IOACT
WORD	ACTMS4 101	ITEP
WORD	ACTMS5 101	CCITT
WORD	ACTMS6 101	ALPHA
WORD	ACTATV 101	ACTIVE MODE
WORD	ACTPAS 101	PASSIVE MODE
WORD	ACTREC 101	RECEIVE MODE
WORD	ACTLIS 101	LISTEN MODE
WORD	ACTDLL 101	DOWNLINE LOAD
WORD	ACTTRA 101	TRANSMIT MODE
WORD	ACTTAL 101	TALK MODE
WORD	ACTNO 101	/NO
WORD	ACTECH 101	ECHO
WORD	ACTCRC 101	SET CRC BIT
WORD	ACTPRO 101	SET PROTOCOL BIT
WORD	ACTRPS 101	STATUS
WORD	ACTMOP 101	REMOTE STATION IN MAINTENACE LOOP MODE
WORD	ACTTLP 101	INTERNAL TTL
WORD	ACTCLP 101	CABLE LOOP
WORD	ACTLLP 101	LOCAL MODEM LOOP
WORD	ACTRLP 101	REMOTE MODEM LOOP
WORD	ACTNUF 101	MORE COMMAND LINE NEEDED
WORD	ACTBCR 101	BAD CHARACTER IN OPERATOR MESSAGE
WORD	ACTDMS 101	DUMP MEMORY START ADDRESS
WORD	ACTDME 101	DUMP MEMORY END ADDRESS
WORD	ACTDMQ 101	DUMP WORD

58 053606 000264	.WORD	ACTPRT 101	PRINT
59 053610 001610	.WORD	ACTMOS 101	MODEM STATUS CHANGE
60 053612 002474	.WORD	ACTSLS 101	SHOW TRIB LIST
61 053614 001775	.WORD	ACTETB 101	ESTABLISH TRIB
62 053616 002005	.WORD	ACTKTB 101	KILL TRIB
63 053620 002016	.WORD	ACTKAL 101	KILL ALL
64 053622 002730	.WORD	ACTEKT 101	FLAG TRIB KILLED
65 053624 003334	.WORD	ACTCKT 101	CHECK VALID TRIB
66 053626 002100	.WORD	ACTEWS 101	POLL PARAMETERS
67 053630 000254	.WORD	ACTEXT 101	EXIT
68 053632 001310	.WORD	ACTSEX 101	SET E-T COMMAND REV B EC
69			

CZC/MCO DMP V 11 DCIT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 84
ACTION TABLE AND ROUTINES

1									
2	053634	112737	177777	003410	ACTNUF: MOV	PC	PC	SET FLAG TO SAY NEED MORE OF COMMAND	
3	053642	000207			ACTNUF: RTS			RETURN TO PARSER	
4									
5	053644	012737	000001	003252	ACTCLR: MOV	PC	PC	SET LOC TO SAY A CLEAR WAS TYPED	
6	053652	000207			RTS				
7									
8	053654	012737	000002	003252	ACTSHO: MOV	PC	PC	SET LOC. TO SAY A SHOW WAS TYPED	
9	053662	000207			RTS				
10									
11	053664	012702	003260		ACTHLP: MOV	PC	PC	SETUP R2 AS A POINTER TO HELP MSG TABLE	
12	053670				13: PRINTF			PRINT HELP INFORMATION MESSAGES	
	053670	012246						MOV (R2), (SP)	
	053672	012746	024116					MOV (R2), (SP)	
	053676	012746	000002					MOV (R2), (SP)	
	053702	010600						MOV SP, R0	
	053704	104417						TRAP C1PNIF	
	053706	062706	000006					ADD 06, SP	
13	053712	020227	003304		CMP	R2, 0HLPEND		SEE IF ALL INFO PRINTED YET	
14	053716	001364			BNE	13		IF NO KEEP PRINTING	
15	053720	012737	000005	003252	MOV	PC	PC	SET LOC. TO SAY A HELP WAS TYPED	
16	053726	000207			RTS				
17	053730	012737	000066	003252	ACTEXT: MOV	PC	PC	SET UP KEYWORD AND SCOOT OUT OF HERE	
18	053736	000207			RTS			SET LOC. TO SAY A HELP WAS TYPED	
19	053740	012737	000055	003252	ACTPRT: MOV	PC	PC	CALL ROUTINE TO PRINT EVENT LOG AND BASE TABLE	
20	053746	004737	042554		JSR	PC, REPORT			
21	053752	000207			RTS				
22									
23	053754	012737	000004	003252	ACTRUN: MOV	PC	PC	SET RUN FLAG	
24	053762	112737	177777	003410	MOVB	PC	PC	SET FLAG TO SAY NEED MORE OF COMMAND	
25	053770	012737	000001	017412	MOV	PC	PC	SET DEFAULT RUN "PASS" TO 1	
26	053776	000207			RTS				
27									
28	054000	012737	011512	017240	ACTCSE: MOV	PC	PC	INIT COMPARE MESSAGE POINTER	
29	054006	013701	017240		MOV	PCPTR, R1			
30									
31	054012	013702	017242		MOV	PCPTR, R2			
32	054016	105037	003410		CLRB	PINNUF		FLAG THAT HAVE VALID COMMAND AT THIS PT.	
33	054022	023727	003252	000002	CMP	KEYWD1, 0SHOW		SEE IF A CLEAR OR SHOW WAS TYPED	
34	054030	001471			BEQ	ACTSHW		IF A SHOW WAS TYPED	
35	054032	012737	000001	017242	MOV	01, CMTOT		CLEAR COMPARE MESSAGE COUNT, CHAR. COUNT	
36	054040	005037	017244		CLR	COTICC		AND RESET POINTER	
37									
38	054044	012737	011512	017240	MOV	PCPTR, CPTR		INIT COMPARE MESSAGE POINTER	
39	054052	013737	017240	017340	MOV	PCPTR, CPTR		SET UP TO FILL IN DEFAULT MESSAGE	
40	054060	012701	004416		MOV	0CMPBU, R1			
41	054064	010137	017246		MOV	R1, CCUNAD			
42	054070	000431			BR	ACTCLR			
43									
44	054072	012701	011416		ACTCST: MOV	PCPTR, R1			
45	054076	013702	017260		MOV	TXMTOT, R2			
46	054102	105037	003410		CLRB	PINNUF		FLAG THAT HAVE VALID COMMAND AT THIS PT.	
47	054106	023727	003252	000002	CMP	KEYWD1, 0SHOW		SEE IF A CLEAR OR SHOW WAS TYPED	
48	054114	001437			BEQ	ACTSHW		IF A SHOW WAS TYPED	
49	054116	012737	000001	017260	MOV	01, TXMTOT		CLEAR TRANSMIT MESSAGE COUNT, CHAR. COUNT	
50	054124	005037	017262		CLR	TXMTCC		AND RESET POINTER	
51	054130	012737	011416	017236	MOV	PCPTR, TXPTR			

CZCLMCO DMP/V-11 DCIT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 84-1
ACTION TABLE AND ROUTINES

52	054136	013737	017236	017340	MOV	TXPTR,CPTR	
53	054144	012701	003416		MOV	TXBUF,R1	
54	054150	010137	017264		MOV	R1,TCURAD	
55							
56	054154	012702	001000		ACTCLB: MOV	BUFLIM,R2	
57	054160	010137	017342		MOV	R1,CURADD	;SET UP TO PUT DEFAULT MSG IN LIST AFTER 033'S
58	054164	012737	000005	017332	MOV	MSGTYP	
59	054172	013737	002162	017334	MOV	MSG5C,CURCC	
60	054200	105021			1\$: CLRB	(R1)+	;FILL EXPT OR TRAN BUFFER WITH 0'S IF A CLEAR
61	054202	005302			DEC	R2	;DO "BUFLIM" NUMBER OF BYTE LOCATIONS
62	054204	001375			BNE	1\$	
63	054206	004737	045446		JSR	PC,BLDBUF	; "CLEAR" REALLY MEANS TO PUT DEFAULT MSG IN
64	054212	000207			RTS	PC	;WHEN DONE, RETURN TO PARSER
65							
66							
67	054214	012705	003331		ACTSHW: MOV	SHTAB,R5	
68	054220	122571	000000		5\$: CMPB	(R5)+,B(R1)	;LOOK AT FIRST BYTE OF MSG TO DECIPHER TYPE
69	054224	001404			BEQ	6\$	
70	054226	020527	003343		CMP	R5,SHSTEND	;SEE IF LOOKED AT ALL OF DEFAULTS YET
71	054232	001372			BNE	5\$	
72	054234	005205			INC	R5	;MUST BE OPR. SPEC'D THEN
73	054236	162705	003335		6\$: SUB	SHSTAB+1,R5	
74	054242	006305			ASL	R5	
75	054244	016137	070002	017350	MOV	2(R1),TEMP	
76	054252				PRINTF	SHMSG,SHTYTB(R5),TEMP	;PRINT MSG SIZE & TYPE
	054252	013746	017350				MOV TEMP, (SP)
	054256	016546	005314				MOV SHTYTB(R5), (SP)
	054262	012746	025613				MOV SHMSG, (SP)
	054266	012746	000003				MOV 3, (SP)
	054272	010610					MOV SP,R0
	054274	109417					TRAP C3PNTF
	054276	012706	000010				ADD 10,SP
77	054302	002701	000004		ADD	4,R1	;BUMP R1 TO NEXT SET OF POINTERS
78	054306	005302			DEC	R2	
79	054310	01134			BNE	ACTSHW	
80	054312	013737	017402	020652	MOV	MODTYP,DEV1	
81	054320	013737	017404	020654	MOV	MLTYP,DEV2	
82	054326	013737	017412	020656	MOV	RPASS,DEV3	
83	054334	013737	017410	020660	MOV	PARAM,DEV4	
84	054342	004737	047344		JSR	PC,SHWOP	;SHOW THE OPERATOR THE CURRENT MODE..... ALSO
85	054346	000207			RTS	PC	
86							
87	054350	013737	003404	017312	ACTDMS: MOV	PNUM,STADD	;SETUP STARTING ADDRESS FOR DUMP
88	054356	005037	017316		CLR	BYTBIT	;SET DEFAULT OF WORD DUMP
89	054362	012737	007052	003252	MOV	DMPS,KEYWD1	;FLAG THAT A DUMP WAS TYPED
90	054370	000403			BR	ACTDME	
91							
92	054372	012737	177777	017316	ACTDMQ: MOV	1,BYTBIT	;SET DUMP FLAG TO "DUMP WORD"
93	054400	013737	003404	017314	ACTDME: MOV	PNUM,ENADD	;SETUP END ADDRESS FOR DUMP (START IF NO "EEP"
94	054406	105037	003410		ACTDMX: CLR	PNNUF	;CLEAR NOT-ENOUGH FLAG, "DUMP N-N/B" IS VALID
95	054412	000207			RTS	PC	
96							

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ACTION TABLE AND ROUTINES

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1
2
3 054414 012737 000010 003252 ACTSTE: MOV  #SETEXP,KEYWD1
4 054422 000403 BR ACTSTX
5
6 054424 012737 000011 003252 ACTSIT: MOV  #SETTRN,KEYWD1
7 054432 012737 000001 003256 ACTSTX: MOV  #1,QUALVL ;SET UP DEFAULT COPY TO 1 (/COPY=0)
8 054440 000207 RTS PC
9
10 054442 012737 000012 003254 ACTSIZE: MOV  #SIZE,QUALFG
11 054450 000207 RTS PC
12
13 054452 012737 000013 003254 ACTCOP: MOV  #QCOPY,QUALFG
14 054460 000207 RTS PC
15
16 054462 023727 003254 000012 ACTNUM: CMP  QUALFG,#SIZE ;SEE IF A SIZE OR COPY TYPED
17 054470 001023 BNE 1$ ;BR IF IT WAS A COPY
18 054472 005737 003404 TST P$NUM ;CHECK TO BE SURE DIDN'T TRY SIZE=0
19 054476 001014 BNE 3$ ;BR IF NO
20 054500 PRINTF #CLISEO
    054500 012746 023651 MOV #CLISEO,-(SP)
    054504 012746 000001 MOV #1,-(SP)
    054510 010600 MOV SP,R0
    054512 104417 TRAP C$PNTF
    054514 062706 000004 ADD #4,SP
21 054520 112737 177777 003411 MOVB #1,P$GDBD ;SET ERROR-IN-CMD FLAG
22 054526 000411 BR 2$
23 054530 013737 003404 017334 3$: MOV P$NUM,CURCC ;IF A SIZE LOAD CURCC WITH BYTE COUNT
24 054536 000405 BR 2$
25 054540 013737 003404 003256 1$: MOV P$NUM,QUALVL ;IF A COPY, LOAD COPY COUNT
26 054546 005237 003256 INC QUALVL ;INCREMENT SO FIRST DEC MAKES IT REAL #
27 054552 000522 2$: BR ACTMEX
28
29 054554 012737 000007 017332 ACTUPM: MOV  #7,MSGTYP
30 054562 010437 017350 MOV R4,TEMP ;KEEP TRACK OF START OF QUOTED TEXT
31 054566 005237 017350 INC TEMP ;SO CAN CALC OPCNT AT END OF QUOTES
32 054572 000207 RTS PC
33
34 054574 010402 ACTEQO: MOV  R4,R2
35 054576 163702 017350 SUB TEMP,R2
36 054602 010237 017334 MOV R2,CURCC ;CALC BYTE COUNT FOR QUOTED TEXT
37 054606 010237 002166 MOV R2,OPCNT
38 054612 013701 017350 MOV TEMP,R1
39 054616 012705 002524 MOV #OPBUF,R5
40 054622 112125 1$: MOVB (R1)+,(R5)+ ;COPY QUOTED TEXT TO OPBUF
41 054624 005302 DEC R2
42 054626 001375 BNE 1$
43 054630 000473 BR ACTMEX
44
45 054632 ACTBCR: PRINTF #CLIBCR ;BAD CHAR. IN OPR, QUOTED STRING
    054632 012746 023604 MOV #CLIBCR,-(SP)
    054636 012746 000001 MOV #1,-(SP)
    54642 010600 MOV SP,R0
    054644 104417 TRAP C$PNTF
    054646 062706 000004 ADD #4,SP
46 054652 000207 RTS PC
47

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ACTION TABLE AND ROUTINES

1	055026	012737	000003	017402	ACTATV: MOV	ACT,MODTYP	
2	055034	000432			BR	ACTM2X	
3							
4	055036	012737	000002	017402	ACTPAS: MOV	PAS,MODTYP	
5	055044	105037	003410		CLRB	P\$NNUF	;CLEAR NOT ENOUGH FLAG
6	055050	005037	017404		CLR	MLTYP	;CLEAR MAINT LOOP TYPE
7	055054	000207			RTS	PC	
8							
9	055056	005037	017402		ACTREC: CLR	MODTYP	
10	055062	000417			BR	ACTM2X	
11							
12	055064	012737	000006	017402	ACTLIS: MOV	LIS,MODTYP	
13	055072	000413			BR	ACTM2X	
14							
15	055074	012737	000004	017402	ACTDLL: MOV	DOW,MODTYP	
16	055102	000407			BR	ACTM2X	
17							
18	055104	012737	000001	017402	ACTTRA: MOV	TRA,MODTYP	
19	055112	000403			BR	ACTM2X	
20							
21	055114	012737	000005	017402	ACTTAL: MOV	TAL,MODTYP	
22							
23	055122	042737	000004	017410	ACTM2X: BIC	ECHOB,PARAM	;DISABLE /ECHO (ALL BUT PASSIVE MODE)
24	055130	105037	003410		CLRB	P\$NNUF	;CLEAR NOT ENOUGH FLAG
25	055134	005037	017404		CLR	MLTYP	;CLEAR MAINT LOOP TYPE
26	055140	000207			RTS	PC	
27							

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ACTION TABLE AND ROUTINES

1	055142	012737	000036	003254	ACTNO:	MOV	#NO,QUALFG	
2	055150	000207				RTS	PC	
3								
4	055152	022737	000036	003254	ACTECH:	CMP	#NO,QUALFG	
5	055160	001422				BEQ	1\$	
6	055162	052737	000004	017410		BIS	#ECHOB,PARAM	
7	055170	022737	000002	017402		CMP	#PAS,MODTYP	
8	055176	001416				BEQ	2\$	;BE SURE IN PASSIVE MODE IF ;IF TRYING TO SET /ECHO
9	055200					PRINTF	#CLINPS	
	055200	012746	023541					MOV #CLINPS,-(SP)
	055204	012746	000001					MOV #1,-(SP)
	055210	010600						MOV SP,R0
	055212	104417						TRAP C\$PNTF
	055214	062706	000004					ADD #4,SP
10	055220	112737	177777	003411		MOVB	#-1,P\$GDBD	
11	055226	042737	000004	017410	1\$:	BIC	#ECHOB,PARAM	
12	055234	005037	003254		2\$:	CLR	QUALFG	;CLEAR "NO" OUT OF QUALIFIER FLAG
13	055240	000501				BR	ACTLXX	
14								
15	055242	012701	000002		ACTCHK:	MOV	#DATCKB,R1	;SET DATA CHECK BIT
16	055246	000413				BR	ACTQFG	
17								
18	055250	012701	000001		ACTSTS:	MOV	#STATB,R1	;SET THE STATUS BIT
19	055254	000410				BR	ACTQFG	
20								
21	055256	012701	000020		ACTCRC:	MOV	#CRCB,R1	;SET THE CRC BIT
22	055262	000405				BR	ACTQFG	
23								
24	055264	012701	000010		ACTMOS:	MOV	#MOCHK,R1	;SET THE MODEM BIT
25	055270	000402				BR	ACTQFG	
26								
27	055272	012701	000040		ACTPRO:	MOV	#PROTOB,R1	;SET THE PROTOCOL BIT
28								
29	055276	050137	017410		ACTQFG:	BIS	R1,PARAM	
30	055302	022737	000036	003254		CMP	#NO,QUALFG	
31	055310	001002				BNE	1\$	
32	055312	040137	017410			BIC	R1,PARAM	
33	055316	005037	003254		1\$:	CLR	QUALFG	;CLEAR "NO" OUT OF QUALIFIER FLAG
34	055322	000450				BR	ACTLXX	
35								
36	055324	015737	003404	017412	ACTRPS:	MOV	P\$NUM,RPASS	;GET NUMBER OF "RUN PASSES"
37	055332	000444				BR	ACTLXX	
38								
39	055334	012737	000005	017404	ACTMOP:	MOV	#5,MLTYP	
40	055342	000417				BR	ACTLPX	
41	055344	012737	000001	017404	ACTTLP:	MOV	#1,MLTYP	
42	055352	000413				BR	ACTLPX	
43	055354	012737	000002	017404	ACTCLP:	MOV	#2,MLTYP	
44	055362	000407				BR	ACTLPX	
45	055364	012737	000003	017404	ACTLLP:	MOV	#3,MLTYP	
46	055372	000403				BR	ACTLPX	
47	055374	012737	000004	017404	ACTRLP:	MOV	#4,MLTYP	
48								
49	055402	022737	000003	017402	ACTLPX:	CMP	#ACT,MODTYP	;BE SURE IN ACTIVE IF TRYING TO SET LOOP
50	055410	001415				BEQ	ACTLXX	;OR IF IN ACTIVE
51	055412	112737	177777	003411		MOVB	#-1,P\$GDBD	
52	055420	005037	017404			CLR	MLTYP	;CLEAR ANY LOOP TYPE THAT MAY HAVE GOT SET

J13

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ACTION TABLE AND ROUTINES

53	055424			PRINTF	CLIBDL				
	055424	012746	023477					MOV	CLIBDL, -(SP)
	055430	012746	000001					MOV	#1, (SP)
	055434	010600						MOV	SP, R0
	055436	104417						TRAP	C\$PRINTF
	055440	062706	000004					ADD	#4, SP
54	055444	105037	003410	ACTLXX:	CLRB	P\$NNUF			
55	055450	000207			RTS	PC			
56									

;CLEAR NOT-ENOUGH FLAG

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ACTION TABLE AND ROUTINES

1	055452	012737	000060	003252	ACTETB: MOV	%ETRB,KEYWD1	; RECORD THAT ESTABLISH TYPED	
2	055460	000207			RTS	PC	;RETURN TO CALL	
3								
4	055462	012737	000061	003252	ACTKTB: MOV	%KTRB,KEYWD1	; RECORD THAT KILLYTRIB TYPED	
5	055470	000207			RTS	PC	;RETURN TO CALL	
6								
7	055472	105037	003410		ACTKAL: CLRB	P%NNOF	; CLEAR INCOMPLETE INFO FLAG	
8	055476	022737	000061	003252	CMP	%KTRB,KEYWD1	; BE SURE "ALL" IS AFTER A "KILL"	
9	055504	001403			BEQ	11%	; BR IF YES	
10	055506	112737	177777	003411	MCVB	%-1,P%GDBD	; ELSE ERROR IN CMD	
11	055514	105737	003411		11%: TSTB	P%GDBD	; SEE IF WAS AN ERROR FROM ..KTB	
12	055520	001401			BEQ	10%	; BR IF NO	
13	055522	000413			BR	2%	; ELSE EXIT	
14	055524	005037	015754		10%: CLR	TRBTOT	; ZERO TOTAL % OF TRIB ADDRESSES	
15	055530	012702	015712		MOV	%TRIBLS,R2	; PT R2 TO TRIB ADDRESS TABLE	
16	055534	012705	000020		MOV	%16,,R5	; SETUP R5 AS COUNTER	
17	055540	005022			1%: CLR	(R2)+	; CLEAR 32 BYTES OF TABLE	
18	055542	005305			DEC	R5		
19	055544	001375			BNE	1%		
20	055546	004737	047214		JSR	PC,WRDEFP	;WRITE DEFAULTS TO POLL PARMS	
21	055552	000207			2%: RTS	PC	;RETURN TO CALL	
22								
23	055554	010246			ACTEWS: MOV	R2,-(SP)	;SAVE R2,R3,R4 ON THE STACK	
24	055556	010346			MOV	R3,-(SP)		
25	055560	010446			MOV	R4,-(SP)		
26	055562	005737	003414		TST	VALTRB	;VALID TRIB? REV B EC	
27	055566	001517			BEQ	ACTW7B	;NO,BRANCH REV B EC	
28	055570	112737	177777	003412	ACTWS9: MOVB	%-1,WRFLG	;SET WRITE GLOBAL FLAG	
29	055576				PRINTF	%POLPM,INDW	;PRINT POLL PARAMS FOR TRIB %	
	055576	013746	015760				MOV	INDW,(SP)
	055602	012746	025234				MOV	%POLPM,-(SP)
	055606	012746	000002				MOV	%2,-(SP)
	055612	010600					MOV	SP,R0
	055614	104417					TRAP	C%PNTE
	055616	062706	000006				ADD	%6,SP
30	055622	005037	017354		CLR	TEMP2		
31	055626	012737	000020	017350	MOV	%16,,TEMP	;USE 16 BYTES AS MULTIPLIER	
32	055634	013737	015762	017232	MOV	INDEX,MPLY	;USE TRIB INDEX [BYTE]	
33	055642	004737	046436		JSR	PC,MPLY	;ON RETURN TEMP2=START ADDR OF	
34							;THIS TRIBS POLL PRAMS	
35	055646	012702	000027		MOV	%27,R2	;INIT INDEX OF POLL PARAMS	
36	055652	032737	000002	023102	BIT	%TRBB,DEVPAR	;IS THIS TRIB	
37	055660	001002			BNE	ACTWS5	;BRANCH IF NOT A TRIB	
38	055662	012702	000034		MOV	%34,R2	;ONLY 35 IS GOOD FOR TRIBS	
39	055666	005202			ACTWS5: INC	R2		
40	055670	116205	020762		MOVB	ISSIND(R2),R5	;R5 = 0 FOR WORD 2 FOR BYTE	
41	055674	010204			MOV	R2,R4		
42	055676	006304			ASL	R4	;MAKE R4 WORD INDEX	
43	055700	010403			MOV	R4,R3		
44	055702	042703	177760		BIC	%C<17>,R3	;MAKE R3 POLPARM INDEX	
45	055706	063703	017354		ADD	TEMP2,R3		
46	055712	016337	016220	017350	MOV	POLLIS(R3),TEMP	;GETS DEFAULT	
47	055720	016437	020662	017366	MOV	YSSLSI(R4),CONOTM		
48	055726	000175	055732		JMP	%ACTWS1(R5)	;GO TO CORRECT ACTION	
49	055732	055736			ACTWS1: .WORD	ACTWS2		
50	055734	056036			.WORD	ACTWS3		
51	055736				ACTWS2: PRINTF	CONOTM,TEMP		

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ACTION TABLE AND ROUTINES

	055736	013746	017350					MOV	TEMP, -(SP)
	055742	013746	017366					MOV	CONOTM, -(SP)
	055746	012746	000002					MOV	#2, -(SP)
	055752	010600						MOV	SP, R0
	055754	104417						TRAP	C\$PNTF
	055756	062706	000006					ADD	#6, SP
52	055762			GMANID	EQUQ, TEMP, 0, -1, 0, -1, YES				;GET INPUT
	055762	104443						TRAP	C\$GMAN
	055764	000406						BR	10001\$
	055766	017350						.WORD	TEMP
	055770	000032						.WORD	T\$CODE
	055772	025055						.WORD	EQUQ
	055774	177777						.WORD	-1
	055776	000000						.WORD	T\$L0LIM
	056000	177777						.WORD	T\$HILIM
	056002								10001\$:
53	056002	013763	017350	016220	ACTWS7: MOV	TEMP, POLLIS(R3)			;PUT ANSWER BACK
54	056010	032737	000002	023102	BIT	#TRBB, DEVPAR			;IS THIS TRIB
55	056016	001403			BEQ	ACTW7B			;BRANCH IF TRIB
56									
57	056020	022702	000037		ACTW7A: CMP	#37, R2			;ALL DONE
58	056024	001320			BNE	ACTWS5			
59	056026	012604			ACTW7B: MOV	(SP)+, R4			;RESTORE R4, R3, R2
60	056030	012603			MOV	(SP)+, R3			
61	056032	012602			MOV	(SP)+, R2			
62	056034	000207			RTS	PC			;RETURN TO CALLING ROUTINE
63									
64									;GET INPUT FOR L0 AND H1 BYTES
65									
66	056036				ACTWS3: PRINTF	CONOTM, <B, TEMP><B, TEMP+1>			
	056036	005046							
	056040	153716	017351					CLR	-(SP)
	056044	005046						BISB	TEMP+1, (SP)
	056046	153716	017350					CLR	-(SP)
	056052	013746	017366					BISB	TEMP, (SP)
	056056	012746	000003					MOV	CONOTM, -(SP)
	056062	010600						MOV	#3, -(SP)
	056064	104417						MOV	SP, R0
	056066	062706	000010					TRAP	C\$PNTF
67	056072				GMANID	EQUQ1, TEMP, 0, 377, 0, 377, YES			
	056072	104443							
	056074	000406						TRAP	C\$GMAN
	056076	017350						BR	10002\$
	056100	000032						.WORD	TEMP
	056102	025111						.WORD	T\$CODE
	056104	000377						.WORD	EQUQ1
	056106	000000						.WORD	377
	056110	000377						.WORD	T\$L0LIM
	056112							.WORD	T\$HILIM
									10002\$:
68	056112	113737	017351	017356	MOV8	TEMP+1, TEMP3			
69	056120				GMANID	EQUQ2, TEMP3, 0, 377, 0, 377, YES			
	056120	104443							
	056122	000406						TRAP	C\$GMAN
	056124	017356						BR	10003\$
	056126	000032						.WORD	TEMP3
	056130	025151						.WORD	T\$CODE
	056132	000377						.WORD	EQUQ2
								.WORD	377

PC	PC+1	PC+2	PC+3	PC+4	PC+5	PC+6	PC+7	PC+8	PC+9	PC+10	PC+11	PC+12	PC+13	PC+14	PC+15	PC+16	PC+17	PC+18	PC+19	PC+20	PC+21	PC+22	PC+23	PC+24	PC+25	PC+26	PC+27	PC+28	PC+29	PC+30	PC+31	PC+32	PC+33	PC+34	PC+35	PC+36	PC+37	PC+38	PC+39	PC+40	PC+41	PC+42	PC+43	PC+44	PC+45	PC+46	PC+47	PC+48	PC+49	PC+50	PC+51	PC+52	PC+53	PC+54	PC+55	PC+56	PC+57	PC+58	PC+59	PC+60	PC+61	PC+62	PC+63	PC+64	PC+65	PC+66	PC+67	PC+68	PC+69	PC+70	PC+71	PC+72	PC+73	PC+74	PC+75	PC+76	PC+77	PC+78	PC+79	PC+80	PC+81	PC+82	PC+83	PC+84	PC+85	PC+86	PC+87	PC+88	PC+89	PC+90	PC+91	PC+92	PC+93	PC+94	PC+95	PC+96	PC+97	PC+98	PC+99	PC+100	PC+101	PC+102	PC+103	PC+104	PC+105	PC+106	PC+107	PC+108	PC+109	PC+110	PC+111	PC+112	PC+113	PC+114	PC+115	PC+116	PC+117	PC+118	PC+119	PC+120	PC+121	PC+122	PC+123	PC+124	PC+125	PC+126	PC+127	PC+128	PC+129	PC+130	PC+131	PC+132	PC+133	PC+134	PC+135	PC+136	PC+137	PC+138	PC+139	PC+140	PC+141	PC+142	PC+143	PC+144	PC+145	PC+146	PC+147	PC+148	PC+149	PC+150	PC+151	PC+152	PC+153	PC+154	PC+155	PC+156	PC+157	PC+158	PC+159	PC+160	PC+161	PC+162	PC+163	PC+164	PC+165	PC+166	PC+167	PC+168	PC+169	PC+170	PC+171	PC+172	PC+173	PC+174	PC+175	PC+176	PC+177	PC+178	PC+179	PC+180	PC+181	PC+182	PC+183	PC+184	PC+185	PC+186	PC+187	PC+188	PC+189	PC+190	PC+191	PC+192	PC+193	PC+194	PC+195	PC+196	PC+197	PC+198	PC+199	PC+200	PC+201	PC+202	PC+203	PC+204	PC+205	PC+206	PC+207	PC+208	PC+209	PC+210	PC+211	PC+212	PC+213	PC+214	PC+215	PC+216	PC+217	PC+218	PC+219	PC+220	PC+221	PC+222	PC+223	PC+224	PC+225	PC+226	PC+227	PC+228	PC+229	PC+230	PC+231	PC+232	PC+233	PC+234	PC+235	PC+236	PC+237	PC+238	PC+239	PC+240	PC+241	PC+242	PC+243	PC+244	PC+245	PC+246	PC+247	PC+248	PC+249	PC+250	PC+251	PC+252	PC+253	PC+254	PC+255	PC+256	PC+257	PC+258	PC+259	PC+260	PC+261	PC+262	PC+263	PC+264	PC+265	PC+266	PC+267	PC+268	PC+269	PC+270	PC+271	PC+272	PC+273	PC+274	PC+275	PC+276	PC+277	PC+278	PC+279	PC+280	PC+281	PC+282	PC+283	PC+284	PC+285	PC+286	PC+287	PC+288	PC+289	PC+290	PC+291	PC+292	PC+293	PC+294	PC+295	PC+296	PC+297	PC+298	PC+299	PC+300	PC+301	PC+302	PC+303	PC+304	PC+305	PC+306	PC+307	PC+308	PC+309	PC+310	PC+311	PC+312	PC+313	PC+314	PC+315	PC+316	PC+317	PC+318	PC+319	PC+320	PC+321	PC+322	PC+323	PC+324	PC+325	PC+326	PC+327	PC+328	PC+329	PC+330	PC+331	PC+332	PC+333	PC+334	PC+335	PC+336	PC+337	PC+338	PC+339	PC+340	PC+341	PC+342	PC+343	PC+344	PC+345	PC+346	PC+347	PC+348	PC+349	PC+350	PC+351	PC+352	PC+353	PC+354	PC+355	PC+356	PC+357	PC+358	PC+359	PC+360	PC+361	PC+362	PC+363	PC+364	PC+365	PC+366	PC+367	PC+368	PC+369	PC+370	PC+371	PC+372	PC+373	PC+374	PC+375	PC+376	PC+377	PC+378	PC+379	PC+380	PC+3
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CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 88-3
ACTION TABLE AND ROUTINES

PC	OPCODE	ADDRESS	INDEX	OPERAND	COMMENT	TRAP	C\$PNTS
056374	104416						
056376	062706	000004				TRAP	C\$PNTS
99 056402	000207					ADD	#4,SP
100				5\$: RTS	PC		;RETURN TO CALL
101 056404				ACTEKT:			
102 056404	005037	003414		CLR	VALTRB		;INIT. VALID TRIB FLAG REV B EC
103 056410	105037	003410		CLRB	P\$NNIF		;CLEAR NOT ENOUGH INFO FLAG
104 056414	105737	003411		TSTB	P\$GDBD		; SEE IF WAS AN ERROR FROM .,KTB
105 056420	001401			BEQ	10\$		; BR IF NO
106 056422	000571			BR	ACTEXX		; ELSE EXIT
107 056424	013701	003404		10\$: MOV	P\$NUM,R1		
108 056430	005701			TST	R1		; SEE THAT TRIB ADDR NOT 0,377
109 056432	001403			BEQ	1\$		
110 056434	022701	000377		CMP	#377,R1		
111 056440	103012			BHIS	2\$		;REV B EC
112 056442				1\$: PRINTS	#SHTIV,R1		
	056442	010146				MOV	R1, -(SP)
	056444	012746	026543			MOV	#SHTIV, -(SP)
	056450	012746	000002			MOV	#2, (SP)
	056454	010600				MOV	SP,R0
	056456	104416				TRAP	C\$PNTS
	056460	062706	000006			ADD	#6,SP
113 056464	000550			BR	ACTEXX		
114 056466	022737	000060	003252	2\$: CMP	#ETR8,KEYWD1		; SEE IF KILL OR ESTABLISH
115 056474	001452			BEQ	ACTEKE		; BR IF WAS AN ESTABLISH
116 056476	012705	000040		MOV	#32, R5		; ELSE LOOK FOR ADDR TO KILL
117 056502	012702	015712		MOV	#TRIBLS,R2		; SETUP TABLE PTR AND COUNTER
118 056506	122201			3\$: CMPB	(R2)+,R1		; LOOK FOR ADDRESS TO KILL
119 056510	001414			BEQ	4\$		; BR IF FOUND
120 056512	005305			DEC	R5		
121 056514	001374			BNE	3\$		; LOOP TIL ALL CHECKED
122 056516				PRINTF	#SHTNF,R1		
	056516	010146				MOV	R1, (SP)
	056520	012746	026165			MOV	#SHTNF, -(SP)
	056524	012746	000002			MOV	#2, -(SP)
	056530	010600				MOV	SP,R0
	056532	104417				TRAP	C\$PNTF
	056534	062706	000006			ADD	#6,SP
123 056540	000522			BR	ACTEXX		
124 056542	105042			4\$: CLRB	-(R2)		;DELETE FOUND TRIB ADDR
125 056544	005337	015754		DEC	T8BTO1		; DECREMENT TOTAL # OF TRIBS
126 056550	162702	015712		SUB	#TRIBLS,R2		;MOV INDEX TO R2
127 056554	010237	017232		MOV	R2,MPLY		
128 056560	012737	000020	017350	MOV	#16,TEMP		
129 056566	012737	016220	017354	MOV	#POLLS,TEMP2		;GET THE START ADDR OF THE
130 056574	004737	046436		JSR	PC,MPLY		;POLL PARMS FOR THIS TRIB TO TEMP2
131 056600	013705	017354		MOV	TEMP2,R5		;THE PUT IT IN R5
132 056604	012702	016166		ACTESB: MOV	#POLDEF,R2		;PUT START ADDR. OF DEFAULT LIST IN R2
133 056610	012225			ACTESA: MOV	(R2)+,(R5)+		;MOVE A DEFAULT PARAM TO LIST
134 056612	022702	016206		CMP	#GLBDEF,R2		;DONE ONE SET?
135 056616	001374			BNE	ACTESA		;IF NOT GO BACK AND FINISH
136 056620	000472			BR	ACTEXX		

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ACTION TABLE AND ROUTINES

142	056640	012737	000014		MOV	#12.,TEMP					
143	056646	023737	015754	017350	13:	CMP	TRBTOT,TEMP		I SEE IF LIST ALREADY FULL		
144	056654	002412				BLT	#1		I BR IF NOT FULL YET		
145	056656					PRINTF	%SHTFL,R1		I PRINT ERROR IS LIST FULL.		
	056656	010146								MOV	R1,(SP)
	056660	012746	026027							MOV	%SHTFL,-(SP)
	056664	012746	000002							MOV	#2,(SP)
	056670	010600								MOV	SP,R0
	056672	104417								TRAP	C1PNTF
	056674	062706	000006							ADD	#6,SP
146	056700	000442				BR	ACTEXX				
147	056702	012702	015712		21:	MOV	@TRIBLS,R2		I NOW CHECK TO SEE ADDR IS UNIQUE		
148	056706	013705	017350			MOV	TEMP,R5				
149	056712	122201			31:	CMPB	(R2)+,R1		I CHECK EACH ADDR AGAINST NEW ONE		
150	056714	001423				BEG	#1		I BR IF EQUAL		
151	056716	005305				DEC	R5				
152	056720	001374				BNE	#1		I LOOP TIL ENTIRE TABLE CHECKED		
153											
154	056722	012702	015712			MOV	@TRIBLS,R2		I ONCE CHECKED LIST		
155	056726	105722			41:	TSTB	(R2)+		I LOOK FOR EMPTY SLOT TO LOAD		
156	056730	001376				BNE	#1				
157	056732	110142				MOVB	R1,(R2)		I LOAD TRIB ADDR IN EMPTY SLOT		
158	056734	005237	015754			INC	TRBTOT		I INC TOTAL # OF TRIB ADDRESSES		
159	056740	162702	015712			SUB	@TRIBLS,R2		I SUBTRACT START OF LIST FROM POINT TO		
160									I GET INDEX		
161	056744	012737	177777	003414		MOV	#1,VALTRH		I SET VALID TRIB FLAG REV B EC		
162	056752	010237	015762			MOV	R2,INDEX		I MOVE R2 TO INDEX		
163	056756	010137	015760			MOV	R1,INOW		I MOVE TRIB NUMBER TO INOW		
164	056762	000411				BR	ACTEXX				
165	056764				51:	PRINTF	%SHTUN,R1		I PRINT ADDR NOT UNIQUE ERROR		
	056764	010146								MOV	R1,(SP)
	056766	012746	026115							MOV	%SHTUN,-(SP)
	056772	012746	000002							MOV	#2,(SP)
	056776	010600								MOV	SP,R0
	057000	104417								TRAP	C1PNTF
	057002	062706	000006							ADD	#6,SP
166											
167	057006					ACTEXX:					
168	057006	000207				RTS	PC		I RETURN TO CALL		
169											
170	057010					ACTCKT:					
171	057010	112737	177777	003410		MOVB	#1,PINNOF		I SET INCOMPLETE INNO FLAG		
172	057016	032737	000001	023102		BIT	%MTP,DEVPAR		I SEE IF IN PT PT OR MULTIPT MODE		
173	057024	001013				BNE	#1		I BR IF IN MULTIPT MODE		
174	057026					PRINTF	%CLIPPE		I TRIB CMOS INVALID IN PT PT MODE		
	057026	012746	023702							MOV	%CLIPPE,-(SP)
	057032	012746	000001							MOV	#1,(SP)
	057036	010600								MOV	SP,R0
	057040	104417								TRAP	C1PNTF
	057042	062706	000004							ADD	#4,SP
175	057046	112737	177777	003411							

C2CLMCO DMP V 11 DCU1 MACRO V05.00 Thursday 22-Mar-84 16:24 Page 89
ACTION TABLE AND ROUTINES

					RX ALLOCATE CODE			
1								
2								
3								
4	057056	032737	000002	017410	GTR9;	BIF	@DATCKB,PARAM	IS THIS DATA CHECK
5	057064	001421				BEQ	441	BRANCH IF NO
6	057066	005737	017404			IST	MULTYP	
7	057072	001416				BEQ	441	BRANCH IF NOT LOOP
8	057074	023737	017242	017260		CMP	CMPTOT,IXHTOT	ARE IX AND EX EQUAL
9	057102	001412				BEQ	441	BRANCH IF YES
10	057104					PRINTF	@CLIPW	
	057104	012746	023750					MOV @CLIPW, (SP)
	057110	012746	000001					MOV @1, (SP)
	057114	010600						MOV SP,RO
	057116	104417						TRAP C1PNTF
	057120	062706	000004					ADD @4,SP
11	057124	000137	052472			JMP	GETCL	
12	057130	032737	000001	023102	441;	BIF	@MTP,DEVPAR	IS THIS MULTIPPOINT
13	057136	001004				BNE	31	BRANCH IF MULTIPPOINT
14	057140	112737	000001	015712		MOVB	@1,TRIBLS	MAKE TRIBLS -1
15	057146	000570				BR	21	
16	057150	005737	015754		31;	IST	TRBTOT	IS TRIB TOTAL
17	057154	001013				BNE	41	ZERO?, BR IF NOT
18	057156					PRINTF	@SHTLPA	PRINT ERROR MUST ESTABLISH TRIB
	057156	012746	026316					MOV @SHTLPA, -(SP)
	057162	012746	000001					MOV @1, (SP)
	057166	010600						MOV SP,RO
	057170	104417						TRAP C1PNTF
	057172	062706	000004					ADD @4,SP
19								
20	057176	112737	177777	003411		MOVB	@1,P1GDHD	SET ERROR FLAG
21	057204	023727	017404	000001	41;	CMP	MULTYP,@TTL	IS LOOP CABLE OR REMOTE
22	057212	003413				BLE	51	BRANCH IF INT OR NONE
23	057214					PRINTF	@SHTLP	PRINT ERROR LOOP MUST BE INT FOR MIP
	057214	012746	026231					MOV @SHTLP, -(SP)
	057220	012746	000001					MOV @1, (SP)
	057224	010600						MOV SP,RO
	057226	104417						TRAP C1PNTF
	057230	062706	000004					ADD @4,SP
24	057234	112737	177777	003411		MOVB	@1,P1GDHD	SET ERROR FLAG
25	057242	022737	000001	017404	51;	CMP	@TTL,MULTYP	IS IT INTERNAL
26	057250	001057				BNE	101	IF NOT THEN CHECK COMPARE TOTALS
27	057252	032737	000002	023102		BIF	@TRHB,DEVPAR	IS THIS CONTROL OR TRIB
28	057260	001013				BNE	61	BRANCH IF CONTROL
29	057262					PRINTF	@SHTLPB	PRINT ERROR MUST BE CONTROL
	057262	012746	026371					MOV @SHTLPB, -(SP)
	057266	012746	000001					MOV @1, (SP)
	057272	010600						MOV SP,RO
	057274	104417						TRAP C1PNTF
	057276	062706	000004					ADD @4,SP
30	057302	112737	177777	003411		MOVB	@1,P1GDHD	SET ERROR FLAG
31	057310	022737	000001	015754	61;	CMP	@1,TRBTOT	IS TRIB TOTAL - 1
32	057316	001011				BNE	71	BRANCH IF MORE
33	057320	012737	177777	015762		MOV	@1,INDEX	
34	057326	004737	047462			JSR	PC,GIVING	GET TRIBN WITH ADDRESS
35	057332	022737	000001	015756		CMP	@1,TRIBN	
36	057340	001423				BEQ	101	OK IF ADD 1
37	057342				71;	PRINTF	@SHTLPC	

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ACTION TABLE AND ROUTINES

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80
81 057674 012737 177777 015762 GTRX2: MOV    #1,INDEX      ;MAKE INDEX = -1
82 057702 013737 017354 017350 GTRX2C: MOV    CURCC,TEMP
83 057710 032737 000001 023102      BIT    #MTP,DEVPAR
84 057716 001404      BEQ    GTRX22      ;IF NOT MULTI GO TO 22
85 057720 032737 C00002 017410      BIT    #DATCKB,PARAM    ;IS THERE DATA CHECKING
86 057726 001005      BNE    GTRX2A      ;BRANCH IF CHECKING
87 057730 012737 001000 017334 GTRX22: MOV    #BUFLIM,CURCC    ;SET UP CHAR COUNT TO 'BUFLIM'
88 057736 005037 017350      CLR    TEMP
89 057742 004737 046462      GTRX2A: JSR    PC,GTVIND    ;GET VALID INDEX
90 057746 022737 000040 015762      CMP    #32,INDEX    ;IS IT 32?
91 057754 001423      BEQ    GTRX2B      ;YES.. ALL DONE GO EXECUTE MODE
92
93      ;GET RXBUF PTR FIGURE
94
95 057756 012737 005416 017354      MOV    #RXBUF,TEMP2    ;TEMP = 0 FOR PTP OR MTP & NO CHK
96 057764 013737 015762 017332      MOV    INDEX,MPLY    ;INDEX X TEMP = RXBUF ADDR +
97 057772 004737 046436      JSR    PC,MPLY    ;NEW RXBUF ADDR
98 057776 013737 017354 017342      MOV    TEMP2,CURADD    ;SET UP RX BUFFER ADDRESS
99
100      ;GET CURRENT POINTER FIGURE
101
102 060004 004737 046546      JSR    PC,GRPTCP
103
104      ;GO LOAD '33' TO BUFFER
105
106 060010 012737 000010 017332      MOV    #10,MSGLEN    ;SET UP FOR 33 TO FILL RX BUFFERS
107 060016 004737 045446      JSR    PC,BLDRI#    ;CLEAR RX BUFFER
108 060022 C00727      BR     GTRX2C      ;GO BACK FOR MORE
109 060024 013702 017402      GTRX2B: MOV    MODTYP,R2
110 060030 006302      ASL    R2
111 060032 000172 017420      JMP     #MODECR2    ;MODE DISPATCH
112

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RECEIVE MODE SECTION

```

1      .SBTTL      RECEIVE MODE SECTION
2      ;**
3      ; FUNCTIONAL DESCRIPTION:
4      ; RECEIVE-ONLY (OR ONE-WAY-IN) ROUTINE
5      ; IN THIS MODE OF TESTING THE DEVICE'S RECEIVER IS ENABLED IN EXPECTATION
6      ; OF RECEIVING A MESSAGE. AFTER RECEIVING AN "EXPECTED" NUMBER OF
7      ; MESSAGES, THE DATA RECEIVED CAN BE COMPARED AGAINST A LIST OF "EXPECT
8      ; TO RECEIVE" MESSAGES IF DATA-CHECKING IS ENABLED.
9      ;
10     ; SUBORDINATE ROUTINES USED:
11     ; "ALLTR"
12     ;
13     ; CALLING SEQUENCE:
14     ;     JMP      @MODE(R2)      ;DISPATCH TO MODE BASED ON MODE TYPE IN R2
15     ; --
16
17 060036 052737 000104 017414 RXONLY: BIS      @QRX!ERX,FLAG      ;SET UP RX QUE
18 060044 004737 046234          JSR      PC,LCPRIS      ;LOAD CPTRLS (RX PTRS)
19 060050 004737 046164          JSR      PC,RXQUAL      ;GO QUE ALL VALID RX'S
20 060054 005037 017340 RXUN3: CLR      CPTR
21 060060 000137 060210          JMP      ALLTR      ;GO RX.
22

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```

000    NAK REASON
000    TRIB ADDR
000000 POLL STATUS FLAGS
000    POLL RATE
000    POLL PRIORITY
000    NA
000    MAX MSG COUNTER
000    COMM POLL QUOTA
000    RX THRESH ERRS
000    TX THRESH. ERRS
000    SELECT THRESH. ERRS
000000 DATA MSGS. TX MITTD
000000 DATA MSGS. RX CVD
000000 SELECTION INTERVALS
000    DATA ERRORS OUT
000    MBCC 0 BCC 0 REP 0
000    DATA ERRORS IN
000    MBCC 0 BCC 0 REP 0
000    LOCAL BUFFER ERRS
000    TU 0 TS 0
000    REMOTE BUFFER ERRS
000    TU 0 TS 0
000    SELECTION T-0
000    NRTS 0 IRTS 0
000    LOCAL REPLY T-0
000    REMOTE REPLY T-0
000    HIGHEST MSG # TX'D
000    HIGHEST MSG # ACK'D
000    NEXT MSG # TO TX
000    TPTR ADDR OF LKNBK
000    LAST MSG # TX'D
000    XPTR ADDR OF LKNBK
000    CTL X REPLY T-0
000    STRT OF TX BUFF Q
000    END OF TX BUFF Q
000    HIGHEST MSG # RX'D
000    STRT OF RX BUFF Q
000    END OF RX BUFF Q
000000 TX DELAY TIMER
000    NO DATA MSG COUNTER
000    T-0 COUNTER
000000 PRESET VALUE FOR TX DELAY TIMER
000    Q VAL FOR ACT
000    R VAL FOR ACT
000    Q VAL FOR INACT
000    R VAL FOR INACT
000    Q VAL FOR UNRSP
000    R VAL FOR UNRSP
000    NDM TO INACT
000    # T-0 TO UNRSP
000    # T 0 TO DEAD
000    MAX MSG COUNT
000000 SELECTION INTERVAL TIMING COUNT
000000 BABBLING TRIB TIMING COUNT

```

TO GET A SPECIFIC OFFSET LOCATION FROM THE
TSS USE THE COMMAND

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 PASSIVE MODE SECTION

```

1      .SBTTL      PASSIVE MODE SECTION
2
3      ***
4      : FUNCTIONAL DESCRIPTION:
5      : PASSIVE MODE SECTION
6      : IN THIS MODE OF TESTING, THE DEVICE'S RECEIVER IS ENABLED IN
7      : EXPECTATION OF RECEIVING A MESSAGE. THEN EVERY TIME A MESSAGE IS
8      : RECEIVED, A MESSAGE IS TRANSMITTED. DATA CHECKING CAN BE DONE ON THE
9      : RECEIVED DATA.
10
11     : SUBORDINATE ROUTINES USED:
12
13     : "ALLTR"
14
15     : CALLING SEQUENCE:
16     :     JMP      @MODE(R2)      ;DISPATCH TO MODE BASED ON MODE TYPE IN R2
17
18
19 060122 004737 046364      PLCK:   JSR      PC,LCPTLS      ;LOAD TX POINTERS AND TX COUNTS
20 060126 004737 046234      JSR      PC,LCPRLS      ;SET UP CPTRR TO REC POINTERS
21 060132 052737 000104 017414  BIS      @QRX!ERX,FLAG  ;SET UP Q AND EXPECT RX
22 060140 004737 046164      JSR      PC,RXQUAL      ;QUR ALL
23 060144 000137 060210      JMP      ALLTR      ;AND GO RX FIRST MSG.
24

```

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ACTIVE MODE SECTION

```

1      .SBTTL      ACTIVE MODE SECTION
2
3      ***
4      : FUNCTIONAL DESCRIPTION:
5      : ACTIVE MODE SECTION
6      : IN THIS MODE OF TESTING A LIST OF MESSAGES IS TRANSMITTED AND
7      : MESSAGES ARE EXPECTED TO BE RECEIVED. RECEIVED DATA CAN BE COMPARED
8      : AGAINST "EXPECTED" DATA IF DATA-CHECKING IS ENABLED.
9      : NOTE: IF BOTH ENDS OF THE LINK ARE IN ACTIVE MODE, THEN THE
10     : LINK MUST BE A FULL DUPLEX LINK!
11
12     : SUBORDINATE ROUTINES USED:
13
14     : "ALLTR"
15
16     : CALLING SEQUENCE:
17     : JMP      @MODE(R2)      ;DISPATCH TO MODE BASED ON MODE TYPE IN R2
18     :
19
20 060150      ALCK:
21 060150      BIT      @DATCKB,PARAM      ;IS IT DATA CHECK
22 060156      BNE      1$      ;BRANCH IF CHECK
23 060160      MOV      TXMTOT,RXMTOT      ;IF NOCH MAKE RX=TX
24 060166      004737    046364      1$: JSR      PC,LCPTLS      ;LOAD TX POINTERS AND COUNTS
25 060172      004737    046234      JSR      PC,LCPRLS      ;LOAD RX POINTERS
26 060176      052737    000314    017414  BIS      @QRX!QTX!ETX!ERX,FLAG
27 060204      004737    046164      JSR      PC,RXQUAL      ;QUE UP 1 RX BUFFER FOR ALL VALID
28

```

CZC1M00 DMP V 11 DC1.1 MACRO V05.00 Thursday 22-Mar-84 16:24 Page 94
TRANSMIT - RECEIVE FOR ALL STANDARD MODES

```

1      .SBTTL          TRANSMIT - RECEIVE FOR ALL STANDARD MODES
2
3
4      ***
5      : FUNCTIONAL DESCRIPTION:
6      :   THIS CODE PERFORMS THE FOLLOWING FUNCTIONS:
7      :   1.) IF RX BUFFERS ARE TO BE QUEUED, TELL DEVICE
8      :       CODE TO QUE THEM, LOG RECEIVE QUEUED.
9      :   2.) IF TX BUFFERS ARE TO BE QUEUED, TELL DEVICE
10     :       CODE TO QUE THEM, LOG TRANSMIT QUEUED.
11     :   3.) WAIT FOR EITHER RECEIVE BUFFER OR TRANSMIT BUFFER OR
12     :       BOTH TO COMPLETE.
13     :   4.) IF RECEIVE COMPLETE LOG IT UPDATE RX TABLE IF DATA
14     :       CHECKING.
15     :   5.) IF TRANSMIT COMPLETE LOG IT.
16     :   6.) WHEN BOTH TRANSMIT AND RECEIVE LISTS ARE DONE
17     :       GO TO THE COMPARE BUFFER CODE.
18
19     : SUBORDINATE ROUTINES USED:
20     :   "DVRXQ" -QUE RECEIVE BUFFER SPACE TO DEVICE
21     :   "LOGRXQ"-LOG RECEIVE BUFFER SPACE TO EVENT LOG
22     :   "LOGTXQ"-LOG TRANSMIT BUFFER QUEUED TO EVENT LOG
23     :   "DVTXRX"-QUE TRANSMIT BUFFER AND WAIT FOR RX
24     :               OR TX TO COMPLETE
25     :   "LOGRXC"-LOG RECEIVE BUFFER COMPLETED TO EVENT LOG
26     :   "LOGTXC"-LOG TRANSMIT BUFFER COMPLETED TO EVENT LOG
27
28     : USE OF FLAG BITS:
29     :   QRX - SET ON INPUT TO ALLTR IF REC IS TO BE QUEUED TO
30     :       DEVICE, CLEARED BY DVRXQ AND THEN SET BY DVTXRX
31     :       WHEN RX BUFFER IS COMPLETED.
32     :   QTX - SET ON INPUT TO ALLTR IF TRANSMIT IS TO BE QUEUED TO
33     :       DEVICE, CLEARED ON ENTRY TO DVTXRX AND SET BY DVTXRX
34     :       WHEN TX BUFFER IS COMPLETED.
35     :   ETX - USED BY DVTXRX TO DETERMINE IF TX BUFFER COMPLETED IS
36     :       EXPECTED.
37     :   ERX - USED BY DVTXRX TO DETERMINE IF RX BUFFER COMPLETED IS
38     :       EXPECTED.
39
40     : CALLING SEQUENCE:
41     :   JMP      ALLTR          ;GO TO TRANSMIT-RECEIVE FOR ALL STANDARD MODES
42     :
43     :
44
45 060210      ALLTR;
46 060210      052737 000004 017414  ALCK5:  BIT      @QRX,FLAG
47 060216      001406                      BEQ      ALCK1
48 060220      004737 046526          ALCK5B: JSR      PC,LDRLPS
49 060224      004737 047302          JSR      PC,LOGAQF
50 060230      004737 046506          JSR      PC,LDRLPS
51 060234      032737 000010 017414  ALCK1:  BIT      @QTX,FLAG
52 060242      001422                      BEQ      ALCK2
53 060244      004737 047102          JSR      PC,GNTXPR
54 060250      013702 017340          MOV      CTR,R2
55 060254      011237 017354          MOV      (R2),TEMP2
56 060260      012237 017350          MOV      (R2)+,DVTXA
57 060264      011237 017356          MOV      (R2),TEMP3

```

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TRANSMIT - RECEIVE FOR ALL STANDARD MODES

```

58 060270 012237 017252      MOV      (R2)+,DVTCC
59 060274 010237 017340      MOV      R2,CPTR
60 060300 004737 046644      JSR      PC,LDTPLS      ;RELOAD LIST
61 060304 004737 042022      JSR      PC,LOGTXQ
62
63 060310 004737 064070      ALCK2: JSR      PC,DVTXRX      ;GO TO TX AND RX SUB ROUT.
64
65 060314 032737 000004 017414  BIT      @QRX,FLAG      ;CHECK FOR REC. MSG.
66 060322 001532              BEQ      ALCK3
67 060324 013737 017270 017354  MOV      DVRXA,TEMP2
68 060332 013737 017272 017356  MOV      DVRCC,TEMP3
69 060340 013737 017266 015756  MOV      DVRTB,TRIBN
70 060346 004737 042074              JSR      PC,LOGRXC      ;LOG REC COMPLETE
71 060352 032737 000004 017410  UPTAB: BIT      @ECHO8,PARAM      ;IS THIS ECHO MODE(PASSIVE)
72 060360 001410              BEQ      UPTA4      ;IF NOT GO TO 4
73 060362 004737 046664              JSR      PC,ULTPLS
74 060366 013702 017340              MOV      CPTR,R2      ;ELSE SET R2 TO PRESENT TX TABLE
75 060372 013722 017354              MOV      TEMP2,(R2)+      ;STORE OFF RX ADD
76 060376 013712 017356              MOV      TEMP3,(R2)      ;AND CC
77 060402 032737 000002 017410  UPTA4: BIT      @DATCK8,PARAM      ;IS DATA CHECKING ASKED FOR
78 060410 001012              BNE      UPTA1      ;IF SO GO TO UPTA1
79 060412 004737 047154              JSR      PC,GETIND      ;GET INDEX
80 060416 004737 046266              JSR      PC,LCPRL1      ;RESTORE POINTER
81 060422 013737 017354 017336  MOV      TEMP2,CPTRR      ;RESTORE POINTER
82 060430 004737 046506              JSR      PC,LDRPLS      ;LOAD COUNT AND LIST
83 060434 000430              BR       UPTEX
84
85 060436 004737 046526              UPTA1: JSR      PC,URPLS      ;GET PTR FROM LIST
86 060442 013702 017336              MOV      CPTRR,R2
87 060446 011237 017350              MOV      (R2),TEMP
88 060452 163737 017356 017350  SUB      TEMP3,TEMP      ;LOAD TEMP WITH PREV. COUNT
89 060460 013722 017356              MOV      TEMP3,(R2)+      ;LOAD TEMP WITH PREV.COUNT-CURRENT
90 060464 063737 017356 017354  ADD      TEMP3,TEMP2
91 060472 013722 017354              MOV      TEMP2,(R2)+
92 060476 013712 017350              MOV      TEMP,(R2)
93 060502 162702 000002              SUB      #2,R2      ;STORE OF NEW ADD
94 060506 010237 017336              MOV      R2,CPTRR      ;AND NEW CC
95 060512 004737 046506              JSR      PC,LDRPLS      ;PUT POINTER BACK TO ADDR.
96 060516              UPTEX:
97 060516 022737 000002 017402  CMP      @PAS,MODTYP      ;AND RESTORE IT.
98 060524 001011              BNE      ALCK2A      ;IF NOT PASSIVE LOOP THEN GO TO PA
99 060526 005337 015762              DEC      INDEX      ;IF PASSIVE NEXT TXQ WILL BE FOR THIS TRIB
100 060532 042737 000004 017414  BIC      @QRX,FLAG      ;CLEAR BOTH EXPECTED AND COMPLETED FLAGS
101 060540 052737 000210 017414  BIS      @QTX!ETX,FLAG      ;SET THE TX FLAGS
102 060546 000632              BR       ALCK1
103
104 060550 004737 046624              ALCK2A: JSR      PC,LDRPLS      ;GET COUNT
105 060554 005337 017274              DEC      DVRCT      ;DEC REC COUNT
106 060560 004737 046604              JSR      PC,LDRPLS      ;RESTORE COUNT
107 060564 005737 017274              TST      DVRCT      ;IS IT ALL DONE
108 060570 001007              BNE      ALCK3      ;NO, GO CHECK TX
109 060572 042737 000004 017414  BIC      @QRX,FLAG      ;CLEAR THE RX FLAG
110 060600 005037 017336              CLR      CPTRR      ;YES, CLEAR POINTER
111 060604 004737 046506              JSR      PC,LDRPLS      ;AND RELOAD LIST
112 060610 032737 000010 017414  ALCK3: BIT      @QTX,FLAG      ;IS IT TX
113 060616 001467              BEQ      ALCK4      ;IF NOT TX THEN GO BACK
114 060620 013737 017250 017354  MOV      DVTXA,TEMP2

```

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TRANSMIT - RECEIVE FOR ALL STANDARD MODES

```

115 060626 013737 017252 017356      MOV      DVICC,TEMP3      ;LOG TX COMPLETED
116 060634 013737 017254 015756      MOV      DVITB,TRIBN
117 060642 004737 042040                JSR      PC,LOGTXC
118 060646 004737 046724                JSR      PC,ULTCLS      ;GET COUNT TO DVTCT
119 060652 005337 017256                DEC      DVTCT          ;DEC TX COUNT
120 060656 004737 046704                JSR      PC,LDTCLS      ;AND RELOAD LIST
121 060662 022737 000002 017402        CMP      #PAS,MODTYP
122 060670 001020                BNE      ALCK3A          ;IF NOT PASSIVE MODE GO TO 3A
123 060672 042737 000010 017414        BIC      #QTX,FLAG      ;CLEAR THE TX FLAGS
124 060700 005737 017256                TST      DVTCT
125 060704 001403                BEQ      ALCK3D          ;IF NO MORE MSG TO RX FOR THIS TRIB
126                                     ;EXIT WITHOUT RESETTING QRX
127 060706 052737 000104 017414        BIS      #QRX+ERX,FLAG ;AND SET THE RX FLAGS
128 060714 004737 047016      ALCK3D: JSR      PC,GATCFL
129 060720 005737 017256                TST      DVTCT
130 060724 001007                BNE      ALCK3C          ;IF MORE TX'S TO IT
131 060726 000137 061022                JMP      CMPSR          ;ELSE COMPARE
132 060732 004737 047016      ALCK3A: JSR      PC,GATCFL      ;GET ALL TX COUNTS FROM LIST
133 060736 005737 017256                TST      DVTCT          ;IS IT ALL DONE
134 060742 001404                BEQ      ALCK3B          ;IF NOT GO BACK TO 5
135 060744 004737 047154      ALCK3C: JSR      PC,GETIND
136 060750 000137 060210                JMP      ALCK5
137 060754 005037 017340      ALCK3B: CLR      CPTR          ;CLEAR POINTER
138 060760 042737 000010 017414        BIC      #QTX,FLAG      ;CLEAR TX FLAG
139 060766 032737 000002 017410        BIT      #DATCKB,PARAM ;IS IT DAT CHECK
140 060774 001405                BEQ      ALCK4A          ;IF NOT THEN END WOKING RX,
141 060776 004737 046744      ALCK4: JSR      PC,GARPEL
142 061002 005737 017336                TST      CPTRR
143 061006 001356                BNE      ALCK3C          ;IF SOME RX'S LEFT GO BACK
144 061010 005737 017340      ALCK4A: TST      CPTR
145 061014 001402                BEQ      CMPSR          ;BRANCH IF ANY TX'S LEFT
146 061016 000137 060310                JMP      ALCK2
147
148
149
150

```

C70LMCO DMP V 11 DCI T MACRO V05.00 Thursday 22-Mar-84 16:24 Page 95
DATA COMPARISON CODE

```

1      .SBTTL          DATA COMPARISON CODE
2
3
4      ;**
5      ; FUNCTIONAL DESCRIPTION:
6
7      ; CMPSR - COMPARE CODE
8      ; THIS CODE COMPARES THE RECEIVED DATA AGAINST THE
9      ; EXPECTED AND FILLS THE EVENT LOG WITH 1 OF 3 MSGS.
10
11      ; NOTE: IF NO DATA CHECKING SKIP THIS CODE
12
13      ; 1.) A DATA COMPARISON ENTRY WHICH REPORTS THE NUMBER
14      ;      OF COMPARISON ERRORS FOUND.
15      ; 2.) A DATA COMPARISON ENTRY WHICH REPORTS DIFFERENCES
16      ;      IN REC LENGTH TO COMPARE LENGTH.
17      ; 3.) A DATA COMPARISON STARTED ENTRY WHICH REPORTS ADDRESS
18      ;      OF RECEIVE BUFFER AND BYTE COUNT.
19      ; THIS CODE ALSO REPORTS SOFT ERRORS FOR DATA COMPARISON
20      ; (THE FIRST 5 ONLY), LENGTH ERROR, AND TOTAL NUMBER OF ERRORS
21
22      ; SUBORDINATE ROUTINES USED:
23
24      ; "LOGCMP" - SEE ITEM 3 ABOVE
25      ; "LOGCML" - SEE ITEM 2 ABOVE
26      ; "LOGCMD" - SEE ITEM 1 ABOVE
27
28      ; CALLING SEQUENCE:
29      ;
30      ; JMP      CMPSR          ; JUMP TO DATA COMPARISON CODE
31
32
33 061022 032737 000002 017410 CMPSR: BIT    #DATCKB,PARAM ;IS DATA CHECKING TO BE DONE
34 061030 001534                BEQ      CMPSEX           ;IF NOT THEN EXIT
35 061032 012737 177777 015762      MOV     #1,INDEX
36 061040 004737 046462                JSR     PC,GTVIND
37 061044 022737 000040 015762 CMPSR: CMP     #32,INDEX
38 061052 001523                BEQ      CMPSEX           ;END IF NO MORE TRIES
39
40 061054 004737 046546                JSR     PC,GRPTCP
41 061060 013737 017240 017336      MOV     CMPPTR,CPTRR ; AND START OF COMPARE POINTS TO CPTRR
42 061066 013737 017276 017274      MOV     RXMTOT,DVRCT
43
44 061072                CMPS3:
45 061074 013702 017340      MOV     CPTR,R2           ;MOVE CURRENT RX PT. TO R2
46 061100 011237 017354      MOV     (R2),TEMP2        ;MOVE RX ADD TO EVENT LOG
47 061104 012201                MOV     (R2),R1          ;SET R1 TO START ADD OF RX
48 061106 012237 017356      MOV     (R2),TEMP3        ;SET CHAR COUNT TO EVENT LOG
49 061112 010237 017340      MOV     R2,CPTR           ;RESTORE RX POINT
50
51 061116 013702 017336      MOV     CPTRR,R2          ;PUT R2 AT COMPARE TABLE
52 061122 012203                MOV     (R2),R3          ;SET R3 TO COMPARE ADD
53 061124 012204                MOV     (R2),R4          ;SET R4 TO COMP CC
54 061126 010237 017356      MOV     R2,CPTRR          ;RESTORE POINTER
55 061132 010437 017360      MOV     R4,TEMP4
56 061136 004737 042170      JSR     PC,LOGCMP          ;LOG COMPARE START.
57

```

LINE	ADDRESS	HEX	DISASM	COMMENT	TRAP	C\$ERRSOFT
58	061142	020437	017356	CMP R4,TEMP3		
59	061146	001410		BEQ CMPS7		
60	061150	005237	017310	INC ERRCNT		
61	061154			ERRSOFT 1,EDDLE,ERR10		
	061154	104457			TRAP	C\$ERRSOFT
	061156	000001			.WORD	1
	061160	030222			.WORD	EDDLE
	061162	041430			.WORD	ERR10
62	061164	004737	042206	JSR PC,LOGCML		
63						
64	061170	005037	017360	CMPS7: CLR TEMP4		
65	061174	012737	000001	MOV #1,OFFSET		
66	061202	122123		CMPS1: CMPB (R1)+,(R3)+		
67	061204	001422		BEQ CMPS6		
68						
69	061206	005237	017360	CMPS2: INC TEMP4		
70	061212	023727	017360	CMP TEMP4,#5		
71	061220	101014		BHI CMPS6		
72	061222	114337	017370	MOVB -(R3),GOOD		
73	061226	114137	017371	MOVB -(R1),BAD		
74	061232	005237	017310	INC ERRCNT		
75	061236			ERRSOFT 2,EDDDE,ERR1		
	061236	104457				
	061240	000002			TRAP	C\$ERRSOFT
	061242	030257			.WORD	2
	061244	041340			.WORD	EDDDE
					.WORD	ERR1
76	061246	005201		INC R1		
77	061250	005203		INC R3		
78	061252	005237	017346	CMPS6: INC OFFSET		
79	061256	005304		DEC R4		
80	061260	001350		BNE CMPS1		
81	061262	005737	017360	IST TEMP4		
82	061266	001410		BEQ CMPS5A		
83	061270	005237	017310	INC ERRCNT		
84	061274			ERRSOFT 3,EDDDE,ERR2		
	061274	104457				
	061276	000003			TRAP	C\$ERRSOFT
	061300	030257			.WORD	3
	061302	041402			.WORD	EDDDE
					.WORD	ERR2
85	061304	004737	042224	CMPS5: JSR PC,LOGCMD		
86	061310			CMPS5A:		
87	061310	005337	017274	DEC DVRC		
88	061314	001267		BNE CMPS4		
89	061316	000137	061040	JMP CMPSNEW		
90						

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INTERNAL END OF PASS CODE

```

1      ,SHITL      INTERNAL END OF PASS CODE
2
3
4
5      ***
6      FUNCTIONAL DESCRIPTION:
7      THIS CODE INCREMENTS THE PASS COUNT FOR THE
8      EVENT LOG, LOGS THE END OF PASS EVENT
9      IF "RPASS" IS A MINUS ONE RETURN TO MODE
10     DISPATCHER. IF NOT 1 THEN DECREMENT RPASS
11     AND IF "RPASS" IS THEN - TO 0 GO TO DCLT PROMPT
12     IN NOT - TO 0 THEN GO BACK TO MODE DISPATCHER
13
14     SUBORDINATE ROUTINES USED:
15
16     "LOGEOP" - LOG END OF PASS TO EVENT LOG
17
18 061322 005237 017306      CMPSEX: INC      PSCNT      !BUMP PASS COUNT
19
20 061326 013737 017304 017362      MOV      OPVAR1,TEMP5      !LOG TX THRESH
21 061334 013737 017302 017360      MOV      OPVAR,TEMP4      !LOG RX THRESH
22 061342 013737 017306 017354      MOV      PSCNT,TEMP2      !LOG PASS COUNT
23 061350 013737 017310 017356      MOV      ERRCNT,TEMP3
24 061356 004737 042250      JSR      PC,LOGEOP      !LOG END OF PASS
25
26 061362 022737 177777 017412      CMP      # 1,RPASS      !SEE IF RPASS= 1
27 061370 001403      BEQ      11      !IF IT IS DON'T DECREMENT, LOOP FOREVER
28 061372 005337 017412      DEC      RPASS      !DEC PASS COUNT
29 061376 001402      BEQ      21      !IF DONE EXIT TEST
30 061400 000137 057674      JMP      GTRXP      !ELSE GO BACK AND DISPATCH
31 061404 005037 017416      CLR      RUNNING      ! INIT "DCLT RUNNING" FLAG
32 061410 004737 064776      JSR      PC,HUTRB      !GO HALT ALL TRIBS BEFORE GOING BACK
33 061414 000137 052402      JMP      GTRAS      !WHEN RPASS=0 GO BACK TO "DCLT"
34
35

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DOWN-LINE LOAD SECTION

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.SHTT DOWN-LINE LOAD SECTION

FUNCTIONAL DESCRIPTION:
DOWN-LINE-LOAD SECTION
IN THIS MODE OF TESTING THE "HOST" OR ORIGINATING STATION
REQUESTS THE "SATELLITE" OR BOOT STATION TO ENTER MOP MODE.
THE BOOT STATION THEN SENDS A "REQUEST PROGRAM MESSAGE".
THE "HOST" THEN SENDS A "MEMORY LOAD WITH TRANSFER ADDRESS"
THAT CONTAINS IMAGE DATA TO BE LOADED BY THE BOOT STATION'S
DMP 11 MICROCODE STARTING AT LOC. 0. THIS IMAGE DATA WILL CONTAIN A
PROGRAM THAT WILL PRINT A MSG THAT DOWN-LINE-LOAD WAS SUCCESSFUL.

SUBORDINATE ROUTINES USED:

"DLTXRX" - SPECIAL TX RX ROUTINE FOR DLL
"DVRXQ" - QUE RX BUFFER SPACE TO DEVICE
"LOGRXQ" - LOG RX SPACE QUEUED TO EVENT LOG
"LOGTXQ" - LOG TX BUFFER QUEUED TO EVENT LOG
"DVTXRX" - QUE TX BUFFER AND WAIT FOR RX OR TX TO COMPLETE
"LOGTXC" - LOG TX COMPLETED TO EVENT LOG
"LOGRXC" - LOG RX COMPLETED TO EVENT LOG

CALLING SEQUENCE:

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

DLL: MOV #1,INDEX
JSR PC,GIVING ;GET VALID INDEX ALSO FIRST TRIBN
MOV TRIBN,TEMP3 ;MOV TRIBN TO TEMP3 FOR MTP DEFAULT
BIT #MTP,DEVPAR ;IS THIS MTP POINT
BNE 11 ;IF SO BRANCH
GMANID DLLQ1,TEMP3,0,377,0,377,NO

TRAP C8GMAN
BR 100043
.WORD TEMP3
.WORD TSCODE
.WORD DLLQ1
.WORD 377
.WORD TBLQ1M
.WORD TSHLLIM

100043;

11: MOVH TEMP3,PASS1
MOVH TEMP3,PASS2
MOVH TEMP3,PASS3
MOVH TEMP3,PASS4
BIS #RX,FLAG ;SET EXPECTED TO RX
BIC #DATCH,PARAM ;CLEAR NOCHECK
MOV DOLLMI,CURADD ;SET THE DOWN LINE LOAD REG TO 01
MOV DLMIC,CURCC ;SET THE CC
JSR PC,DLTXRX ;GO TO THE DOWN LINE TX RX ROUTINE

RETURN WHEN TX AND RX ARE COMPLETED

56	061554	012737	002654	017342	MOV	#DLLM2,CURADD	;SET THE DOWN LINE LOAD MSG TO #2	
57	061562	013737	002174	017334	MOV	DLLM2C,CURCC	;SET CC	
58	061570	042737	001000	017414	BIC	#DLLGA,FLAG	;CLEAR THE GO AHEAD FLAG	
59	061576	004737	061642		JSR	PC,DLTXXR	;GO TO THE DOWN LINE TX RX ROUTINE	
60								
61								
62	061602				DLLEPRI:		; RETURN WHEN TX AND RX ARE COMPLETED	
63	061602				PRINTF	#DLLCM		
	061602	012736	027160				MOV	#DLLCM,-(SP)
	061606	012746	000001				MOV	#1,(SP)
	061612	010600					MOV	SP,R0
	061614	104417					TRAP	CSPNIF
	061616	062706	000004				ADD	#4,SP
64	061622	000137	052402		JMP	GTRA5		
65								
66	061626				DLLEA:			
67	061626				ERRSOFT	13,DLLAB,ERR14		
	061626	104457					TRAP	CERRSOFT
	061630	000015					.WORD	13
	061632	040022					.WORD	DLLAB
	061634	041512					.WORD	ERR14
68								
69	061636	000137	052402		JMP	GTRA5		;PRINT ABORT AND EXIT
70								
71								
72								
73	061642				DLTXXR:			
74	061642	052737	000004	017414	BIS	#RXFLG,FLAG		;SET THE QUE RX FLAG
75	061650	012737	005416	017270	MOV	#RXBUF,DVRXA		;SET THE DEVICE RX BUFFER TO RXBUF
76	061656	012737	005416	017354	MOV	#RXBUF,TEMP2		;SET UP FOR LOG
77	061664	012737	000400	017272	MOV	#256,,DVRCC		;SET UP FOR CC OF 256
78	061672	012737	000400	017356	MOV	#256,,TEMP3		;SET UP FOR LOG
79	061700	004737	064006		JSR	PC,DVRXQ		;GO QUE RX
80	061704	004737	042056		JSR	PC,LOGRXQ		;AND LOG IT...
81								
82	061710	013737	017342	017250	MOV	CURADD,DVTXA		;SET UP FOR TX
83	061716	013737	017342	017354	MOV	CURADD,TEMP2		;AND LOG
84	061724	013737	017334	017252	MOV	CURCC,DVTC		;SET UP FOR TX COUNT
85	061732	013737	017334	017356	MOV	CURCC,TEMP3		;AND LOG IT
86	061740	004737	042022		JSR	PC,LOGTXQ		;LOG THE TX QUEUED
87	061744	052737	000210	017414	BIS	#QTXTETX,FLAG		;SET UP TO QUE AND EXPECTED
88	061752	004737	064070		JSR	PC,DVTXXR		;GO TO DEVICE ROUTINE
89	061756	052737	001000	017414	BIT	#DLLGA,FLAG		;TEST FOR GO AHEAD HIT
90	061764	001047			BNE	DLLE1		;IF SET GO TO ONE
91	061766	052737	000010	017414	BIT	#QTXT,FLAG		;ELSE CHECK FOR TX DONE
92	061774	001020			BNE	DLLE6		;IF DONE THEN BRANCH
93								;ELSE ERROR
94	061776	012737	041232	017366	MOV	#TXNC,CONDTM		
95	062004	013737	005416	017356	DLLE7:	MOV	RXBUF,TEMP3	
96	062012	013737	005416	017360		MOV	TXBUF,TEMP4	
97	062020	012737	040022	017354	DLLE7A:	MOV	#DLLAB,TEMP2	
98	062026	004737	042104		JSR	PC,LOGDVE		;LOG ERROR
99	062032	000137	061626		JMP	DLLEA		;ABORT TEST
100								
101	062036	013737	017250	017354	DLLE6:	MOV	DVTXA,TEMP2	
102	062044	013737	017252	017356		MOV	DVTC,TEMP3	
103	062052	004737	042040		JSR	PC,LOGTXC		;LOG TX DONE

C:\CMC\GMP-V 11 DCLT
DOWN-LINE LOAD SECTION

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104 062056 042737 000210 017414      BIC      @QIX:FIX,FLAG      ;CLEAR QUE AND EXPECTED
105 062064 052737 001000 017414      BIS      @DLLEGA,FLAG      ;SET THE GO AHEAD BIT
106 062072 023737 002174 017252      CMP      DILLM2C,DVICC
107 062100 001475                      BEQ      DLLE5              ;EXIT IF SECOND MSG.
108 062102 000723                      BR       DLLE2              ;AND GO BACK TO '
109 062104 032737 000004 017414  DLLE1: BIT      @GRX,FLAG      ;IS THE A RX COMPLETED
110 062112 001004                      BNE      DLLE8              ;IF SO GO TO 8
111 062114 012737 041252 017366      MOV      @RXNC,CONOTM
112 062122 000730                      BR       DLLE7
113 062124 013737 017270 017354  DLLE8: MOV      DVRXA,TEMP2
114 062132 013737 017272 017356      MOV      DVRCC,TEMP3
115 062140 004737 042074                      JSR      PC,LOGRXC
116 062144 122737 000010 005416      CMPB     @10,RXBUF      ;LOG RECEIVE COMPLETE
                                ;CHECK FOR FIRST WORD OF RX
                                ;SEC BOOT MSG.
117
118 062152 001404                      BEQ      DLLE3
119 062154 012737 041272 017366  DLLE4: MOV      @RXM1,CONOTM      ;SET UP MSG AND ABORT
120 062162 000710                      BR       DLLE7              ;ABORT TEST
121
122 062164 122737 000001 005420  DLLE3: CMPB     @1,RXBUF+2      ;IS SECOND WORD 1 ?
123 062172 001407                      BEQ      DLLE5A           ;YES,BRANCH
124 062174 012737 041315 017366      MOV      @RXM2,CONOTM
125 062202 013737 005420 017356      MOV      RXBUF+2,TEMP3
126 062210 000703                      BR       DLLE7A          ;SET UP MESSAGE AND ABORT
127
128
129
130 062212 012737 032062 017350      ;PRINT ID OF DEVICE REQUESTING LOAD REV B BY EC
131 062220 113703 005417                      DLLE5A: MOV      @UNKM,TEMP      ;SET UP FOR UNKNOWN DEVICE
132 062224 120327 000042                      MOVB     RXBUF+1,R3          ;GET DEVTYPE FROM MESSAGE
133 062230 101006                      CMPB     R3,@34            ;OUT OF LEGAL RANGE ?
134 062232 132703 000001                      BHI      DLLE5B           ;YES,BRANCH
135 062236 001003                      BITB     @1,R3            ;ODD ?
136 062240 016337 023222 017350      BNE      DLLE5B           ;YES,BRANCH
                                ;GET ASCII MESSAGE FROM TABLE
137
138 062246                      DLLE5B: PRINTF   @SECRM,TEMP,R3      ;PRINT ID MESSAGE
                                MOV      R3,(SP)
                                MOV      TEMP,(SP)
                                MOV      @SECRM,(SP)
                                MOV      @5,(SP)
                                MOV      SP,R0
                                TRAP     @SPNT
                                ADD      @10,SP
                                062246 010346
                                062250 013746 017350
                                062254 012746 031724
                                062260 012746 000003
                                062264 010600
                                062266 104417
                                062270 062706 000010
139
140
141 062274 000207                      DLLE5:  RTS      PC          ;RETURN TO CALLER
142
143
144

```

CZCUMCO BMP/V 11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 98
TALK MODE SECTION

```

1      .SBTTL          TALK MODE SECTION
2
3      ***
4      : FUNCTIONAL DESCRIPTION:
5      :   TALK MODE SECTION
6      :   IN THIS MODE, THE "TALK" END OF THE LINK TRANSMITS OPERATOR
7      :   SPECIFIED MESSAGES UNTIL A "EXIT" MESSAGE IS TYPE. AT THAT POINT,
8      :   THIS END OF THE LINK GOES INTO "LISTEN" MODE.
9
10     : SUBORDINATE ROUTINES USED:
11
12     :   "LOGTXQ" - LOG TX BUFFER QUEUED TO EVENT LOG
13     :   "DVTXRX" - QUE TX BUFFER TO DEVICE AND WAIT FOR COMPLETE
14     :   "LOGTXC" - LOG TX COMPLETE TO EVENT LOG
15
16     : CALLING SEQUENCE:
17     :   JMP      @MODE(R2)          ;DISPATCH TO MODE BASED ON MODE TYPE IN R2
18
19
20 062276 012737 177777 015762 TALCK: MOV      @-1,INDEX
21 062304 004737 046462          JSR      PC,GTVIND          ;GET FIRST TRIB
22 062310 042737 000002 017410          BIC      @DATCKB,PARAM      ;SET NOCHECK
23 062316 012702 002524          MOV      @OPBUF,R2
24 062322 012722 177777          1$:    MOV      @-1,(R2)+          ;CLEAR OUT OPBUFFER FIRST
25 062326 022702 002646          CMP      @OPEND,R2
26 062332 001373          BNE      1$
27 062334          GMANID OPRMM,OPBUF,A,0,1,72,,NO          ;GET TALK MESSAGE
28          062334 104443          TRAP      C$GMAN
29          062336 000406          BR          10005$
30          062340 002524          .WORD     OPBUF
31          062342 000142          .WORD     T$CODE
32          062344 027114          .WORD     OPRMM
33          062346 000000          .WORD     0
34          062350 000001          .WORD     T$LOOIM
35          062352 000110          .WORD     T$HILIM
36          062354          10005$:
37
38 062354 005002          CLR      R2          ;NOW GET CHAR COUNT
39 062356 122762 000377 002524 2$:    CMPB    @377,OPBUF(R2)
40 062364 001402          BEQ      3$
41 062366 005202          INC      R2
42 062370 000772          BR       2$
43 062372 010237 002166          3$:    MOV      R2,OPCNT
44
45 062376 012737 002524 017250          MOV      @OPBUF,DVIXA          ;SET UP TX ADDR.
46 062404 012737 002524 017354          MOV      @OPBUF,TEMP2
47 062412 013737 002166 017356          MOV      OPCNT,TEMP3
48 062420 013737 002166 017252          MOV      OPCNT,DVICC          ;SET UP TX CC
49 062426 004737 042022          JSR      PC,LOGTXQ
50 062432 052737 000210 017414          BIS      @QTXETX,FLAG          ;SET UP FLAG
51 062440 005037 017336          CLR      CPTRR          ;CLEAR RX POINTER
52
53 062444 004737 064070          JSR      PC,DVTXRX
54
55 062450 013737 017250 017354          MOV      DVIXA,TEMP2
56 062456 013737 017252 017356          MOV      DVICC,TEMP3
57 062464 004737 042042          JSR      PC,LOGTXC
58 062470 022737 054105 002524          CMP      @"EX",OPBUF          ;CHECK FOR EXIT

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TALK MODE SECTION

49 062476	001277			BNE	TALCK	
50 062500	022737	052111	002526	CMP	#IT,OPBUF+2	
51 062506	001273			BNE	TALCK	
52 062510	042737	000210	017414	BIC	#QIX!EIX,FLAG	;CLEAR THE TX BITS
53 062516	012737	000006	017402	MOV	#LIS,MODTYP	;CHANGE TO LISTEN MODE
54 062524	000137	057674		JMP	GTRX2	;AND GO BACK TO DISPATCH

CZCUMCO DMP/V 11 DELT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 99
LISTEN MODE SECTION

```

1          .SBTTL          LISTEN MODE SECTION
2
3
4          ***
5          FUNCTIONAL DESCRIPTION:
6          LISTEN MODE SECTION
7          IN THIS MODE, THE "LISTEN" END OF THE LINK PRINTS ALL OF THE MESSAGES
8          RECEIVED BY THE DEVICE ON THE OPERATOR'S CONSOLE. IF THE MESSAGE
9          RECEIVED IS AN "EXIT" MESSAGE, THEN THE NODE ENTERS "TALK" MODE.
10
11          SUBORDINATE ROUTINES USED:
12
13          "DVRXQ" - QUE RECEIVE BUFFER SPACE TO DEVICE
14          "LOGRXQ" - LOG RECEIVE BUFFER QUEUED TO EVENT LOG
15          "DVTXRX" - WAIT FOR RX TO COMPLETE
16          "LOGRXC" - LOG RX COMPLETE TO EVENT LOG
17
18          CALLING SEQUENCE:
19          JMP      @MODE(R2)          ;DISPATCH TO MODE BASED ON MODE TYPE IN R2
20
21 062530 012737 177777 015762 LISCK: MOV      @-1,INDEX
22 062536 004737 046462          JSR      PC,GIVIND          ;GET FIRST TRIB
23 062542 042737 000002 017410          BIC      @DATCKB,PARAM      ;CLEAR CHECK BIT
24 062550          PRINTF      @LISP          ;PRINT PROMPT FOR OPR.
25          062550 012746 027103          MOV      @LISP, (SP)
26          062554 012746 000001          MOV      @1, (SP)
27          062560 010600          MOV      SP,R0
28          062562 104417          TRAP      C$PNTF
29          062564 062706 000004          ADD      @4,SP
30 062570 012737 002524 017270 LISCKA: MOV      @OPBUF,DVRXA          ;SET DEVICE UP TO REC AT OPBUF
31 062576 012737 002524 017354          MOV      @OPBUF,TEMP2
32 062604 012737 000122 017272          MOV      @82,DVRCC          ;SET UP CHAR COUNT TO 82.
33 062612 012737 000122 017356          MOV      @82,TEMP3
34 062620 052737 000104 017414          BIS      @QRX!ERX,FLAG          ;SET UP FLAG
35 062626 005037 017340          CLR      CPTR          ;CLEAR THE TX.
36
37 062632 004737 064006          JSR      PC,DVRXQ          ;QUE RX
38 062636 004737 042056          JSR      PC,LOGRXQ
39
40 062642 004737 064070          JSR      PC,DVTXRX          ;GO TO DEVICE RX. SUBROUTINE
41
42 062646 013737 017270 017354          MOV      DVRXA,TEMP2
43 062654 013737 017272 017356          MOV      DVRCC,TEMP3          ;SET UP ADDR AND CC.
44 062662 004737 042074          JSR      PC,LOGRXC          ;LOG COMPLETED
45 062666 063737 017270 017272          ADD      DVRXA,DVRCC
46 062674 105077 134372          CLR      @DVRCC
47 062700          PRINTF      @OPBEPT
48          062700 012746 002520          MOV      @OPBEPT, -(SP)
49          062704 012746 000001          MOV      @1, (SP)
50          062710 010600          MOV      SP,R0
51          062712 104417          TRAP      C$PNTF
52          062714 062706 000004          ADD      @4,SP
53 062720 022737 054105 002524          CMP      @EX,OPBUF          ;COMPARE FOR EX OF "EXIT"
54 062726 001320          BNE      LISCKA          ;IF NOT EXIT THEN GO BACK
55 062730 022737 052111 002526          CMP      @1,OPBUF          ;IF FIRST HALF OK CHECK NEXT PART
56 062736 001314          BNE      LISCKA          ;IF NOT EXIT THEN GO BACK
57 062740 012737 000005 017402          MOV      @TAL,MODTYP          ;CHANGE MODE TO TALK

```

CZCUMCO DMP/V 11 DELT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 97-1
LISTEN MODE SECTION

48 062746 000137 057674
49
50

JMP GTRX2

;RETURN TO DISPATCHER

CZCLMCO DMP/V 11 DCIT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 100
 DEVICE FUNCTION SUBROUTINES

```

1          .SBTTL          DEVICE FUNCTION SUBROUTINES
2
34
35
36
37          .SBTTL          DEVICE INIT SUBROUTINE
38
39
40
41
42
43
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45
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66
67
68
69
70
71
72
73
74
75 062752          DVINIT:
76
83 062752 012737 001000 017456          MOV      #1000,TIMER1      ;SET UP TIMER 1 FOR 1000(OCTAL) TICKS
84 062760 022737 000004 017402          CMP      @DOW,MODTYP
85 062766 001034          BNE      DVIN4          ;BRANCH IF NOT DLL
86 062770 022737 000001 023102          CMP      #1,DEVPAR      ;IS THIS TRIB
87 062776 001030          BNE      DVIN4          ;BRANCH IF CONTROL OR PTP
88 063000 012777 060000 140044          MOV      #60000,@SELO      ;SET MCLR AND ENTER P MOP
89 063006 005737 017456          DVIN4:  TST      TIMER1
90 063012 001375          BNE      DVIN4A          ;IF TIMER RUNS OUT IT MEANS
91 063014 012737 037725 017354          MOV      @DVM8,TEMP2      ;SWITCHES ARE NOT SET CORRECTLY
92 063022 017737 140024 017356          MOV      @SELO,TEMP3
93 063030 017737 140027 017360          MOV      @SEL2,TEMP4
94 063036 004737 042104          JSR      PC,LGDVE
95 063042 005237 017310          INC      ERRCNT
96 063046          ERRSOFT 14,DVM8,ERR13
97 063046          104457          TRAP      C$ERRSOFT
98 063050          000016          .WORD    14
99 063052          037725          .WORD    DVM8
100 063054          041460          .WORD    ERR13
101 063056 000735
102 063060 012777 040000 137764          DVIN4:  BR      DVINIT
103 063066 022737 000004 023100          MOV      @MCLR,@SELO      ;DO A MASTER CLEAR
104 063074 001005          CMP      @OMP6,OPTYP      ;IS THIS A 8206
105 063076 112777 000200 137750          BNE      DVIN6          ;IF NOT GO TO 6
106 063104 000240          MOVB     #200,@SEL1      ;SET RUN FOR 8206
107 063106 000240          NOP
108 063110 005777 137736          DVIN6:  TST      @SELO
109 063114 100426          BMI      DVIN1          ;SLIGHT DELAY
110 063116          104422          ;IF RUN BIT SET
111          BREAK          ;IF YES GO TO 1 ELSE...
112          TRAP      C$BRK

```

107	063120	005737	017456		TST	TIMER1		;SEE IF TIME HAS EXPIRED
108	063124	001371			BNE	DVIN6		;IF NOT GO BACK AND CHECK
109								;AGAIN ELSE...PRINT ERROR
110	063126	012737	037116	017354	MOV	#DVEMO,TEMP2		
111	063134	017737	137712	017356	MOV	@SEL0,TEMP3		
112	063142	017737	137710	017360	MOV	@SEL2,TEMP4		;LOAD UP ERRM. AND REG OUTPUTS
113	063150	004737	042104		JSR	PC,LGDVE		;LOG TIME OUT WAITING FOR RUN
114	063154	005237	017310		INC	ERRCNT		
115	063160				ERRSOFT	4,DVEMO,ERR13		
	063160	104457						TRAP C\$ERSOFT
	063162	000004						.WORD 4
	063164	037116						.WORD DVEMO
	063166	041460						.WORD ERR13
116								
117	063170	000670			BR	DVINIT		;GO BACK AND TRY MSTR CLR AGAIN IF ERROR
118								
119	063172	022777	000305	137666	DVIN1:	CMP #305,@SEL6		;SEE IF MICRO DIAGS RAN OK
120	063200	001422			BEQ	DVIN13		
121	063202	012737	037177	017354	MOV	#DVEM1,TEMP2		;MOV ADDR OF ERR MSG TO TEMP2
122	063210	017737	137636	017356	MOV	@SEL0,TEMP3		
123	063216	017737	137644	017360	MOV	@SEL6,TEMP4		;MOV SEL 6 TO TEMP4 IT CONTAINS
124								;THE ERROR CODE FROM MICRO DIAGS.
125	063224	004737	042104		JSR	PC,LGDVE		;LOG DEVICE ERROR
126	063230	005237	017310		INC	ERRCNT		
127	063234				ERRSOFT	5,DVEM1,ERR13		
	063234	104457						TRAP C\$ERSOFT
	063236	000005						.WORD 5
	063240	037177						.WORD DVEM1
	063242	041460						.WORD ERR13
128	063244	000642			BR	DVINIT		;GO BACK AND TRY TO RE INIT.
129								
130								;GET HERE WHEN RUN IS SET AND MICRO DIAGS RAN OK,
131	063246	022737	000001	023100	DVIN13:	CMP #1,OPIYP		; DMV ?
132	063254	001027			BNE	DVIN12		; NO,BRANCH
133	063256	022737	000001	017404	CMP	#1,MUIYP		; INTERNAL LOOP ?
134	063264	001020			BNE	DVIN11		; NO,BRANCH
135								
136								; NOW SET THE DMV TO INTERNAL LOOP
137								
138	063266	012777	040400	137556		MOV #40400,@SEL0		;SET MASTER CLEAR AND MAINTENANCE REQUEST
139	063274				DIVN15:	BREAK		
	063274	104422						TRAP C\$BRK
140	063276	000240			NOP			
141	063300	000240			NOP			
142	063302	132777	000200	137546	BITB	@BIT7,@SEL2		; MAINTENANCE READY ?
143	063310	001771			BEQ	DIVN15		; NO,GO CHECK AGAIN
144	063312	042777	000400	137532	BIC	@BIT8,@SEL0		; CLEAR MAINT REQUEST
145	063320	012777	000006	137530	MOV	#6,@SEL2		; SET INTERNAL LOOPBACK
146								
147								; NOW SET DMV TO DIAGNOSTIC MODE SO WE CAN DEFINE THE STATION TYPE VIA SOFTWARE
148								
149	063326				DVIN11:			
150	063326	152777	000210	137520	BITB	@BIT3!BIT7,@SEL1		; SET DIAGNOSTIC MODE BIT & RUN BIT(DMV ONLY)
151								:: REV C EC
152								
153								
154								; USE COMMON CODE TO REQUEST INPUT

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 DEVICE INIT SUBROUTINE

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155
156 063334 042737 000003 017414 DVIN12: BIC      #3,FLAG      ;CLEAR INPUT AND OUTPUT INTERRUPT FLAGS
157 063342 112777 000221 137502      MOVB     #221,#SEL0    ;SET RQI, IEO, AND IEI
158 063350 004737 065114      JSR       PC,TOORIO    ;GO WAIT FOR INPUT INTERRUPT(OK TO WRITE)
159
160      ; NOW SET UP NETWORK CONFIGURATION AND LINE CHARACTERISTIC
161
162 063354 113777 023104 137504      MOVB     STATYP,#SEL6    ;SET UP STATION TYPE(PT-PT,MULTI-PT CNTL/TRIB)
163 063362 005737 017406      TST      FHDPLX      ;HALF/DOUPLEX ?
164 063366 001403      BEQ       1$      ;YES,BRANCH
165 063370 052777 000001 137470      BIS      #BIT0,#SEL6    ;SET FULL DUPLEX BIT
166 063376 112777 000002 137452 1$: MOVB     #2,#SEL2      ;DO MODE DEFINITION COMMAND
167 063404 142777 000010 137442      BICB     #BIT3,#SEL1    ; CLEAR DIAGNOSTIC MODE (DMV ONLY)
168
169      ; NOW CHECK TO SEE IF ITS A DMP AND INTERNAL LOOPBACK REV C E C
170
171 063412 022737 000001 017404      CMP      #1,MLTYP      ; INTERNAL LOOP ?
172 063420 001007      BNE       3$      ; NO, BRANCH
173 063422 005737 023100      TST      OPTYP        ; DMP ?
174 063426 001012      BNE       DVES1A    ; NO, BRANCH
175
176      ; NOW SET THE DMP INTERNAL LOOP BIT
177
178 063430 152777 000010 137416      BISB     #BIT3,#SEL1    ; SET LU LOOP
179 063436 000406      BR        DVES1A    ; SKIP OVER WAIT
180
181      ; NOW WAIT A SECOND FOR THINGS TO SETTLE
182
183
184
185 063440 012737 000001 017462 3$: MOV      #1,TIMERS      ; SET TIMER FOR 1 SECOND
186 063446 005737 017462 4$: TST      TIMERS      ; DONE ?
187 063452 001375      BNE       4$      ; NO,BRANCH
188
189      ;WRITE GLOABL PARMAS
190
191
192 063454      DVES1A:
193 063454 005037 015756      CLR       TRIBN        ;MAKE TRIBN 0
194 063460 012737 017220 021022      MOV      #GLBPLS,ISSE    ;ISSE POINTS TO LIST
195 063466 004737 064624      JSR      PC,WRIPPG      ;WRITE POLL PARAMS
196 063472 012737 000110 017350      MOV      #110,TEMP      ;
197 063500 022737 000003 017404      CMP      #MODLOC,MLTYP    ;IS THIS MODEM LOCAL
198 063506 001407      BEQ       1$      ;BRANCH IF MODEM LOCAL
199 063510 012737 000104 017350      MOV      #104,TEMP      ;
200 063516 022737 000004 017404      CMP      #MODREM,MLTYP    ;IS THIS REM
201 063524 001002      BNE       1$      ;BRANCH IF NOT
202 063526 004737 064732 1$: JSR      PC,WRMCS      ;GO WRITE MODEM CONTROL
203
204 063532 012737 177777 015762 2$: MOV      #1,INDEX      ;MAKE INDEX = 1
205 063540 004737 046462 DVES1: JSR      PC,GETVIND    ;GET VALID INDEX
206 063544 022737 000040 015762      CMP      #52,INDEX      ;DONE
207 063552 001475      BEQ       DVINEX      ;IF SO EXIT
208
209      ;ESTABLISH TRIB
210
211 063554 152777 000200 137270 DVES1: BISB     #RQI,#SEL0    ;DO REQUEST IN

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 DEVICE INIT SUBROUTINE

```

212 063562 004737 065114      JSR    PC,TOORIO      ;WAIT TIL PORT IS OURS
213 063566 113777 015756 137264  MOVB   TRIBN,08SEL3    ;SET UP TRIB NO.
214 063574 012777 000001 137264  MOV    #01,08SEL6     ;ESTABLISH TRIB
215 063502 112777 000001 137246  MOVB   #01,08SEL2     ;CLEAR RDI AND DO COMMAND.
216
217      ;WRITE POLL PARAMS IF NESC.
218 063610 022737 000003 023102  CMP     #3,DEVPAR      ;IS THIS A MULTIPOINT CONTROL
219 063616 001022                BNE     POLLEN             ;BRANCH IF NOT.
220 063620 004737 047154      JSR    PC,GETIND             ;GET VALID INDEX
221 063624 013737 015762 017232  MOV     INDEX,MPLY      ;MOVE INDEX TO MULTIPLIER
222 063632 012737 000020 017350  MOV     #16.,TEMP      ;
223 063640 012737 016220 017354  MOV     #POLLIS,TEMP2   ;
224 063646 004737 046436      JSR    PC,MTPLY              ;RETURN WITH ADDRESS
225                                     ;OF FIRST WORD IN TEMP2
226
227 063652 013737 017354 021022  MOV     TEMP2,TSSE
228 063660 004737 064634      JSR    PC,WRIPP              ;WRITE POLL PARAMS
229
230      ; ISTRT TRIB
231
232 063664 152777 000200 137160  POLLEN: BISB   #RQI,08SEL0    ;REQUEST IN
233 063672 004737 065114      JSR    PC,TOORIO      ;WAIT TIL PORT IS OURS.
234 063676 113777 015756 137154  MOVB   TRIBN,08SEL3
235 063704 012777 000004 137154  MOV     #04,08SEL6     ;MAKE IT MAINT MODE
236 063712 022737 000004 017402  CMP     #DOW,MODTYP    ;IS THIS DOWN LINE LOAD
237 063720 001406                BEQ     POLLE2
238 063722 012777 000003 137136  MOV     #03,08SEL6     ;TO ISTRT
239 063730 052737 000400 017414  BIS      #PUNST,FLAG    ;SET THE RUN STATE FLAG
240 063736 112777 000001 137112  POLLE2: MOVB   #01,08SEL2     ;DO COMMAND
241 063744 000675                HR      DVES1              ;GO BACK
242 063746 052737 002000 017414  C.INEX: BIS     #INQVR,FLAG    ;INDICATE INIT CODE IS DONE
243 063754 000207                RTS     PC                  ;RETURN TO CALLER
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246
247
248

```

CZCLMCO DMP/V-11 DCU T MACRO V05.00 Thursday 22-Mar-84 16:24 Page 171
 DEVICE GET MODEM STATUS SUBROUTINE

.SBTTL

DEVICE GET MODEM STATUS SUBROUTINE

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; **
; FUNCTIONAL DESCRIPTION:
;   "DVMODS" GET MODEM STATUS
;
; IMPLICIT INPUTS:
;   THE BIT POSITION AND AVAILABILITY OF THE MODEM SIGNALS CTS,DSR,...RI,..
;   IN THE DEPENDENT PORTION OF THE GLOBAL EQUATES SECTION.
;
; OUTPUTS:
;   CURRENT MODEM SIGNAL VALUES IN "MODS"
;
; SUBORDINATE ROUTINES USED:
;
; CALLING SEQUENCE:
;   JSR      PC,DVMODS
; --

```

```

40 063756 152777 000200 137066 DVMODS: BISB    0RQI,08SEL0    ;SET RQI
41 063764 004737 065114          JSR      PC,T00RIO    ;GO TIME OUT CHECK
42 063770 012777 000020 137070          MOV     020,08SEL6    ;READ MODEM STATUS
43 063776 112777 000052 137052          MOVB   001,08SEL2    ;DO CONTROL IN
44 064004 000207          RTS      PC          ;RETURN TO CALLER
45

```

CZCUMCO DMP V 11 DELT MACRO V05.00 Thursday 22 Mar 84 16:24 Page 102
 DEVICE QUEUE RECEIVE SPACE SUBROUTINE

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```

SUBTITLE                                DEVICE QUEUE RECEIVE SPACE SUBROUTINE

'''
FUNCTIONAL DESCRIPTION:
DVRXQ - THIS SUB ROUTINE QUES THE REC BUFFER SPACE TO THE
        DEVICE, THEN CLEARS THE QRX BIT OF THE FLAG WORD.

INPUTS:
DVRXA - ADDRESS OF RX BUFFER SPACE
DVRCC - BYTE CHAR COUNT OF RX BUFFER
QRX FLAG BIT - SET BY CALLING ROUTINE

OUTPUTS:
QRX FLAG BIT - CLEARED BY ROUTINE

SUBORDINATE ROUTINES USED:

CALLING SEQUENCE:
JSR      PC,DVRXQ
    
```

```

DVRXQ:
BIT      @QRX,FLAG
BEQ      DVREX          ;IF NOT RX THEN EXIT
;ELSE QUR RX
;CLEAR FLAG FOR RX

BIC      @QRX,FLAG

BISB     @RQI,@SEL0     ;SET UP REQUEST
JSR      PC,TOORIO      ;GO CHECK FOR IN OR OUT

MOV      DVRXA,@SEL4
MOV      DVRCC,@SEL6     ;LOAD CC AND ADDR
MOVB     TRIBN,@SEL3     ;SET UP TRIB NO.
MOVB     @0,@SEL2        ;DO COMMAND.

DVREX:   RTS            PC          ;RETURN TO CALLER
    
```

```

34 064006
35 064006 052757 000004 017414
36 064014 001424
37
38 064016 042737 000004 017414
39
40 064024 152777 000200 137020
41 064032 004737 065114
42
43 064036 013777 017270 137016
44 064044 013777 017272 137014
45 064052 113777 015756 137000
46 064060 112777 000000 136770
47
48
49
50
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52
53
54 064066 000207
55
    
```

C:\CMC0\DMF V 11 DCLT MACRO V05.00 Thursday 22 Mar 84 16:24 Page 103
 DEVICE TRANSMIT AND RECEIVE SUBROUTINE

```

1      .SHTL      DEVICE TRANSMIT AND RECEIVE SUBROUTINE
2
3      ***
4      FUNCTIONAL DESCRIPTION:
5      DVIXRX-DEVICE TRANSMIT AND RECEIVE ROUTINE
6      THIS CODE QUES THE TRANSMIT BUFFER TO THE DEVICE
7      IF NEEDED. THE CODE THEN WAITS FOR A TX COMPLETE,
8      RX COMPLETE OR BOTH. THE CODE REPORTS A TIME OUT
9      ERROR IF NEITHER IS REPORTED BACK IN
10     60 SECONDS. AFTER REPORTING ERROR TIMER IS RE-STARTED
11     AND DEVICE WILL CONTINUE TO WAIT FOR INTERRUPT.
12
13     INPUTS:
14     "DVIXA" - ADDRESS OF TRANSMIT MSG.
15     "DVICC" - BYTE COUNT OF TRANSMIT MSG.
16     "QIX" BIT - SET IF TRANSMIT REQUESTED
17     "ETX" BIT - SET IF TRANSMIT EXPECTED
18     "ERX" BIT - SET IF RECEIVE EXPECTED
19
20     OUTPUTS:
21     "DVIXA" - ADDRESS OF TX MSG. COMPLETED
22     "DVICC" - BYTE COUNT OF TX MSG. COMPLETED
23     "QIX" - SET IF TX COMPLETED
24     "DVRXA" - ADDRESS OF RX MSG. COMPLETED
25     "DVRCC" - BYTE COUNT OF RX MSG. COMPLETED
26     "QRX" - SET IF RX COMPLETED
27
28     SUBORDINATE ROUTINES USED:
29
30     CALLING SEQUENCE:
31     JSR      PC,DVIXRX
32
33     59 064070 052757 000010 017414 DVIXRX: BIT      @QIX,FLAG      JAND TX TO QUE
34     60 054076 001424          BEQ      DVIR3          IF NOT GO WAIT FOR OUTPUT
35     61 064100 042757 000010 017414          BIC      @QIX,FLAG      CLEAR FLAG
36
37     68
38     69 064106 152777 000200 136736          BISH      @RQI,@SEL0      SET REQUEST
39     70 064114 004757 065114          JSR      PC,IOORIO      GO CHECK FOR IN OR OUT
40     71 064120 013777 017250 136734          MOV      DVIXA,@SEL4
41     72 064126 013777 017252 136732          MOV      DVICC,@SEL6
42     73 064134 113777 015756 136716          MOVW     TRIBN,@SEL3      SET UP TRIB NO.
43     74 064142 112777 000004 136706          MOVW     @4,@SEL2      GO COMMAND
44     75
45     76 064150          DVIR3:
46     82 064150 012757 000074 017462          MOV      @60,TIMERS      SET TIMER FOR 60 SECS
47     83 064156 005757 015766          TOINQI: TST      CR4
48     84 064162 001050          BNE      DVIR4          BRANCH IF RX COMPLETED
49     85 064164 005757 015764          TST      C1X
50     86 064170 001045          BNE      DVIR4          BRANCH IF TX COMPLETED
51     87
52     88
53     89 064172 005737 017462          TST      TIMERS          IS TIMER EXPIRED

```

CZCUMCO DMP V 11 DCU1 MACRO V05.00 Thursday 22 Mar 84 16:24 Page 103 1
 DEVICE TRANSMIT AND RECEIVE SUBROUTINE

90	064176	001025			BNE	TOIN1			
91	064200	012737	037257	017354	MOV	0DVEM2,TEMP2			
92	064206	017737	136640	017356	MOV	0SELO,TEMP3			
93	064214	017737	136636	017360	MOV	0SEL2,TEMP4			
94	064222	117737	136632	015756	MOVH	00SEL3,TRIBN			
95	064230	004737	042104		JSR	PC,LGDVE			
96	064234	005237	017310		INC	ERRCNT			
97	064240				ERRSOFT	6,DVEM2,ERR13			
	064240	104457					TRAP	C\$ERSOFT	
	064242	000006					.WORD	6	
	064244	037257					.WORD	DVEM2	
	064246	041460					.WORD	ERR13	
98	064250	000737			BR	DVTR3			RETURN TO CHECK TIMER
99									
100									
101	064252				TOIN1:	BREAK			
	064252	104422					TRAP	C\$BRK	
102	064254	032737	000002	017414	TOIN2:	BIT	0OTINT,FLAG		
103	064262	001735			BEQ	TOINOT			IF NOT OUTPUT GO BACK AND
104									CHECK TIMER AGAIN
105	064264	004737	065254		JSR	PC,OUTHDL			ELSE HANDLE OUTPUT AND RETURN
106	064270	005737	015766		TST	CRX			
107	064274	001003			BNE	DVTR4			IF TX GO TO 4
108	064276	005737	015764		TST	CTX			
109	064302	001725			BEQ	TOINOT			BRANCH IF NOT RX OR TX COMPLETED
110	064304	005737	015764		DVTR4:	TST	CTX		IS IT TX COMPLETED
111	064310	001456			BEQ	DVTR5			IF NOT TR RX
112	064312	032737	000200	017414	RTT	0ETX,FLAG			IF SO SHOULD IT BE
113	064320	001023			BNE	DVTR4A			IF IT SHOULD GO TO 4A
114	064322	012737	037514	017354	MOV	0DVEM5,TEMP2			ELSE LOG ERROR
115	064330	013737	066644	017356	MOV	TSEL4,TEMP3			
116	064336	013737	066642	017360	MOV	TSEL6,TEMP4			
117	064344	013737	066646	015756	MOV	TSEL3,TRIBN			
118	064352	004737	042104		JSR	PC,LGDVE			
119	064356				ERRSOFT	9,DVEM5,ERR13			REPORT ERROR
	064356	104457					TRAP	C\$ERSOFT	
	064360	000011					.WORD	9	
	064362	037514					.WORD	DVEM5	
	064364	041460					.WORD	ERR13	
120									
121	064366	000425			DVTR4A:	BR	DVTR4B		THEN CLEAR COMPL FLAG
122	064370	013702	015774		MOV	TSPTR,R2			
123	064374	014237	017350		MOV	(R2),TEMP			UNLOAD TRIBN
124	064400	113737	017351	015756	MOVH	TEMP1,TRIBN			
125	064406	105037	015757		COBH	TRIBN+1			
126	064412	013737	015756	017254	MOV	TRIBN,DVTRB			UNLOAD TRIB NUMBER
127	064420	014237	017252		MOV	(R2),DVTRX			UNLOAD CC
128	064424	014237	017252		MOV	(R2),DVTRC			UNLOAD ADDRESS
129	064430	010237	015774		MOV	R2,TSPTR			
130	064434	052737	000010	017414	BIT	0QTX,FLAG			AND SET TX COMPL FLAG
131	064442	005337	015764		DVTR4B:	DEC	CTX		AND COUNT DOWN FLAG
132	064446	005737	015766		DVTR5:	TST	CRX		
133	064452	001463			BEQ	DVTRFX			IF NOT THEN EXIT
134	064454	032737	000100	017414	BIT	0ERX,FLAG			TEST IS THIS SUPPOSED TO BE RX
135	064462	001023			BNE	DVTR5A			IF YES PROCESS AS SUCH
136	064464	012737	037511	017354	MOV	0DVEM6,TEMP2			
137	064472	013737	066650	017356	MOV	RSEL4,TEMP3			

CZCUMCO DMP V 11 DCU1 MACRO V05.00 Thursday 22-Mar-84 16:24 Page 103-2
 DEVICE TRANSMIT AND RECEIVE SUBROUTINE

138	064500	013737	066654	015756	MOV	RSEL3,TRIBN		
139	064506	013737	066654	017360	MOV	RSEL6,TEMP4	;ELSE	
140	064514	004737	042104		JSR	PC,LOGD/F	;LOG ERROR	
141	064520				ERRSOFT	10,DVEM6,ERR13		
	064520	104457					TRAP	C\$ERSOFT
	064522	000017					.WORD	10
	064524	037571					.WORD	DVEM6
	064526	041460					.WORD	ERR13
142								
143	064530	000437			BR	DVTRX1	;AND EXIT	
144								
145	064532	013702	015770		DVTR5A:	MOV	RSPTRS,R2	
146	064536	012237	017272			MOV	(R2)+,DVRCC	
147	064542	012237	017270			MOV	(R2)+,DVRXA	;UNLOAD ADDR
148	064546	012237	017350			MOV	(R2)+,TEMP	
149	064552	113737	017351	015756		MOV	TEMP+1,TRIBN	
150	064560	105037	015757			CLRB	TRIBN+1	
151	064564	013737	015756	017266		MOV	TRIBN,DVRTB	;UNLOAD TRIBN
152	064572	020227	016166			CMP	R2,CRXSKEN	;IS IT AT THE END
153	064576	001002				BNE	23	
154	064600	012702	016012			MOV	CRXSTAK,R2	;START OVER
155	064604	010237	015770		23:	MOV	R2,RSPTRS	;RELOAD POINTER
156	064610	052737	000004	017414		BIS	CRX,FLAG	
157	064616	005337	015766		DVTRX1:	DEC	CRX	;COUNT DOWN CRX
158								
159	064622	000207			DVTREX:	RTS	PC	;AND EXIT
160								

CZC/MCO DMP-V 11 DCU MACRO V05.00 Thursday 22-Mar-84 16:24 Page 104
 DEVICE DEPENDENT SUBROUTINES

```

1      .SBTTL      DEVICE DEPENDENT SUBROUTINES
2      .SBTTL      WRITE POLL PARAMETERS
3      **
4      : FUNCTIONAL DESCRIPTION:      WRIPP - WRITE POLL PARAMETERS
5      :      WRITE ALL POLLING PARAMETERS FROM LIST
6      :      POINTED TO BY TSSE FOR TRIB NUMBER IN TRIBN
7      :
8      : INPUTS:
9      :      TRIBN - TRIB NUMBER OF WRITE
10     :      TSSE - ADDRESS OF POLL LIST
11     :
12     : CALLING SEQUENCE:
13     :      JSR      PC,WRIPP      ;FOR TRIBS
14     :      JSR      PC,WRIPPG     ;FOR GLOBAL
15     :
16     :
17 064624 012737 000233 021024 WRIPPG: MOV    #233,TSSA      ;LOAD TSSA WITH ADDR OF IS GLOBAL PP.
18 064632 000403                BR      WRIP1      ;THEN GO TO 1
19 064634 012737 000230 021024 WRIPP:  MOV    #230,TSSA      ;LOAD TSSA WITH ADDR OF 1ST POLPAR.
20 064642 152777 000200 136202 WRIP1:  BISB   #RQI,#SEL0      ;DO REQUEST IN
21 064650 004737 065114                JSR      PC,TOORIO     ;WAIT TIL PORT IS OURS
22 064654 113777 015756 136176                MOVB   TRIBN,#SEL3      ;SET UP TRIBN
23 064662 017777 134134 136172                MOV     #TSSE,#SEL4      ;MOVE DATA INTO SEL4
24 064670 113777 021024 136170                MOVB   TSSA,#SEL6      ;SET UP POLL PARAMETER
25 064676 112777 000001 136152                MOVB   #01,#SEL2      ;DO CONTROL IN WRITE TSS/GSS
26 064704 022737 000237 021024                CMP     #237,TSSA
27 064712 001406                BEQ     WRIPEX      ;EXIT IF DONE
28 064714 005237 021024                INC     TSSA
29 064720 062737 000002 021022                ADD     #2,TSSE
30 064726 000745                BR      WRIP1      ;GO BACK FOR MORE
31 064730 000207                WRIPEX: RTS      PC
32

```

CZCLMCO DMP-V 11 DELT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 105
WRITE MODEM CONTROL

```

1      .SBTTL      WRITE MODEM CONTROL
2
3      **
4      FUNCTIONAL DESCRIPTION:      WRMCS - WRITE MODEM CONTROL SIGNALS
5
6      WRITE MODEM CONTROL SIGNALS FROM TEMP TO DMP
7      THIS ROUTINE IS IGNORED BY THE DMV
8
9      INPUTS:
10     TEMP - CONTAINS CONTENTS FROM BSEL4
11
12     CALLING SEQUENCE:
13     JSR      PC,WRMCS      ;WRITE MODEM CONTROL
14
15     WRMCS:  BISH      @RQ1,@BSEL0      ;DO REQUEST IN
16             JSR      PC,TOORIO      ;WAIT TIL PORT IS OURS
17             MOVB     TRIBN,@BSEL3      ;SET UP TRIBN
18             MOV      TEMP,@BSEL4
19             MOV      @21,@BSEL1      ;DO WRITE MODEM
20             MOVB     @01,@BSEL2      ;CONTROL IN
21             RTS      PC      ;THEN RETURN TO CALLER
22
23
24     .SBTTL      HALT TRIB SUBROUTINE
25
26     **
27     FUNCTIONAL DESCRIPTION:
28     HLITRB HALT TRIB SUBROUTINE HALTS ALL TRIBS THAT
29     ARE FOUND IN THE TRIBSET
30
31     INPUTS:      TRIBS - CONTAINS VALID TRIBS
32
33     SUBORDINATE ROUTINES USED:
34
35     TOORIO      TIME OUT OR INPUT OR OUTPUT INTERRUPT
36
37     CALLING SEQUENCE:
38     JSR      PC,HLITRB
39
40     HLITRB:  CMP      @1,DEVPAR      ;IS THIS TRIB OR CONTROL
41             BEQ      HLITR1X      ;BRANCH IF TRIB
42             BIT      @DATCKB,PARAM
43             BNE      HLITR2
44             MOV      @2,TIMERS      ;IF CHECK GO TO 2
45             MOV      @17462
46             HLITR3:  TST      TIMERS      ;SET UP FOR 2 SEC TIMER
47             BNE      HLITR3      ;WAIT FOR TIMER TO BE 0
48             MOV      @1,INDEX      ;MAKE INDEX = 1
49             HLITR1:  JSR      PC,GTIND      ;GET VALID INDEX
50             CMP      @32,INDEX      ;DONE
51             BEQ      HLITR1X      ;IF SO EXIT
52
53             ;HALT TRIB
54
55     HLITR1X:  BISH      @RQ1,@BSEL0      ;DO REQUEST IN
56             JSR      PC,TOORIO      ;WAIT TIL PORT IS OURS
57             MOVB     TRIBN,@BSEL3      ;SET UP TRIB NO.

```

CZCUMCO DMP-V 11 DEC 1 MACRO V05.00 Thursday 22-Mar-84 16:24 Page 105-1
 HALT TRIB SUBROUTINE

58	065074	012777	000005	135764	MOV	#05,8SEL6	;HALT TRIB
59	065102	112777	000001	135746	MOVB	#01,8SEL2	;CLEAR RD1 AND DO COMMAND.
60	065110	000753			BR	HLTRIB	;GO BACK AND GET ANOTHER
61	065112	000207			HLTRIB; RTS	PC	;RETURN TO CALLER
62							

CZC/MCO DMP/V 11 DCU MACRO V05.00 Thursday 22-Mar-84 16:24 Page 106
 TIME OUT OR INPUT INT. OR OUTPUT INT.

```

1      .SBTTL                                TIME OUT OR INPUT INT. OR OUTPUT INT.
2
3
4      ;**
5      ; FUNCTIONAL DESCRIPTION:
6      ; TOORIO - TIME OUT OR INPUT INTERRUPT OR OUTPUT INTERRUPT
7      ; THIS ROUTINE SETS UP A TIMER FOR 100 (OCTAL) TICKS
8      ; THEN CHECKS FOR TIME OUT OR INPUT INTERRUPT, OR OUTPUT
9      ; INTERRUPT. IF TIME OUT OCCURS IT REPORTS ERROR AND
10     ; RESTARTS TIMER. IF INPUT INTERRUPT OCCURS RETURN TO CALLER
11     ; IF OUTPUT INTERRUPT OCCURS LOG IT AND CONTINUE WAITING FOR
12     ; INPUT INTERRUPT.
13
14     ; USE OF FLAGS:
15     ; "OTINT" - SET BY OUTPUT INT ROUTINE
16     ; "ININT" - SET BY INPUT INT. ROUTINE
17     ;             CLEARED BY THIS ROUTINE.
18
19     ; SUBORDINATE ROUTINES USED:
20
21     ; "OUTHDL" - OUTPUT INTERRUPT HANDLER
22
23     ; CALLING SEQUENCE:
24     ; JSR      PC,TOORIO
25
26
27 065114 011637 017374      TOORIO: MOV      (SP),PCADD      ;SAVE ADDR. OF CALLING ROUTINE
28 065120 012737 000100 017456      MOV      #100,TIMER1    ;SET UP TIMER
29 065126 052737 000003 023100      BIT      #3,OPTYP      ;IS THIS DMV
30 065134 001403              BEQ      TOOR3                ;BRANCH IF NOT
31 065136 012737 000400 017456      MOV      #400,TIMER1    ;MAKE TIME OUT GREATER IF DMV
32 065144 005737 017456      TOOR3:  TST      TIMER1        ;IS TIME EXPIRED
33 065150 001022              BNE      TOOR1                ;IF NOT CONTINUE
34                                     ;IF YES ERROR

```

CZCUMCO DMP/V-11 DCIT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 106-1
TIME OUT OR INPUT INT. OR OUTPUT INT.

35	065152	012737	037354	017354	MOV	#DVEM3,TEMP2		
36	065160	017737	135672	017360	MOV	#SEL2,TEMP4		
37	065166	017737	135660	017356	MOV	#SELO,TEMP3		
38	065174	004737	042104		JSR	PC,LGDVE		
39	065200	005237	017310		INC	ERRCNT		
40	065204				ERRSOFT	7,DVEM3,ERR13		
	065204	104457					TRAP	C\$ERSOFT
	065206	000007					.WORD	7
	065210	037354					.WORD	DVEM3
	065212	041460					.WORD	ERR13
41	065214	000737			BR	TOOR10		
42								
43	065216				TOOR1:	BREAK		
	065216	104422					TRAP	C\$BRK
44	065220	032737	000002	017414	BIT	#OTINT,FLAG		
45								
46	065226	001402			BEQ	TOOR2		
47								
48	065230	004737	065254		JSR	PC,OUTHDL		
49	065234	032737	000001	017414	TOOR2:	BIT	#ININT,FLAG	
50	065242	001740			BEQ	TOOR3		
51	065244	042737	000001	017414	BIC	#ININT,FLAG		
52	065252	000207			RIS	PC		
53								

; IS THERE AN OUTPUT
 ; PENDING
 ; IF NOT GO TO 2
 ; ELSE GO HANDL. IT
 ;
 ; IS THERE AN INPUT PENDING
 ; IF NOT GO BACK TO TIMER CK.
 ; ELSE CLEAR THE INPUT PEND FLAG
 ; AND RETURN TO CALLER

CZCLMCO DMP/V-11 DCI 1 MACRO V05.00 Thursday 22-Mar-84 16:24 Page 107
 OUTPUT INTERRUPT HANDLER

```

1      .SBTTL                      OUTPUT INTERRUPT HANDLER
2
3      ;**
4      ; FUNCTIONAL DESCRIPTION:
5      ;   OUTHDL - OUTPUT INTERRUPT HANDLER
6      ;   THIS ROUTINE IS CALLED WHEN AN OUTPUT INTERRUPT HAS SET
7      ;   THE "OTINT" BIT IN THE "FLAG" WORD. IT CHECKS FOR
8      ;   AN RDO SIGNAL. IF NO RDO THEN REPORT ILLEGAL INTERRUPT.
9      ;   THEN IT CHECKS FOR BACC OUT IF NOT BACC OUT REPORT THE
10     ;   TYPE OF OUTPUT ERROR. IF BACC OUT FIND IF RX OR TX
11     ;   IF RX SET CRX BIT AND MOVE ADDR AND BYTE COUNT TO RSEL4
12     ;   AND RSEL6. IF TX SET CTXV BIT AND MOVE ADDR AND BYTE COUNT
13     ;   TO TSEL4 AND TSEL6. CLEAR OTINT FLAG AND RETURN TO CALLER.
14
15     ; USE OF FLAGS:
16     ;   "OTINT" - SET BY OUPUT ROUTINE
17     ;               CLEARED BY THIS ROUTINE
18     ;   "DMRRUN" - SET BY DVINIT ROUTINE IF THIS IS DMR
19     ;               CHECKED AND CLEARED BY THIS ROUTINE.
20     ;   "CTX"    - SET IF TRANSMIT COMPLETED
21     ;   "CRX"    - SET IF RECEIVE COMPLETED
22
23     ; SUBORDINATE ROUTINES USED:
24     ;   "LGDEV" - LOG DEVICE ERRORS TO EVENT LOG
25
26     ; CALLING SEQUENCE
27     ;   JSR      PC,OUTHDL
28
29
30
31
32
33 065254 011637 017374      OUTHDL: MOV      (SP),PCADD      ;SAVE ADDR. OF CALLING ROUTINE
34 065260 042737 000002 017414 BIC      *OTINT,FLAG
35 065266 005737 017320      TST      CLNSET
36 065272 001404      BEQ      OUTH1
37 065274 142777 000200 135554 BICB     *RDO,*RSEL2      ;CLEAR RDO
38 065302 000207      RTS      PC      ;RETURN TO CALLER
39 065304
40 065304 017703 135546      OUTH1:  MOV      *RSEL2,R3
41 065310 042703 177770      BIC      *C<7>,R3      ;STRIP TO COMMAND CODE
42 065314 022703 000001      CMP      *1,R3      ;IS IT CONTROL OUT
43 065320 001405      BEQ      CONOHD      ;IF SO GO TO CONTROL OUT HANDLER
44 065322 022703 000002      CMP      *2,R3      ;IS IN INFO OUT
45 065326 001550      BEQ      INFOHD      ;IF SO GO TO INFORMATION OUT HANDLER
46 065330 000137 066274      JMP      BACCBD      ;IF NOT JUMP TO BACC HANDLER
47
48      ;CONTROL OUT HANDLER
49
50 065334      CONOHD:
51 065334 005003      CLR      R3
52 065336 157703 135524      BICB     *RSEL6,R3      ;SAVE REASON FOR INTERRUPT
53
54      ; REV C EC
55      ; IF MODEM DISCONNECT OR RING IS DETECTED, AND DCLT IS NOT RUNNING,
56      ; WE IGNORE IT.
57

```

CZCLMCO DMP/V 11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 107-1
 OUTPUT INTERRUPT HANDLER

```

58 065342 005737 017416      TST      RUNNING      ; DCLT RUNNING?
59 065346 001011              BNE      CON01F      ; YES,BRANCH
60 065350 022703 000304      CMP      #304,R3      ; MODEM DISCONNECT(DSR DROPPED)?
61 065354 001404              BEQ      CON01F      ; YES, EXIT
62 065356 022703 000032      CMP      #32,R3      ; MODEM RING ?
63 065362 001401              BEQ      CON01F      ; YES,BRANCH
64 065364 000402              BR       CON01E      ; GO HANDLE INTERRUPT
65 065366              CON01F:
66 065366 000137 066452      JMP      OUTHEX      ; EXIT
67
68 065372 032703 000100      CON01E: BIT      #BIT6,R3      ; IS THIS ERROR IN THE 100-176 RANGE
69                                ; OR THE 300-376 RANGE
70 065376 001052              BNE      CON01      ; BRANCH IF YES.
71 065400 022703 000024      CMP      #24,R3      ; IS THIS A RUN STATE
72 065404 001011              BNE      CON01B      ; IF NOT GO TO 1B
73 065406 032737 000400 017414  BIT      #RUNST,FLAG      ; TEST THE RUN STATE
74 065414 001437              BEQ      CON01A      ; IF NOT SET GO TO 1A
75 065416 012737 177777 017416  MOV      #1,RUNING      ; SET "DCLT RUNNING" FLAG
76 065424 000137 066452      JMP      OUTHEX
77 065430 022703 000002      CON01B: CMP      #2,R3      ; IS IT RX THRESH
78 065434 001004              BNE      CON01C      ; BRANCH IF NOT
79 065436 005237 017302      INC      OPVAR      ; BUMP OPVAR
80 065442 000137 066452      JMP      OUTHEX      ; AND EXIT
81 065446 022703 000004      CON01C: CMP      #4,R3      ; IS IT TX THRESH
82 065452 001004              BNE      CON01D      ; BRANCH IF NOT
83 065454 005237 017304      INC      OPVAR1      ; IN TX COUNT
84 065460 000137 066452      JMP      OUTHEX      ; AND EXIT ROUTINE
85 065464 022703 000006      CON01D: CMP      #6,R3      ; IS IT SELECT
86 065470 001411              BEQ      CON01A      ; BRANCH IF SO
87 065472 022703 000032      CMP      #32,R3      ; IS IT RING D
88 065476 001406              BEQ      CON01A
89 065500 022703 000022      CMP      #22,R3      ; IS IT DEAD TRIB
90 065504 001403              BEQ      CON01A      ; BRANCH IF SO
91 065506 012737 177777 017324  MOV      #1,FTEFLG      ; SET FATAL ERROR FLAG
92 065514 016337 023106 017366  CON01A: MOV      CON01S(R3),CON0TM
93 065522 000427              BR       CON04      ; THEN GO TO 4
94
95
96 065524 012737 177777 017324  CON01: MOV      #1,FTEFLG      ; SET FATAL ERROR FLAG
97 065532 032703 000200      BIT      #BIT7,R3      ; IS THIS 300 RANGE
98 065536 001006              BNE      CON03      ; IF SO GO TO 3
99 065540 042703 000100      BIC      #BIT6,R3      ; CLEAR TOP BIT
100 065544 016337 023142 017366  MOV      CON01S(R3),CON0TM
101 065552 000413              BR       CON04      ; LOAD UP MSG AND GO TO 4
102
103 065554 022703 000306      CON03: CMP      #306,R3      ; IS THIS QUE OVER FLOW
104 065560 001003              BNE      CON03A
105 065562 012737 177777 017330  MOV      #1,OVRCNT
106 065570 042703 000306      CON03A: BIC      #BIT7:BIT6,R3      ; CLEAR THE TOP BITS
107 065574 016337 023210 017366  MOV      CON03S(R3),CON0TM
108
109 065602 017737 135260 017360  CON04: MOV      #SEL6,TEMP4
110 065610 017737 135242 017356  MOV      #SEL2,TEMP5
111 065616 012737 037430 017354  MOV      #DVEM4,TEMP2
112 065624 004737 042104      JSR      PC,UGDVE      ; GO LOG ERROR
113 065630 005237 017310      INC      ERRCNT
114 065634              ERRSFT 7,DVEM4,ERR14

```

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 107-2
OUTPUT INTERRUPT HANDLER

	065634	104457							TRAP	C\$R\$SOFT
	065636	000007							.WORD	7
	065640	037430							.WORD	DW M4
	065642	041512							.WORD	E\$M4
115	065644	000137	066452	JMP	OUTHEX			;EXIT OUTPUT HANDLER		
116										
117								;INFORMATION OUT HANDLER		
118								;BA AND CC HANDLER		
119										
120										
121										
122	065650									
123	065650	122777	000010	135210	INFOH0:	CMPB	#10,#0SEL6	;IS THIS A MODEM STATUS		
124	065656	001005				BNE	INFOH1	;GO TO INFO 1 IF NOT MODEM STATUS		
125	065660	017737	135176	020524		MOV	#SEL4,M0DS	;PUT IN NEW MOD STATUS		
126	065666	000137	066452		INFO18:	JMP	OUTHEX			
127	065672	032777	000040	135166	INFOH1:	BIT	#BIT5,#0SEL6			
128	065700	001011				BNE	INFOHA	;BRANCH IF RD/TSS		
129	065702	022777	000020	135156		CMP	#20,#0SEL6			
130	065710	001766				BEQ	INFO18	;GET OUT IF BUFF RET CMP		
131	065712	012737	041212	017366		MOV	#INFOM,CONOTM	;SET UP FOR INFO ERROR		
132	065720	000137	065602			JMP	CONO4	;AND PRINT IT		
133	065724	005037	017326		INFOHA:	CLR	TSSFLG	;CLEAR FLAG		
134	065730	017704	135126			MOV	#SEL4,R4			
135	065734	017703	135126			MOV	#SEL6,R3			
136	065740	042703	177740			BIC	#177740,R3	;CLEAR ALL BUT LAST 5 BITS		
137	065744	105777	135110			TSTB	#SEL3	;IS THIS GSS		
138	065750	001007				BNE	INFOH8	;BRANCH IF NOT		
139										
140										
141	065752	116302	021130			MOVB	GSSIND(R3),R2			
142	065756	006303				ASL	R3			
143	065760	016337	021030	017366		MOV	GSSLST(R3),CONOTM	;USE WORD INDEX		
144	065766	000406				RR	INFOH2	;USE GSS LIST		
145										
146	065770	116302	020762		INFOH8:	MOVB	GSSIND(R3),R2			
147	065774	006303				ASL	R3			
148	065776	016337	020662	017366		MOV	GSSLST(R3),CONOTM	;IF TSS USE THAT LIST		
149										
150	066004	000172	066010		INFOH2:	JMP	JINFOH4(R2)			
151										
152	066010	066016			INFOH4:	.WORD	INFOH5	;WORD ROUTINE		
153	066012	066044				.WORD	INFOH6	;PTE ROUTINE		
154	066014	066110				.WORD	INFOH7	;SPECIAL ROUTINE		
155	066016				INFOH5:	PRINTS	CONOTM,R4			
	066016	010446							MOV	R4,-(SP)
	066020	013746	017366						MOV	CONOTM,-(SP)
	066024	012746	000002						MOV	#2,-(SP)
	066030	010600							MOV	SP,R0
	066032	104416							TRAP	C\$PNTS
	066034	062706	000006						ADD	#6,SP
156	066040	000137	066452			JMP	OUTHEX			
157	066044	010437	017350		INFOH6:	MOV	R4,TEMP			
158	066050					PRINTS	CONOTM,<B,TEMP>,<B,TEMP+1>			

PC	Address	Hex	Asm	Comment	Symbol	Label	Op	Op2	Op3	Op4	Op5	Op6	Op7	Op8	Op9	Op10	Op11	Op12	Op13	Op14	Op15	Op16	Op17	Op18	Op19	Op20	Op21	Op22	Op23	Op24	Op25	Op26	Op27	Op28	Op29	Op30	Op31	Op32	Op33	Op34	Op35	Op36	Op37	Op38	Op39	Op40	Op41	Op42	Op43	Op44	Op45	Op46	Op47	Op48	Op49	Op50	Op51	Op52	Op53	Op54	Op55	Op56	Op57	Op58	Op59	Op60	Op61	Op62	Op63	Op64	Op65	Op66	Op67	Op68	Op69	Op70	Op71	Op72	Op73	Op74	Op75	Op76	Op77	Op78	Op79	Op80	Op81	Op82	Op83	Op84	Op85	Op86	Op87	Op88	Op89	Op90	Op91	Op92	Op93	Op94	Op95	Op96	Op97	Op98	Op99	Op100	Op101	Op102	Op103	Op104	Op105	Op106	Op107	Op108	Op109	Op110	Op111	Op112	Op113	Op114	Op115	Op116	Op117	Op118	Op119	Op120	Op121	Op122	Op123	Op124	Op125	Op126	Op127	Op128	Op129	Op130	Op131	Op132	Op133	Op134	Op135	Op136	Op137	Op138	Op139	Op140	Op141	Op142	Op143	Op144	Op145	Op146	Op147	Op148	Op149	Op150	Op151	Op152	Op153	Op154	Op155	Op156	Op157	Op158	Op159	Op160	Op161	Op162	Op163	Op164	Op165	Op166	Op167	Op168	Op169	Op170	Op171	Op172	Op173	Op174	Op175	Op176	Op177	Op178	Op179	Op180	Op181	Op182	Op183	Op184	Op185	Op186	Op187	Op188	Op189	Op190	Op191	Op192	Op193	Op194	Op195	Op196	Op197	Op198	Op199	Op200	Op201	Op202	Op203	Op204	Op205	Op206	Op207	Op208	Op209	Op210	Op211	Op212	Op213	Op214	Op215	Op216	Op217	Op218	Op219	Op220	Op221	Op222	Op223	Op224	Op225	Op226	Op227	Op228	Op229	Op230	Op231	Op232	Op233	Op234	Op235	Op236	Op237	Op238	Op239	Op240	Op241	Op242	Op243	Op244	Op245	Op246	Op247	Op248	Op249	Op250	Op251	Op252	Op253	Op254	Op255	Op256	Op257	Op258	Op259	Op260	Op261	Op262	Op263	Op264	Op265	Op266	Op267	Op268	Op269	Op270	Op271	Op272	Op273	Op274	Op275	Op276	Op277	Op278	Op279	Op280	Op281	Op282	Op283	Op284	Op285	Op286	Op287	Op288	Op289	Op290	Op291	Op292	Op293	Op294	Op295	Op296	Op297	Op298	Op299	Op300	Op301	Op302	Op303	Op304	Op305	Op306	Op307	Op308	Op309	Op310	Op311	Op312	Op313	Op314	Op315	Op316	Op317	Op318	Op319	Op320	Op321	Op322	Op323	Op324	Op325	Op326	Op327	Op328	Op329	Op330	Op331	Op332	Op333	Op334	Op335	Op336	Op337	Op338	Op339	Op340	Op341	Op342	Op343	Op344	Op345	Op346	Op347	Op348	Op349	Op350	Op351	Op352	Op353	Op354	Op355	Op356	Op357	Op358	Op359	Op360	Op361	Op362	Op363	Op364	Op365	Op366	Op367	Op368	Op369	Op370	Op371	Op372	Op373	Op374	Op375	Op376	Op377	Op378	Op379	Op380	Op381	Op382	Op383	Op384	Op385	Op386	Op387	Op388	Op389	Op390	Op391	Op392	Op393	Op394	Op395	Op396	Op397	Op398	Op399	Op400	Op401	Op402	Op403	Op404	Op405	Op406	Op407	Op408	Op409	Op410	Op411	Op412	Op413	Op414	Op
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C1

SEQ 209

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OUTPUT INTERRUPT HANDLER

```

194 066352 010237 015772      2$: MOV R2,RSPTRE
195 066356 005737 017330      3$: TST OVRCNT
196 066362 001433              BEQ OUTHEX
197 066364              ERRSOFT 12,DVEM7,ERR15
      066364 104457
      066366 000014
      066370 037645
      066372 041550
198
199
200 066374 005237 015764      BACCTX: INC CTX          ;INC TX COMPLETE COUNT
201 066400 013702 015774              MOV TSFTR,R2      ;LOAD R2 WITH POINTER
202 066404 017722 134456              MOV @SEL6,(R2)+
203 066410 017722 134446              MOV @SEL4,(R2)+
204 066414 017722 134436              MOV @SEL2,(R2)+
205 066420 010237 015774              MOV R2,TSPTR
206 066424 022702 016012              CMP @RXSTAK,R2
207 066430 001001              BNE 1$
208 066432              DOCLN          ;BAD NEWS
      066432 104444
209
210 066434 005737 017330      1$: TST OVRCNT      ;CHECK IF HERE FROM QUE OVER
211 066440 001404              BEQ OUTHEX
212 066442              ERRSOFT 13,DVEM7,ERR16
      066442 104457
      066444 000015
      066446 037645
      066450 041610
213
214 066452 142777 000200 134376 OUTHEX: BICB @RDO,@SEL2 ;CLEAR RDO
215 066460 005737 017330              TST OVRCNT      ;TEST THE OVER FLOW COUNT
216 066464 001427              BEQ OUTHE3      ;BRANCH IF ZERO
217 066466              OUTHE4: BREAK
      066466 104422
218 066470 032737 000002 017414              BIT @OTINT,FLAG ;IS OUTPUT INTERRUPT SET
219 066476 001402              BEQ OUTHE5      ;BRANCH IF NOT
220 066500 000137 065254              JMP OUTHDL      ;WHEN SET GO BACK FOR NEXT ON QUE
221 066504 032737 000001 017414 OUTHE5: BIT @ININT,FLAG ;TEST FOR INPUT INT
222 066512 001414              BEQ OUTHE3      ;BRANCH IF NOT INPUT
223 066514 042737 000001 017414              BIC @ININT,FLAG
224 066522 105077 134340              CLRB @SEL6
225 066526 112777 000001 134322              MOV @01,@SEL2      ;DO NO REQUEST
226 066534 012737 177777 017322              MOV @1,RQIFLG      ;SET RQI FLAG
227 066542 000751              BR OUTHE4
228
229      ; SEE IF FATAL ERROR HAS OCCURRED
230
231
232 066544 005737 017324      OUTHE3: TST FTFLEG
233 066550 001416              BEQ OUTHE6      ;BRANCH IF NOT FATAL
234 066552 005037 017324              CLR FTFLEG      ;CLEAR FATAL FLAG
235
236      ; IF A FATAL ERROR HAS OCCURRED, WE CLEAR ALL MODEM SIGNALS
237
238
239 066556 105037 015756              CLRB TRIBN      ;PARAMETER FOR SUBROUTINE
240 066562 005037 017350              CLR TEMP      ;CLEAR ALL MODEM SIGNALS

```

TRAP C\$ERSOFT
.WORD 12
.WORD DVEM7
.WORD ERR15

TRAP C\$DOCLN

TRAP C\$ERSOFT
.WORD 13
.WORD DVEM7
.WORD ERR16

TRAP C\$BRK

```

241 066566 004737 064737      JSR      PC,WRMCS      ; GO CLEAR MODEM SIGNALS
242 066572 005037 017416      CLR      RUNNING      ; INIT "DCLT RUNNING" FLAG
243
244
245      ;
246      ; RESTORE ORIGINAL STACK POINTER AND GO TO "DCLT>" PROMPT.
247      ;
248 066576 013706 017364      MOV      SAVSP,SP      ; RESET STACK
249 066602 000137 052402      JMP      GTRAS      ; GO BACK TO DCLT>
250
251
252 066606 005737 017322      OUTHE6: TST      RQIFLG
253 066612 001405              BEQ      OUTHE2
254 066614 005037 017322      CLR      RQIFLG
255 066620 152777 000200 134224  BISB     @RQI, @BSELO      ; CLEAR THE RQI FLAG.
256 066626 005737 017326      OUTHE2: TST      TSSFLG
257 066632 001315              BNE      OUTHE4      ; TEST THE TSSFLG
258 066634 005037 017330      CLR      OVRCNT      ; IF NOT ZERO WAIT TIL IT IS.
259 066640 000207              RTS      PC          ; CLEAR THE OVERFLOW FLAG
260                                ; RETURN TO CALLER
261 066642 000000              TSEL6:  .WORD    0
262 066644 000000              TSEL4:  .WORD    0
263 066646 000000              TSEL3:  .WORD    0
264 066650 000000              RSEL4:  .WORD    0      ; TEMP STORAGE LOCS.
265 066652 000000              RSEL6:  .WORD    0
266 066654 000000              RSEL3:  .WORD    0
267

```

```

9
10
11
12
13
14
15
16
17
18
19
20
21
22 066656
23 066656
24 066656 052737 000001 017414
25 066664 042777 000200 134160
26
27
28
29
30
31 066672
    066672
    066672 000000
    .SBTTL
    DEVICE INTERRUPT SERVICE ROUTINES
    BGNSRV DVINS
    BIS #ININT,FLAG
    BIC #BIT7,#SELO ;CLEAR RQ1
    DVINS::
    ENDSRV
    L10021:
    RTI
    
```

32

42 066674
 066674

BGNSRV DVOUTS

DVOUTS::

43

49 066674 052737 000002 017414

BIS #OTINT,FLAG

50 066702

ENDSRV

L10022:

066702

066702 000002

RTI

51

52

53

CZCUMCO DMP V 11 DCIT MACRO V05.00 Thursday 27-Mar-84 16:24 Page 111
DEVICE INTERRUPT SERVICE ROUTINES

12
13
14
15 066704
066704
066704 104401
16
1
2

.EVEN
ENDTST

L10020: TRAP C\$ETST

```

1      .SBTTL  HARDWARE PARAMETER CODING SECTION
2
3
4
5      ; **
6      ; THE HARDWARE PARAMETER CODING SECTION CONTAINS MACROS
7      ; THAT ARE USED BY THE SUPERVISOR TO BUILD P-TABLES.  THE
8      ; MACROS ARE NOT EXECUTED AS MACHINE INSTRUCTIONS BUT ARE
9      ; INTERPRETED BY THE SUPERVISOR AS DATA STRUCTURES.  THE
10     ; MACROS ALLOW THE SUPERVISOR TO ESTABLISH COMMUNICATIONS
11     ; WITH THE OPERATOR.
12     ; --
13     066706      BGNHRD
14     066706      000034
15     066710
16
17     .SBTTL  DEVICE INDEPENDENT SECTION
18
19     GPRML  DPLX,0,1,YES
20
21     066710      000130
22     066712      067000
23     066714      000001
24
25     .SBTTL  DEVICE DEPENDENT SECTION
26
27     GPRMA  CSRADR,2,0,160000,177776,YES
28
29     066716      001031
30     066716      067031
31     066720      160000
32     066722      177776
33
34     GPRMA  VECTOR,4,0,300,776,YES
35
36     066726      002031
37     066730      067056
38     066732      000300
39     066734      000776
40
41     GPRMD  PRIOR,6,0,340,4,7,YES
42
43     066736      003032
44     066740      067111
45     066742      000340
46     066744      000004
47     066746      000007
48
49     GPRMD  OPTYPM,12,0,7,0,4,YES
50
51     066750      005032
52     066752      067226
53     066754      000007
54     066756      000000
55     066760      000004
56
57     GPRML  PTPMLP,10,1,YES
58
59     066762      004130
60     066764      067137
61     066766      000001
62
63     XPERF  ENDMWL
64
65     066770      004044

```

```

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

```

```

        .WORD T$CODE
        .WORD DPLX
        .WORD 1

```

```

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

```

```

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

```

```

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

```

```

        .WORD T$CODE
        .WORD OPTYPM
        .WORD 7
        .WORD T$LOLIM
        .WORD T$HILIM

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        .WORD T$CODE
        .WORD PTPMLP
        .WORD 1

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        .WORD T$CODE

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CZC/MCO DMP V-11 DCI I MACRO V05.00 Thursday 22-Mar-84 16:24 Page 112-1
 DEVICE DEPENDENT SECTION

54	066772				GPRML	TRIBCO,10,2,YES		
	066772	004130					.WORD	13CODE
	066774	067173					.WORD	TRIBCO
	066776	000002					.WORD	2
55	067000				ENDHWL:			
56	067000				ENDHRD			
	067000							.EVEN
							L10023:	
57					.NLIST	BEX		
58								
59					;DEVICE	INDEPENDENT QUESTIONS		
60								
61								
62	067000	106	125	114	DPLX:	.ASCIZ /FULL DUPLEX OPERATION : /		
63								
73								
74					;DEVICE	DEPENDENT QUESTION		
75								
76	067051	104	105	126	CSRADR:	.ASCIZ /DEVICE CSR ADDRESS: /		
77	067056	111	116	124	VECTOR:	.ASCIZ /INTERRUPT VECTOR ADDRESS: /		
78	067111	111	116	124	PRIOR:	.ASCIZ /INTERRUPT PRIORITY : /		
79	067137	111	123	040	PTPMLP:	.ASCIZ /IS THIS MULTIPOINT NETWORK: /		
80	067173	111	123	040	TRIBCO:	.ASCIZ /IS THIS A CONTROL STATION: /		
81	067226	117	120	124	OPTYPM:	.ASCII /OPTION TYPE /<15><12>		
82	067244	040	060	075		.ASCII / 0=DMP/<15><12>/ 1=DMV: /		
83					.LIST	BEX		
84						.EVEN		
85								
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1      ;.SBTTL SOFTWARE PARAMETER CODING SECTION
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4      ;**
5      ; THE SOFTWARE PARAMETER CODING SECTION CONTAINS MACROS
6      ; THAT ARE USED BY THE SUPERVISOR TO BUILD P-TABLES. THE
7      ; MACROS ARE NOT EXECUTED AS MACHINE INSTRUCTIONS BUT ARE
8      ; INTERPRETED BY THE SUPERVISOR AS DATA STRUCTURES. THE
9      ; MACROS ALLOW THE SUPERVISOR TO ESTABLISH COMMUNICATIONS
10     ; WITH THE OPERATOR.
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36     ; TEMPORARY PATCH AREA - FOR DEBUG PURPOSES
37     ;::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
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CZCIMO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 113-1
Symbol table

SEQ 217

ACT	000003	ACTRGS	044524	BASM1	030401	CLIBCR	023604	CONOLS	023106
ACTATV	055026	ACTRHL	044434	BASM2	030372	CLIBDL	023477	CONOTM	017366
ACTBCR	054632	ACTRLG	044510	BASM3	030363	CLIBIF	000003	CON01	065524
ACTCHK	055242	ACTRLP	055374	BDC'K	027232	CLIBR	000002	CON01A	065514
ACTCKT	057010	ACTRNF	044424	BIT0	000001 G	CLIBRX	023457	CON01B	065430
ACTCLB	054154	ACTRNL	044432	BIT00	000001 G	CLIDEC	000011	CON01C	065446
ACTCLP	055354	ACTRPS	055324	BIT01	000002 G	CLIERM	023362	CON01D	065464
ACTCLR	053644	ACTRSE	044546	BIT02	000004 G	CLIERR	000000	CON01E	065372
ACTCOP	054452	ACTRSF	044672	BIT03	000010 G	CLIXI	000001	CON01F	065366
ACTCRC	055256	ACTRSO	044706	BIT04	000020 G	CLINBG	023435	CON01S	023142
ACTCSE	054000	ACTRTN	044600	BIT05	000040 G	CLINPS	023541	CON03S	023210
ACTCST	054072	ACTRTS	044554	BIT06	000100 G	CLINUF	023412	CON04	065602
ACTDLL	055074	ACTRUN	055754	BIT07	000200 G	CLINUM	000005	CON03	065554
ACTDME	054400	ACTSEX	054764	BIT08	000400 G	CLIOCT	000010	CON03A	065570
ACTDMQ	054372	ACTSHO	053654	BIT09	001000 G	CLIPPE	023702	CPTR	017340
ACTDMS	054350	ACTSHW	054214	BIT1	000002 G	CLIPW	023750	CPTRL5	015412
ACTDMX	054406	ACTSLS	056150	BIT10	002000 G	CLIRAC	014360	CPTRR	017336
ACTECH	055152	ACTSTE	054414	BIT11	004000 G	CLIRT	044774	CPTTLS	015512
ACTEKE	056622	ACTSTS	055250	BIT12	010000 G	CLISEO	023651	CR	031566
ACTEKT	056404	ACTSTT	054424	BIT13	020000 G	CLISPA	000004	CRC	000040
ACTEQO	054574	ACTSTX	054432	BIT14	040000 G	CLISTR	000012	CRCB	000020
ACTETB	055452	ACTSZE	054442	BIT15	100000 G	CLITRE	021170	CRX	015766
ACTEWS	055554	ACTTAL	055114	BIT2	000004 G	CLISPM	023354	CSHEXP	000006
ACTEXT	053730	ACTTLP	055344	BIT3	000010 G	CLISRP	025334	CSHTRN	000007
ACTEXX	057006	ACTTRA	055104	BIT4	000020 G	CLKBR	017440	CSRADR	067031
ACTESA	056610	ACTWS1	055732	BIT5	000040 G	CLKCSR	017436	CTOTCC	017244
ACTESB	056604	ACTWS2	055736	BIT6	000100 G	CLKEN	017446	CTPP	000064
ACTFLP	053664	ACTWS3	056036	BIT7	000200 G	CLKHZ	017444	CTS	000004
ACTKAL	055472	ACTWS5	055666	BIT8	000400 G	CLKIN1	041700 G	CTX	015764
ACTKTB	055462	ACTWS7	056002	BIT9	001000 G	CLKSET	041654	CURADD	017342
ACTLIS	055064	ACTWS9	055570	BLDBEX	045556	CLKVEC	017442	CURCC	017334
ACTLLP	055364	ACTW7B	056026	BLDBUF	045446	CLNSET	017320	C\$AU	000052
ACTLPX	055402	ADDOCC	045350	BLDB1	045456	CLRPEX	046362	C\$AUTO	000061
ACTLXX	055444	ADDOCC	045350	BLDB2	045530	CLRPLS	046340	C\$BRK	000022
ACTMEX	055020	ADDOCC	045444	BLDB3	045536	CLRPL1	046352	C\$RSEG	000004
ACTME1	054754	ADR	000020 G	BOE	000400 G	CMDBUF	003130	C\$BSUB	000002
ACTMOP	055334	ALCK	060150	BSEL0	023052	CMPBUF	004416	C\$CEFG	000045
ACTMOS	055264	ALCK1	060234	BSEL1	023054	CMPNEW	061040	C\$CLCK	000062
ACTMS0	054654	ALCK2	060310	BSEL2	023056	CMPPTR	017240	C\$CLEA	000012
ACTMS1	054662	ALCK2A	060550	BSEL3	023060	CMPSEX	061322	C\$CLOS	000035
ACTMS2	054672	ALCK3	060610	BSEL4	023062	CMPSR	061022	C\$CLP1	000006
ACTMS3	054702	ALCK3A	060732	BSEL5	023064	CMP51	061202	C\$CVEC	000036
ACTMS4	054712	ALCK3B	060754	BSEL6	023066	CMP52	061206	C\$DCLN	000044
ACTMS5	054722	ALCK3C	060744	BSEL7	023070	CMP53	061074	C\$DODU	000051
ACTMS6	054740	ALCK3D	060714	BUFEX	027377	CMP55	061304	C\$DRPT	000024
ACTMPX	055122	ALCK4	060776	BUFLIM	001000	CMP55A	061310	C\$DU	000053
ACTNO	055142	ALCK4A	061010	BUFTSM	041111	CMP56	061252	C\$EDIT	000003
ACTNUF	053634	ALCK5	060210	BYTBIT	017316	CMP57	061170	C\$ERDF	000055
ACTNUM	053642	ALCK5B	060220	CABLE	000002	CMPTOT	017242	C\$ERHR	000056
ACTOPM	054554	ALLTR	060210	CARLOS	041175	MSG0	000020	C\$ERRO	000060
ACTPAS	055036	ASSEMB	000010	CBLLCP	000045	MSG1	000021	C\$ERSF	000054
ACTPRG	055272	ATVMD	000027	CCURAD	017246	MSG2	000022	C\$ERSO	000057
ACTPRT	053740	BABTH	040275	CHECK	000003	MSG3	000023	C\$ESCA	000010
ACTQFG	055276	BACCHD	066274	CLFAR	000001	MSG4	000024	C\$ESG	000005
ACTREC	055056	BACCTX	066374	CLIACT	054436	MSG5	000025	C\$ESUB	000003
ACTREX	044500	BAD	017371	CLIALN	000007	MSG6	000026	C\$ETST	000001
		BADCHR	000051	CLIALP	000006	CONOHD	065334	C\$EXIT	000032

C\$GETR=	000026	DLL E7	062004	DVEM5	037514	EFM2	027627	EVT F3F	030717
C\$GETW=	000027	DLL E7A	062020	DVEM6	037571	EF.CON=	000036 G	EVT F4	031124
C\$GMAN=	000043	DLL E8	062124	DVEM7	037645	EF.NEW=	000035 G	EVT F4A	031226
C\$GPHR=	000042	DLL GA	001000	DVEM8	037725	EF.PWR=	000034 G	EVT F4B	031016
C\$GPL O=	000030	DLL IND	023222	DVEST	063554	EF.RES=	000037 G	EVT F44	031055
C\$GPRI=	000040	DLL MOD=	000033	DVES1	063540	EF.STA=	000040 G	EVT F5A	031324
C\$INIT=	000011	DLL M1	002647	DVES1A	063454	EFIB	000063	EVT F6	030756
C\$INLP=	000020	DLL M1C	002172	DVI	000012	EMSG0	002221	EVT LOG	017466
C\$MANI=	000050	DLL M1E	002654	DVINEX	063746	EMSG1	002222	EVT LST	020562
C\$MEM	000031	DLL M2	002654	DVINIT	062752	EMSG2	002223	EVT MIN	020612
C\$MSG	000023	DLL M2C	002174	DVINS	066656 G	EMSG3	002224	EVT PTR	017464
C\$OPEN=	000034	DLL M2E	003130	DVIN1	063172	EMSG4	002324	EVT SEC	020610
C\$PNTB=	000014	DLL PRI	061602	DVIN11	063326	EMSG5	002416	EVT TCK	020614
C\$PNTF=	000017	DLL Q1	025210	DVIN12	063334	EMSG6	002517	EVT TMP	020622
C\$PNTS=	000016	DLM	032014	DVIN13	063246	EMSG8	002647	EXIT	000066
C\$PNTX=	000015	DLT XRX	061642	DVIN4	063060	ENADD	017314	E\$END	002100
C\$QIO	000377	DLYM	032040	DVIN4A	063006	ENDALL	042776	E\$LOAD=	000035
C\$RDBU=	000007	DMCM	032031	DVIN6	063110	ENDEVT	044204	FACSIM	045572
C\$REFG=	000047	DMP	000000	DVM	032054	ENDHWL	067000	FHDPLX	017406
C\$RESE=	000033	DMPE	000053	DVMD5	063756	ENDIT	051652	FLAG	017414
C\$REVI=	000003	DMPM	032044	DVOUTS	066674 G	ENDQO	000017	FTLFLG	017324
C\$RFLA=	000021	DMPQ	000054	DVRCC	017272	EOP	000024	F\$AU	000015
C\$RPT	000025	DMP5	000052	DVRCLS	015612	EQUQ	025055	F\$AUTO=	000020
C\$SEFG=	000046	DMP6	000004	DVRCT	017274	FQUQ1	025111	F\$BGN	000040
C\$SPRI=	000041	DMSGAD	002176	DVREX	064066	LQUQ2	025151	F\$CLEA=	000007
C\$SEVC=	000037	DMSGCT	002150	DVRTB	017266	ERRCNT	017310	F\$DU	000016
C\$TPRT=	000013	DMV	000001	DVRXA	017270	ERR1	041340 G	F\$END	000041
DAM	032022	DMVDF1	016202	DVRXQ	064006	ERR10	041430 G	F\$HARD=	000004
DATCKB=	000002	DMVDF2	016204	DVTCC	017252	ERR13	041460 G	F\$HW	000013
DCD	000001	DMVDF3	016210	DVTCLS	015652	ERR14	041512 G	F\$INIT=	000006
DCK	000014	DMVDF4	016212	DVTCT	017256	ERR15	041550 G	F\$JMP	000050
DCLFLG	017376	DMVDF5	016214	DVTREX	064622	ERR16	041610 G	F\$MOD	000000
DOE	000022	DMVM	032105	DVTRX1	064616	ERR2	041402 G	F\$MSG	000011
DEADTM	040245	DMV	032035	DVTR3	064150	ERX	000100	F\$PROT=	000021
DER	000010	DOGL08	045776	DVTR4	064304	ETRB	000060	F\$PWR	000017
DEVPAR	023102	DOGL1	046036	DVTR4A	064370	ETWS	000065	F\$RPT	000012
DEV1	020652	DOGL2	046146	DVTR4B	064442	ETX	000200	F\$SE3	000003
DEV2	020654	DOGL4	046154	DVTR5	064446	EVI	000004 G	F\$SOFT=	000005
DEV3	020656	DOW	000004	DVTR5A	064532	EVMCTS	031530	F\$SRV	000010
DEV4	020660	DPLX	067000	DVTTB	017254	EVMOLD	031540	F\$SUB	000002
DFPTBL	002130 G	DPM	032006	DVTXA	017250	EVMOSR	031534	F\$SW	000014
DIAGMC=	000000	DQM	032017	DVTXRX	064070	EVMOCG	031410	F\$TEST=	000001
DISCON	041150	DSR	000010	DZM	032057	EVMOH0	031433	GARPEX	047006
DIVN15	063274	DTEM	032050	ECHO	000037	EVMOST	031513	GARPFL	046744
DLE	000020	DUM	032011	ECHOB	000004	EVMRI	031550	GARP1	046760
DLL	061420	DUMEX	045346	EDDCK	030144	EVMRTS	031544	GATCEX	047072
DLLAB	040022	DUMPSR	045212	EDDDE	030257	EVMSQD	031554	GATCFI	047016
DLLCM	027160	DUM1	045304	EDDER	030127	EVMTM	031560	GATC1	047036
DLL EA	061626	DUM2	045326	EDDLE	030222	EVTADD	020616	GETCL	052472
DLL E1	062104	DUM3	045242	EDDVI	030174	EVTBCT	020620	GETIND	047154
DLL E2	061752	DUM4	045216	EDEOP	030312	EVTEND	020522	GETI1	047160
DLL E3	062164	DUPM	032025	EDMOS	030326	EVTFO	030447	GETI2	047200
DLL E4	062154	DVEM0	037116	EDRXQ	030101	EVT F1	030545	GETPRM	051316
DLL E5	062274	DVEM1	037177	EDTXQ	030054	EVT F2	030574	GETRCL	017402
DLL E5A	062212	DVEM2	037257	EDTXC	030025	EVT F3	030646	GLBDF	016206
DLL E5B	062246	DVEM3	037354	EDTXQ	030001	EVT F3C	030660	GLBEND	016220
DLL E6	062036	DVEM4	037430	EFM11	027724	EVT F3D	030675	GLBPLS	017220

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Symbol table

GNTXPR 047102	G\$HILI= 000002	INIT1 050766	LOGEOP 042250	L\$LUN 002074 G
GNTX1 047120	G\$LOLI= 000001	INOVN = 002000	LOGEX 042552	L\$MREV 002050 G
GNTX2 047112	G\$NO = 000000	INTPRI 023076	LOGMSC 042266	L\$NAME 002000 G
GOOD 017370	G\$OFFS= 000400	INVEC 023072	LOGRXC 042074	L\$PRIO 002042 G
GRPTCP 046546	G\$OFSI= 000376	ISR = 000100 G	LOGRXQ 042056	L\$PROT 050744 G
GSSIND 021130	G\$PRMA= 000001	IXE = 004000 G	LOGS1 042304	L\$PRT 002112 G
GSSLST 021030	G\$PRMD= 000002	I\$AU = 000041	LOGS2 042544	L\$RCP 002062 G
GSSOA 035004	G\$PRML= 000000	I\$AUTO= 000041	LOGS3 042344	L\$REV 002010 G
GSS1A 035045	G\$RADA= 000140	I\$CLN = 000041	LOGS3A 042240	L\$RPT 050736 G
GSS10A 035425	G\$RADB= 000000	I\$DU = 000041	LOGS4 042420	L\$SPC 002056 G
GSS11A 035477	G\$RADD= 000040	I\$HRD = 000041	LOGS5 042444	L\$SPCP 002020 G
GSS12A 035517	G\$RADL= 000120	I\$INIT= 000041	LOGTXC 042040	L\$SPTP 002024 G
GSS13A 035555	G\$RADO= 000020	I\$MOD = 000041	LOGTXQ 042022	L\$STA 002030 G
GSS14A 035616	G\$XFER= 000004	I\$MSG = 000041	LOGUNT 017372	L\$TEST 002114 G
GSS15A 035637	G\$YES = 000010	I\$PROT= 000040	LOOPS 003362	L\$TIML 002014 G
GSS16A 035747	HELP = 000000	I\$PTAB= 000041	LOT = 000010 G	L\$UNIT 002012 G
GSS17A 036057	HELPDC= 000000	I\$PWR = 000041	LP0 026765	L10000 002150
GSS2A 035103	HLP = 000005	I\$RPT = 000041	LP00 026766	L10001 041400
GSS20A 036141	HLPEND 003304	I\$SEG = 000041	LP1 026775	L10002 041426
GSS21A 036206	HLPF 024116	I\$SETU= 000041	LP2 027006	L10003 041456
GSS22A 036253	HLP TAB 003260	I\$SRV = 000041	LP3 027014	L10004 041510
GSS23A 036320	HLP0 024040	I\$SUB = 000041	LP4 027027	L10005 041546
GSS24A 036365	HLP1 024123	I\$TSF = 000041	L\$ACP 002110 G	L10006 041606
GSS25A 036432	HLP2 024136	J\$JMP = 000167	L\$APT 002036 G	L10007 041646
GSS26A 036477	HLP2R 024254	KALL = 000062	L\$AU 052056 G	L10010 042020
GSS27A 036521	HLP2C 024344	KOPM 032072	L\$AUT 002070 G	L10011 050742
GSS3A 035142	HLP3 024417	KDZM 032076	L\$AUTO 051770 G	L10013 051766
GSS30A 036543	HLP3A 024504	KEYWD1 003252	L\$CCP 002106 G	L10014 051770
GSS31A 036576	HLP4 024531	KLM 032102	L\$CLEA 051772 G	L10015 052046
GSS32A 036653	HLP4A 024610	KTRB = 000061	L\$CO 002032 G	L10016 052054
GSS33A 036736	HLP5 024666	LCLKEN= 000100	L\$DEPO 002011 G	L10017 052062
GSS34A 036761	HLP6 024756	LCPREX 046264	L\$DESC 023304 G	L10020 066704
GSS35A 037026	HLTREX 065112	LCPRLS 046234	L\$DESP 002076 G	L10021 066672
GSS36A 037050	HLITRB 064776	LCPRL1 046266	L\$DEVP 002060 G	L10022 066702
GSS37A 037071	HLITR1 065040	LCPRL 046242	L\$DISP 002124 G	L10023 067000
GSS4A 035177	HLITR2 065032	LCPRL2 046314	L\$DLY 002116 G	L5060 027121
GSS5A 035234	HLITR3 065024	LCPTEX 046434	L\$DTP 002040 G	MARM 040161
GSS6A 035271	HOE = 100000 G	LCPTLS 046364	L\$DTYP 002034 G	MARM 040140
GSS7A 035347	IBE = 010000 G	LCPT1 046406	L\$DU 052050 G	MCLR = 040000
G\$RA2 052072	IDU = 000040 G	LDRCLS 046604	L\$DUT 002072 G	MLTYP 017404
G\$RA3 052134	IEI = 000001	LDRCLS 046506	L\$DVTY 023266 G	MOBITE 020544
G\$RA4 052142	IER = 020000 G	LDTCLS 046704	L\$EF 002052 G	MOBITS 020526
G\$RA5 052402	IEO = 000020	LDTPLS 046644	L\$ENVI 002044 G	MOCHK = 000010
G\$REX 057576	INDEX 015762	LGDFE 042104	L\$ETP 002102 G	MODE 017420
G\$RX2 057674	INDW 015760	LIS = 000006	L\$EXP1 002046 G	MODES 003344
G\$PX2A 057742	INFOHA 065724	LISCK 062530	L\$EXP4 002064 G	MODLOC= 000003
G\$RX2B 060024	INFOHD 065650	LISCKA 062570	L\$EXP5 002066 G	MODREM= 000004
G\$RX2C 057702	INFOH1 065672	LISMOD= 000032	L\$HARD 066710 G	MODS 020524
G\$RX2P 057730	INFOH2 066004	LISP 027103	L\$HIME 002120 G	MODTYP 017402
G\$R9 057056	INFOH4 066010	LMOLOP= 000046	L\$HPCP 002016 G	MOMSGS 020544
G\$VIND 016462	INFOH5 066016	LNENT 017300	L\$HPTP 002022 G	MUP = 000043
G\$VI1 046466	INFOH6 066044	LOE = 040000 G	L\$HW 002130 G	MUSC = 000056
G\$RXB 052072	INFOH7 066110	LOGAQR 047302	L\$ICP 002104 G	M00 026674
G\$CNT0= 000200	INFOH8 065770	LOGCMD 042224	L\$INIT 050752 G	M01 026704
G\$DELM 000372	INFOH 041212	LOGCML 042206	L\$LADP 002026 G	M02 026715
G\$DISP= 000003	INFO1B 065666	LOGCMP 042170	L\$LAST 067350 G	M03 026725
G\$EXCP= 000400	ININT = 000001	LOGDVI 042122	L\$LOAD 002100 G	M04 026734

MSG	026751	NOD125	022352	NOD207	045004	NOD6	021234	N162\$	023022
MO6	026756	NOD126	022356	NOD21	021352	NOD60	021746	N163\$	023040
MPLY	017232	NOD127	022372	NOD210	045006	NOD61	021752	N20\$	021352
MSC	= 000016	NOD13	021272	NOD211	045022	NOD62	021774	N25\$	021374
MSG	002736	NOD130	022376	NOD212	045024	NOD63	022000	N30\$	02141
MSG LIM	= 000017	NOD131	022412	NOD213	045040	NOD64	022004	N40\$	02131
MSGTRN	027415	NOD132	022416	NOD214	045042	NOD65	022010	N42\$	021207
MSGTRU	027446	NOD133	022436	NOD215	045054	NOD66	022014	N43\$	021220
MSGTYP	017332	NOD134	022442	NOD216	045060	NOD67	022020	N44\$	021236
MSG0	002220	NOD135	022446	NOD217	045072	NOD7	021236	N45\$	021254
MSG0C	002150	NOD136	022452	NOD22	021356	NOD70	022024	N46\$	021272
MSG1	002221	NOD137	022456	NOD220	045074	NOD71	022030	N47\$	021332
MSG1C	002152	NOD14	021306	NOD221	045106	NOD72	022034	N50\$	022000
MSG2	002222	NOD140	022462	NOD222	045112	NOD73	022040	N51\$	022004
MSG2C	002154	NOD141	022466	NOD223	045116	NOD74	022044	N52\$	022010
MSG3	002223	NOD142	022472	NOD224	045122	NOD75	022050	N60\$	022234
MSG3C	002156	NOD143	022474	NOD225	045136	NOD76	022062	N61\$	022254
MSG4	002224	NOD144	022500	NOD226	045140	NOD77	022066	N62\$	022276
MSG4C	002160	NOD145	022504	NOD227	045154	NOEXM	041132	N63\$	022316
MSG5	002324	NOD146	022520	NOD23	021370	NONE	= 000000	N64\$	022336
MSG5C	002162	NOD147	022524	NOD230	045156	NOTM.F	= 000050	N65\$	022356
MSG6	002416	NOD15	021312	NOD231	045174	MA FVT	030407	N66\$	022376
MSG6C	002164	NOD150	022540	NOD232	045200	NUM	= 000000	N67\$	022416
MSG8	002646	NOD151	022544	NOD233	045204	NUM	= 000014	N68\$	022447
MSG8C	002170	NOD152	022550	NOD234	045206	N10\$	021174	N70\$	022446
MTP	= 000001	NOD153	022554	NOD235	045210	N100\$	021644	N71\$	022456
MTPLEX	046460	NOD154	022560	NOD24	021374	N102\$	021650	N72\$	022462
MPLY	046436	NOD155	022564	NOD25	021406	N104\$	021674	N73\$	022472
NEW	051310	NOD156	022606	NOD26	021412	N105\$	022722	N80\$	021414
NO	= 000036	NOD157	022612	NOD27	021414	N106\$	022726	N81\$	021420
NOD1	027256	NOD16	021326	NOD3	021202	N107\$	022744	N82\$	021462
NOD00	021170	NOD160	022626	NOD30	021420	N108\$	022770	N83\$	021504
NOD1	021174	NOD161	022632	NOD31	021434	N110\$	021722	N84\$	021526
NOD10	021252	NOD162	022654	NOD32	021440	N111\$	021726	N85\$	021550
NOD100	022102	NOD163	022660	NOD33	021456	N112\$	021752	N86\$	021600
NOD101	022106	NOD164	022702	NOD34	021462	N114\$	022044	N87\$	021626
NOD102	022124	NOD165	022706	NOD35	021500	N115\$	022040	OF SET	017346
NOD103	022130	NOD166	022712	NOD36	021504	N116\$	022062	OPB FPT	002520
NOD104	022144	NOD167	022716	NOD37	021522	N117\$	022106	OPBU	002524
NOD105	022150	NOD17	021332	NOD4	021216	N118\$	022130	OPCNT	002166
NOD106	022164	NOD170	022722	NOD40	021526	N120\$	022230	OPENO	002646
NOD107	022170	N 71	022726	NOD41	021544	N121\$	022474	OPRMM	027114
NOD11	021254	NOD172	022742	NOD42	021550	N122\$	022524	OPRMSG	000015
NOD110	022204	NOD173	022744	NOD43	021574	N123\$	022500	OPTIP	023100
NOD111	022210	NOD174	022764	NOD44	021600	N125\$	023050	OPTIPM	067226
NOD112	022224	NOD175	022770	NOD45	021604	N126\$	022544	OPVAR	017302
NOD113	022230	NOD176	023004	NOD46	021622	N130\$	022150	OPVAR1	017304
NOD114	022234	NOD177	023010	NOD47	021626	N131\$	022210	DTINT	= 000007
NOD115	022250	NOD2	021200	NOD5	021220	N132\$	022170	OUTHDL	065254
NOD116	022254	NOD20	021346	NOD50	021640	N140\$	022560	OUTHEX	066452
NOD117	022272	NOD200	023022	NOD51	021644	N141\$	022564	OUTHE2	066626
NOD12	021266	NOD201	023026	NOD52	021650	N142\$	022612	OUTHE3	066544
NOD120	022276	NOD202	023040	NOD53	021672	N143\$	022632	OUTHE4	066466
NOD12.1	022312	NOD203	023044	NOD54	021674	N144\$	022660	OUTHE5	066504
NOD122	022316	NOD204	023050	NOD55	021720	N150\$	022706	OUTHE6	066606
NOD123	022332	NOD205	044774	NOD56	021722	N162\$	023004	OUTH1	065304
NOD124	022336	NOD206	045000	NOD57	021726	N161\$	023010	OUTVEC	023074

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SEQ 221

CZCLMCO DMP V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 113.5
Symbol table

OVRCNT	017330	PRI	= 002000 G	RMDLOP	= 000047	R11	045006	SMSC	031712
O\$APTS	= 000000	PRIOR	067111	RNOTNF	= 000012	R12	045024	SQD	= 040000
O\$AU	= 000001	PRI00	= 000000 G	RPASS	017412	R125	045210	SRXQ	031613
O\$BGNR	= 000001	PRI01	= 000040 G	RPEXT	= 000002	R13	045042	STADD	017312
O\$BGNS	= 000000	PRI02	= 000100 G	RPGSS	= 000004	R14	045060	START	051046
O\$DU	= 000001	PRI03	= 000140 G	RPHLP	= 000001	R15	045074	STAT8	= 000001
O\$ERRT	= 000000	PRI04	= 000200 G	RPLQG	= 000003	R20	045116	STATUS	= 000016
O\$GNSW	= 000000	PRI05	= 000240 G	RPSWE	= 000007	R21	045140	STATYP	023104
O\$POIN	= 000001	PRI06	= 000300 G	RPSWF	= 000010	R22	045156	STRCM	040117
O\$SETU	= 000000	PRI07	= 000340 G	RPSWO	= 000011	R30	045206	STREAM	040312
PARAM	017410	PRNT	= 000055	RPT	043272	SAVSP	017364	STRMM	040203
PAS	= 000002	PROTO	= 000041	RPTAA	043342	SCM	031635	STXC	031602
PASC	= 000042	PROTOB	= 000040	RPTDCK	044056	SCMD	031670	STXQ	031571
PASMOD	= 000030	PSCNT	017306	RPTDDE	043776	SCML	031657	SVCGBL	= 000000
PASS1	002650	PST	027045	RPTDER	043522	SDVE	031624	SVCINS	= 000001
PASS2	002651	PTPMLP	067137	RPTDLE	044056	SDVI	031646	SVCSUB	= 000001
PASS3	002652	PTREND	015406	RPTDSP	020624	SECRM	031724	SVCTAG	= 000001
PASS4	002653	PTR1A8	011416	RPTDVI	043622	SEL0	023052	SVCTST	= 000001
PCADD	017374	PTR13	011512	RPTDOP	043672	SEL2	023056	S\$LSYM	= 010000
PCK	027056	PTR23	011606	RPTIV	025544	SEL4	023062	S1	051034
PCLKCT	= 001600	P\$ACT	003400	RPTMSB	044214	SEL6	023066	S2	051112
PCLKEN	= 000111	P\$BUFA	003374	RPTMSC	044136	SEOP	031701	S3	051162
PCPM	027672	P\$CNT	003402	RPTSN	= 000006	SETET	= 000067	S4	051230
PEC	027066	P\$EXIT	047764	RPTSS	= 000005	SETEXP	= 000010	TABEX	027337
PE100M	040331	P\$GDBD	003411	RPTTSS	043006	SETTRN	= 000011	TAL	= 000005
PE102M	040345	P\$INNUF	003410	RPTTXQ	043444	SHF0	027531	TALCK	062276
PE104M	040367	P\$INUM	003404	RPTO	043336	SHF1	027567	TALMOD	= 000035
PE106M	040413	P\$RADX	003406	RPT1	043324	SHMSG	025613	TCURAD	017264
PE110M	040444	P\$TREE	003376	RQI	= 000200	SHOW	= 000002	TEMP	017350
PE112M	040466	P\$TRV	047646	RQIFLG	017322	SHTAB	003334	TEMP1	017352
PE114M	040517	P\$TRS	047656	RSEL3	066654	SHTAP	026017	TEMP2	017354
PE116M	040542	QCOPY	= 000013	RSEL4	066650	SHTBR	026605	TEMP3	017356
PE120M	040576	QRX	= 000004	RSEL6	066652	SHTEND	003343	TEMP4	017360
PE122M	040622	QTX	= 000010	RSPTRE	015772	SHTFL	026027	TEMP5	017362
PE124M	040652	QUALFG	003254	RSPTRS	015770	SHTIV	026543	TIMERS	017462
PE126M	040701	QUALVL	003256	RTS	= 000040	SHTLP	026231	TIMER1	017456
PE130M	040730	QUEOM	041162	RUN	= 000004	SHTLPA	026316	TIMER2	017460
PE132M	040756	RBFLIM	= 004000	RUNING	017416	SHTLPB	026371	TIMIN	017450
PE134M	041002	RDI	= 000020	RUNST	= 000400	SHTLPC	026433	TIMSEC	017452
PE136M	041034	RDO	= 000200	RUSH	040257	SHTLPD	026504	TIMTCK	017454
PE140M	041056	ROTS5	043112	RXBUF	005416	SHTNF	026165	TM	= 002000
PE142M	041075	ROTS2	043030	RXC	= 000006	SHTRE	025727	TOINOT	064156
PE144M	041103	REC	= 000000	RXMTOT	017276	SHTRH	025766	TOIN1	064252
PLCK	060122	RECMOD	= 000031	RXM1	041272	SHTUN	026115	TOIN2	064254
PMS	027075	REPLOG	043224	RXM2	041315	SHTYP0	025647	TOORIO	065114
PNCK	027054	REPORT	042554	RXNC	041252	SHTYP1	025656	TOOR1	065216
PNEC	027064	RESFLG	017400	RXONLY	060036	SHTYP2	025663	TOOR2	065234
PNMS	027073	RESTR	051250	RXON3	060054	SHTYP3	025670	TOOR3	065144
PNST	027043	RHLPEN	003314	RXPTR	017234	SHTYP4	025675	TOTCC	017344
PNT	= 001000 G	RHLPFB	003304	RXQ	= 000004	SHTYP5	025703	TRA	= 000001
PNTTRB	044326	RHLP0	025341	RXQUAL	046164	SHTYP6	025710	TRAMOD	= 000034
POLDEF	016166	RHLP1	025377	RXQUEX	046232	SHTYP7	025716	TRBB	= 000002
POLLEN	063664	RHLP2	025421	RXQU1	046172	SHTYTB	003314	TRBTOT	015754
POLLE2	063736	RHLP3	025436	RXSKEN	016166	SHWOP	047344	TRIBCO	067173
POLLIS	016220	RHLP4	025470	RXSTAK	016012	SIZE	= 000012	TRIBLS	015712
POLPM	025274	RI	= 000200	RXTHEM	041075	SLST	= 000057	TRIBN	015756
POLPM3	025301	RIM	040226	R10	045000	SLTHEM	040076	TRVACT	047766

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Symbol table

TRVALN 050560	TSS12A 032675	TSS7A 032545	T#NS0 = 000000	ULRCLS 046624
TRVALP 050514	TSS13A 032772	TS30AA 034242	T#NS1 = 000004	ULRPLS 046526
TRVBIF 050072	TSS14A 033066	TTL = 000001	T#NS2 = 000010	ULTCLS 046724
TRVBR 050062	TSS15A 033151	TTLLOP = 000044	T#PTNU = 000000	ULTPLS 046664
TRVBRC 050006	TSS16A 033235	TTOTCC 017262	T#SAVL = 177777	UNKM 032062
TRVDEC 050166	TSS17A 033320	TXBUF 003416	T#SEGL = 177777	UPTABL 060352
TRVERR 050024	TSS2A 032216	TXC = 000002	T#SUBN = 000000	UPTA1 060436
TRVEXI 050044	TSS20A 033404	TXMTOT 017260	T#TAGL = 177777	UPTA4 060402
TRVNMA 050206	TSS21A 033476	TXNC 041232	T#TAGN = 010024	UPTEX 060516
TRVNOB 050006	TSS22A 033565	TXONLY 060064	T#TEMP = 000000	VALTRB 003414
TRVNUM 050200	TSS23A 033653	TXON2 060072	T#TEST = 000001	VECTOR 067056
TRVOCT 050200	TSS24A 033740	TXPTR 017236	T#TSTM = 177777	WRDEFP 047214
TRVSPA 050114	TSS25A 034027	TXQ = 000000	T#TSTS = 000001	WRDE5A 047236
TRVSTR 050646	TSS26A 034114	TXSTAK 015776	T#AU = 010017	WRDE5B 047232
TSEL3 066646	TSS27A 034145	TXTHEM 041075	T#AUT = 010014	WRDE5D 047262
TSEL4 066644	TSS3A 032252	T#ARGC = 000006	T#CLE = 010015	WRFLG 003412
TSEL6 066642	TSS30A 034230	T#CODE = 004130	T#DU = 010016	WRIPEX 064730
TSPTR 015774	TSS31A 034302	T#ERRN = 000015	T#HAR = 010023	WRIPP 064634
TSSA 021024	TSS32A 034361	T#EXCP = 000000	T#HW = 010000	WRIPPG 064624
TSSE 021022	TSS33A 034444	T#FLAG = 000040	T#INI = 010013	WRIF 064642
TSSFLG 017326	TSS34A 034527	T#GMAN = 000000	T#MSG = 010007	WRMCS 064732
TSSIND 020762	TSS35A 034606	T#ILI = 000004	T#PRO = 010012	X = 000236
TSSKEY 021026	TSS36A 034665	T#LAST = 000001	T#RPT = 010011	X#ALWA = 000000
TSSLST 020662	TSS37A 034737	T#LOLI = 000000	T#SRV = 010022	X#FALS = 000040
TSSOA 032112	TSS4A 032325	T#LSYM = 010000	T#TES = 010020	X#OFFS = 000400
TSS1A 032146	TSS5A 032373	T#LTNO = 000001	T1 052064 G	X#TRUE = 000020
TSS10A 032603	TSS6A 032455	T#NEST = 177777	UAM = 000200 G	\$PATCH 067264
TSS11A 032637				

. ABS. 067350 000 (RW,I,GBL,ABS,OVR)
 000000 001 (RW,I,LCL,REL,CON)
 Errors detected: 0

*** Assembler statistics

Work file reads: 359
 Work file writes: 351
 Size of work file: 30056 Words (118 Pages)
 Size of core pool: 17408 Words (68 Pages)
 Operating system: RT-11 (Under RSTS/E)

Elapsed time: 00:04:26.28
 .CZCLMC/C=SVC34R,CZCLMC

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CZCLMCO DMP-V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 5-1
 Cross reference table (CREF V05.00)

SEQ 223

\$PATCH	113-380								
ACT	26-180	82-73	86-1	87-49					
ACTATV	83-36	86-10							
ACTBCR	83-54	85-450							
ACTCHK	83-16	87-150							
ACTCKT	83-65	88-1700							
ACTCLB	84-42	84-560							
ACTCLP	83-50	87-430							
ACTCLR	83-14	84-50							
ACTCOP	83-24	85-134							
ACTCRC	83-45	87-210							
ACTCSE	83-19	84-280							
ACTCST	83-20	84-440							
ACTDLL	83-40	86-150							
ACTDME	83-56	84-90	84-930						
ACTDMQ	83-57	84-920							
ACTDMS	83-55	84-870							
ACTDMX	84-940								
ACTESA	88-1330	88-135							
ACTLSB	88-1320								
ACTELN	83-44	87-40							
ACTEKE	88-115	88-1380							
ACTEKT	83-64	88-1010							
ACTEQO	83-28	85-340							
ACTETB	83-61	88-10							
ACTEWS	83-66	88-230							
ACTEXT	83-67	84-170							
ACTEXX	88-106	88-113	88-123	88-136	88-146	88-164	88-1670		
ACTHLP	83-18	84-110							
ACTKAL	82-79	83-63	88-70						
ACTKTB	83-62	88-40							
ACTLIS	83-39	86-120							
ACTLLP	83-51	87-450							
ACTLPX	87-40	87-42	87-44	87-46	87-490				
ACTLXX	87-13	87-34	87-37	87-50	87-540				
ACTM2X	86-2	86-10	86-13	86-16	86-19	86-230			
ACTME1	85-49	85-51	85-53	85-55	85-57	85-640			
ACTMEX	85-27	85-43	85-60	85-65	85-72	85-75	85-790		
ACTMOP	83-48	87-390							
ACTMOS	83-59	87-240							
ACTMSO	83-29	85-480							
ACTMS1	83-30	85-500							
ACTMS2	83-31	85-520							
ACTMS3	83-32	85-540							
ACTMS4	83-33	85-560							
ACTMS5	83-34	85-580							
ACTMS6	83-35	85-610							
ACTNO	83-43	87-10							
ACTNUF	83-53	84-20							
ACTNUL	83-13	84-30							
ACTNUM	83-25	85-160							
ACTOPH	83-26	85-290							
ACTPAS	83-37	86-40							
ACTPRO	83-46	87-270							
ACTPRI	83-58	84-190							
ACTQFG	87-16	87-19	87-22	87-25	87-290				

CZCLMCO DMP/V-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 5-2
 Cross reference table (CREF V05.00)

ACTREC	83-38	86-90		
ACTREX	48-11	49-100		
ACTRGS	48-13	49-150		
ACTRHL	48-10	49-40		
ACTRLG	48-12	49-120		
ACTRLP	83-52	87-470		
ACTRNF	48-19	49-20		
ACTRNL	48-9	49-30		
ACTRPS	83-47	87-360		
ACTRSE	48-16	49-190		
ACTRSF	48-17	49-370		
ACTRSO	48-18	49-400		
ACTRTN	48-15	49-250		
ACTRTS	48-14	49-210		
ACTRUN	83-17	84-230		
ACTSEX	83-68	85-690		
ACTSHO	83-15	84-80		
ACTSHW	84-34	84-48	84-670	84-79
ACTSLS	83-60	88-730		
ACTSTE	83-21	85-30		
ACTSTS	83-27	87-180		
ACTSTT	83-22	85-60		
ACTSTX	85-4	85-70		
ACTSZE	83-23	85-100		
ACTTAL	83-42	86-210		
ACTTLP	83-49	87-410		
ACTTRA	83-41	86-180		
ACTW7A	88-570			
ACTW7B	88-27	88-55	88-590	
ACTW51	88-48	88-490		
ACTW52	88-49	88-510		
ACTW53	88-50	88-660		
ACTW55	88-37	88-390	88-58	
ACTW57	88-530	88-71		
ACTW59	88-280			
ADDC1	52-26	52-360		
ADDC	52-240	82-160	82-191	
ADR	25-00			
ALCK	32-30	93-200		
ALCK1	94-47	94-510	94-102	
ALCK2	94-52	94-630	94-146	
ALCK2A	94-98	94-1040		
ALCK3	94-66	94-108	94-1120	
ALCK3A	94-122	94-1320		
ALCK3B	94-134	94-1370		
ALCK3C	94-130	94-1350	94-143	
ALCK3D	94-125	94-1280		
ALCK4	94-113	94-1410		
ALCK4A	94-140	94-1440		
ALCK5	94-460	94-136		
ALCK5B	94-480			
ALLTR	90-21	91-22	92-23	94-450
ASSEMB	21-12	21-12		
ATVMOD	26-1450	37-48		
BABTM	38-53	41-1290		
BACCHD	107-46	107-1790		

SEQ 225

BACCTX	107-181	107-200*												
BAD	31-55*	43-29	95-73*											
BADCHR	26-163*	37-161												
BASM1	40-150*	51-30												
BASM2	40-149*	51-36												
BASM3	40-148*	51-34												
BDCLK	40-109*	77-80												
BIT0	24-77*	26-41	26-66	26-85	26-209	26-232	100-165							
BIT00	24-77	24-77*												
BIT01	24-77	24-77*												
BIT02	24-77	24-77*												
BIT03	24-77	24-77*												
BIT04	24-77	24-77*												
BIT05	24-77	24-77*												
BIT06	24-77	24-77*												
BIT07	24-77	24-77*												
BIT08	24-77	24-77*												
BIT09	24-77	24-77*												
BIT1	24-77*	26-42	26-67	26-86	77-151									
BIT10	24-77*	26-105	26-213	107-171										
BIT11	24-77*	107-174												
BIT12	24-77*													
BIT13	24-77*													
BIT14	24-77*	26-212	26-230											
BIT15	24-77*													
BIT2	24-77*	26-43	26-87	26-207	77-148	107-180								
BIT3	24-77*	26-44	26-88	26-208	100-150	100-167	100-179							
BIT4	24-77*	26-45	26-231	26-233										
BIT5	24-77*	26-46	26-210	49-47	107-127									
BIT6	24-77*	26-89	107-68	107-99	107-106									
BIT7	24-77*	26-90	26-211	26-228	26-229	100-142	100-150	107-97	107-106	108-29				
BIT8	24-77*	26-103	100-144	107-165										
BIT9	24-77*	26-104	107-168											
BLDB1	53-30*													
BLDB2	53-38*	53-45												
BLDB3	53-41*	53-46												
RDLDBEX	53-43	53-47*												
BLDBUF	53-25*	82-64	82-71	82-161	82-192	84-63	89-107							
BUF	25-0*													
BSEL0	38-20*	47-59*	47-67*	100-157*	100-211*	100-232*	101-40*	102-45*	103-69*	104-20*	105-15*	105-55*	107-255*	108-29*
BSEL1	38-21*	77-117*	77-118*	100-101*	100-150*	100-167*	100-179*							
BSEL2	38-23*	47-64*	47-71*	100-142	100-166*	100-215*	100-240*	101-43*	102-51*	103-74*	104-25*	105-20*	105-59*	107-5*
	107-40	107-214*	107-225*											
BSEL3	38-24*	47-62*	47-69*	77-121*	77-122*	100-213*	100-234*	102-50*	103-73*	103-94	104-22*	105-17*	105-57*	107-137
BSEL4	38-26*													
BSEL5	38-27*	77-125*	77-126*											
BSEL6	38-29*	47-70*	100-119	100-162*	100-165*	107-52	107-123	107-127	107-129	107-135	107-224*			
BSEL7	38-30*	77-129*	77-130*											
CUFEX	40-112*	82-144	82-173											
BUFLIM	26-3*	29-3	29-4	52-25	52-32	54-63	82-142	82-171	84-56	89-87				
BUFTSM	38-78	41-153*												
BTBBI	31-28*	51-31	84-88*	84-92*										
C\$AU	21-12*	81-36												
C\$AUTO	21-12*	78-19												
C\$BRK	21-12*	100-106	100-139	103-101	106-43	107-217								
C\$BSEG	21-12*													

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Cross reference table (CREF V05.00)

CBLLOP	26-159*	37-190												
CCURAD	31-7*	54-75*	54-83	54-87*	82-60*	82-68	82-190	82-195*	84-41*					
CHECK	26-125*	37-96												
CLEAR	26-123*	37-32	84-5											
CLISPM	40-4*	82-103												
CLISRP	40-36*	47-16												
CLIACT	82-106	83-5*												
CLIALN	26-116*	37-159												
CLIALP	26-115*	37-82	37-92	37-164										
CLIBCR	40-11*	85-45												
CLIBDL	40-9*	87-53												
CLIBIF	26-112*													
CLIBR	26-111*	37-29	37-31	37-33	37-35	37-38	37-40	37-49	37-51	37-53	37-55	37-57	37-60	37-62
	37-77	37-79	37-89	37-97	37-108	37-110	37-125	37-128	37-131	37-138	37-140	37-142	37-144	37-146
	37-148	37-150	37-152	37-157	37-160	37-167	37-169	37-174	37-189	37-191	37-193	37-195	37-200	37-206
	37-213	50-11												
CLIBRX	40-8*	74-138												
CLIDEC	26-118*	37-173	37-199	37-210	50-16									
CLIERM	40-5*	47-24	82-111											
CLIERR	26-109*	37-41	37-161	50-26										
CLIEXI	26-110*	37-21	37-23	37-25	37-27	37-68	37-70	37-204	37-216	50-5	50-7	50-9	50-13	50-19
	50-21	50-25	50-27											
CLINBG	40-7*	74-176												
CLINPS	40-10*	87-9												
CLINUF	40-6*	47-28	82-115											
CLINUM	26-114*													
CLIOCT	26-117*	37-84	37-86	50-24										
CLIPPE	40-13*	88-17*												
CLIPW	40-14*	89-10												
CLIRAC	47-19	48-2*												
CLIRT	47-18	50-3*												
CLISEO	40-12*	85-20												
CLISPA	26-113*	37-19	37-45	37-66	37-75	37-83	37-158	37-202	50-3	50-15				
CLISTR	26-119*	37-22	37-24	37-26	37-28	37-30	37-32	37-34	37-37	37-39	37-46	37-48	37-50	37-52
	37-54	37-56	37-59	37-61	37-67	37-69	37-76	37-78	37-94	37-96	37-107	37-109	37-124	37-127
	37-130	37-137	37-139	37-141	37-143	37-145	37-147	37-149	37-151	37-166	37-168	37-188	37-190	37-192
	37-194	37-203	37-205	37-207	37-209	37-211	50-6	50-8	50-10	50-12	50-14	50-18	50-20	50-22
CLITRE	37-16*	82-105												
CLKBR	32-38*	77-74*												
CLKCSR	32-37*	45-35*	45-56*	77-55	77-65*	77-66*	77-67*	77-75*	79-25*	82-33*				
CLKEN	32-41*	45-56	77-59*	77-68*	77-75	82-33								
CLKHZ	32-40*	45-38	45-53	46-122	77-76	77-83								
CLKINT	45-33*	77-153												
CLKSET	44-112*	77-58	77-64											
CLKVEC	32-39*	77-53*	77-73*	77-153										
CLNSET	31-29*	79-19*	79-21*	89-65*	107-35									
CLRPEX	59-18*													
CLRPL1	59-15*	59-17												
CLRPL5	59-13*	91-20												
CMDBUF	28-3*	47-16	47-17	82-103	82-104									
CMPBUF	29-4*	54-61*	54-75	82-60	84-40									
CMPNEW	95-36*	95-89												
CMPPTR	31-4*	54-69*	54-70*	54-83*	54-84*	54-85*	54-89*	82-55*	82-67	82-179*	82-188*	82-189	82-193*	84-28*
	84-29	84-38*	84-39	89-58*	95-41									
CMP51	95-66*	95-80												
CMP52	95-69*													

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Cross reference table (CREF V05.00)

CMPSS	95-44*	95-88														
CMPSS	95-85*															
CMPSSA	95-82	95-86*														
CMPSS6	95-67	95-71	95-78*													
CMPSS7	95-59	95-64*														
CMPSEX	95-34	95-38	96-18*													
CMPSR	94-131	94-145	95-33*													
CMPTOT	31-5*	54-78*	54-81	54-90*	82-72*	82-177*	82-180	82-194*	84-31	84-35*	89-8	89-61				
CMSG0	26-138*	37-139														
CMSG1	26-139*	37-137														
CMSG2	26-140*	37-141														
CMSG3	26-141*	37-143														
CMSG4	26-142*	37-147														
CMSG5	26-143*	37-145														
CMSG6	26-144*	37-149														
CONO3	107-98	107-103*														
CONO3A	107-104	107-106*														
CONO1	107-70	107-96*														
CONO1A	107-74	107-86	107-88	107-90	107-92*											
CONO1B	107-72	107-71*														
CONO1C	107-78	107-81*														
CONO1D	107-82	107-85*														
CONO1E	107-59	107-64	107-63*													
CONO1F	107-61	107-63	107-65*													
CONO1S	38-58*	107-100														
CONO3S	38-78*	107-107														
CONO4	107-93	107-101	107-109*	107-132												
CONOH0	107-43	107-50*														
CONOL S	38-42*	107-92														
CONOTM	31-53*	43-64	55-24*	55-25	88-47*	88-51	88-66	97-94*	97-111*	97-119*	97-124*	107-92*	107-100*	107-107*		
	107-131*	107-143*	107-148*	107-155	107-158	107-177										
CPTR	31-42*	53-28	53-32*	60-30*	64-22*	66-17	66-36*	82-63*	82-67*	82-158*	82-162	82-189*	82-193	84-39*		
	84-52*	90-20*	94-54	94-59*	94-74	94-137*	94-144	95-45	95-49*	99-30*						
CPTRL S	29-15*	58-31*	59-14	63-16*	63-35											
CPTRR	31-41*	63-16	63-35*	68-23	72-13	72-18*	94-81*	94-86	94-94*	94-110*	94-142	95-41*	95-51	95-54*		
	98-41*															
CPTTUS	29-16*	66-17*	66-36													
CR	40-197*	46-115	88-93	88-98												
CRC	26-154*															
CRCB	26-45*	87-21														
CRX	29-26*	89-67*	103													

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DMVDF2	30-16*	77-141*
DMVDF3	30-21*	77-142*
DMVDF4	30-22*	77-143*
DMVDF5	30-23*	77-144*
DMVM	38-105	40-230*
DNM	38-95	40-220*
DOGL1	55-20*	55-33
DOGL2	55-32*	
DOGL4	55-30	55-35*
DOGLOB	55-13*	82-13*
DOW	26-19*	86-15 100-84 100-236
DPLX	112-27	112-62*
DPM	38-88	40-213*
DQM	38-91	40-216*
DSR	26-208*	34-4
DTM	38-98	40-223*
DUM	38-89	40-214*
DUM1	51-32	51-36*
DUM2	51-35	51-37*
DUM3	51-31*	51-42
DUM4	51-29*	51-41
DUMEX	51-38	51-44*
DUMPSR	51-28*	82-125
DUPM	38-93	40-218*
DVEMO	41-90*	100-110 100-115
DVEM1	41-93*	100-121 100-127
DVEM2	41-96*	103-91 103-97
DVEM3	41-99*	106-35 106-40
DVEM4	41-102*	107-111 107-114
DVEM5	41-105*	103-114 103-119
DVEM6	41-108*	103-136 103-141
DVEM7	41-111*	107-197 107-212
DVEM8	41-114*	100-91 100-96
DVES1	100-205*	100-241
DVES1A	100-174	100-180 100-192*
DVEST	100-211*	
DVI	26-76*	46-63
DVIN1	100-105	100-119*
DVIN11	100-134	100-149*
DVIN12	100-132	100-156*
DVIN13	100-120	100-131*
DVIN4	100-85	100-87 100-98*
DVIN4A	100-89*	100-90
DVIN6	100-100	100-104* 100-108
DVINEX	100-207	100-242*
DVINIT	89-78	100-75* 100-97 100-117 100-128
DVINS	77-165	108-22*
DVM	38-99	40-224*
DVMODS	46-96	101-40*
DVOUTS	77-166	108-42*
DVRCC	31-17*	72-17* 94-68 97-77* 97-114 99-27* 99-38 99-40* 99-41* 102-49 103-146*
DVRCL	29-17*	58-29* 65-17* 65-37
DVRCT	31-18*	65-17 65-37* 94-105* 94-107 95-42* 95-87*
DVREX	102-36	102-54*
DVRTB	31-15*	94-69 103-151*
DVRXA	31-16*	72-15* 94-67 97-75* 97-113 99-25* 99-37 99-40 102-48 103-147*

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Cross reference table (CREF V05.00)

EQUQ2	40-32*	88-69																		
ERR1	43-28*	95-75																		
ERR10	43-36*	95-61																		
ERR13	43-54*	100-96	100-115	100-127	103-97	103-119	103-141	106-40												
ERR14	43-63*	97-67	107-114																	
ERR15	43-68*	107-197																		
ERR16	43-72*	107-212																		
ERR2	43-32*	95-84																		
ERRCNT	31-25*	46-94	46-98	89-75*	95-60*	95-74*	95-83*	96-23	100-95*	100-114*	100-126*	103-96*	106-39*	107-113*						
ERX	26-89*	90-17	92-21	93-26	94-127	97-48	99-29	103-134												
ETR8	26-170*	37-205	88-1	88-114																
ETWS	26-175*	37-211																		
EIX	26-90*	91-19	93-26	94-101	97-87	97-104	98-40	98-52	103-112											
EVL	25-0*																			
EVMCTS	34-14	40-186*																		
EVMDCD	34-16	40-188*																		
EVMSDR	34-15	40-187*																		
EVMOCG	40-179*	47-171																		
EVMOH0	40-184*	47-188																		
EVMOST	40-185*	47-203																		
EVMRI	34-18	40-190*																		
EVMTS	34-17	40-189*																		
EVMSQ0	34-19	40-191*																		
EVMTM	34-20	40-192*																		
EVTADD	34-42*	47-111*	47-115	47-138*	47-145	47-150*	47-154	47-158*	47-162											
EVTBCT	34-43*	47-112*	47-115	47-139*	47-145	47-151*	47-154	47-159*	47-162											
EVTEND	33-4*	46-131	47-93	77-87																
EVTFO	40-153*	47-103																		
EVTf1	40-154*	47-108																		
EVTf2	40-155*	47-115																		
EVTf3	40-156*	47-123																		
EVTf3C	40-157*	43-55	47-124																	
EVTf3D	40-158*	43-64																		
EVTf3F	40-159*	43-69	43-73																	
EVTf4	40-174*	47-154																		
EVTf44	40-173*	47-146																		
EVTf4A	40-175*	47-162																		
EVTf4B	40-172*	47-145																		
EVTf5A	40-177*	43-29																		
EVTf6	40-160*	47-209																		
EVTIUG	33-2	33-3*	46-135	47-83	47-91	77-84														
EVTIst	34-25*	47-108																		
EVTMIN	34-40*	47-107*	108																	
EVTPTT	33-2*	46-120	136*	47-82	47-98	77-85*														
EVTSEC	34-39*	47-106*	47-108																	
EVTICK	34-41*	47-105*	47-108																	
EVTIMP	34-44*	47-119*	47-123	47-140*	47-146	47-152*	47-154	47-160*	47-162											
EXIT	26-176*	37-26	82-127	84-17																
F\$AU	21-12*	81-9	81-36																	
F\$AU10	21-12*	78-10	78-19																	
F\$BGN	21-12*	21-33	43-28	43-32	43-36	43-54	43-63	43-68	43-72	45-33	75-9	76-8	77-8	77-169						
	78-10	79-8	79-27	80-8	81-9	82-23	82-95	82-130	108-22	108-42	109-15	112-13	113-49							
F\$CLEA	21-12*	79-8	79-43																	
F\$DU	21-12*	80-8	80-35																	
F\$END	21-12	21-12	21-12	21-12	21-12	21-12	21-12	21-12	21-12	21-12	21-12	21-12	21-12	21-12	21-12	21-12	21-12	21-12	21-12	21-12
	21-12	21-12	21-12*	21-33	43-30	43-34	43-38	43-56	43-65	43-70	43-74	43-76	45-57	75-41						

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Cross reference table (CREF V05.C0)

	77-169	77-185	78-19	79-27	79-43	80-19	80-35	81-20	81-36	82-23	82-23	82-23	82-95	82-130
F\$HARD	108-31	108-50	109-15	109-15	112-56	113-49								
F\$HW	21-120	112-13	112-53	112-56										
F\$INIT	21-120	23-10	23-59											
F\$JMP	21-120	77-8	77-185											
F\$MOD	21-120	43-76	43-76	77-169	79-27	80-19	80-19	81-20	81-20	82-95	82-130			
F\$MSG	21-120	21-33	113-49											
	43-74	43-28	43-30	43-32	43-34	43-36	43-38	43-54	43-56	43-63	43-65	43-68	43-70	43-72
F\$PROT	21-120	76-8	76-14											
F\$PWR	21-120													
F\$RPT	21-120	75-9	75-41											
F\$SEL	21-120													
F\$SOFT	21-120													
F\$SRV	21-120	45-33	45-57	108-22	108-31	108-42	108-50							
F\$SUB	21-120													
F\$SW	21-120													
F\$TEST	21-120	82-23	109-15											
FACSIM	54-580	85-73												
FHDPLX	32-130	77-99*	100-163											
FLAG	32-230	56-51*	80-71*	90-17*	91-19*	92-21*	93-26*	94-46	94-51	94-65	94-100*	94-101*	94-109*	94-112
	94-123*	94-127*	94-138*	97-48*	97-58*	97-74*	97-87*	97-89	97-91	97-104*	97-105*	97-109	98-40*	98-52*
	99-29*	100-156*	100-239*	100-242*	102-35	102-38*	103-59	103-61*	103-102	103-112	103-130*	103-134	103-156*	106-44
	106-49	106-51*	107-34*	107-73	107-218	107-221	107-223*	108-28*	108-49*					
F\$FLG	31-330	107-91*	107-96*	107-232	107-234*									
G\$CNTD	21-120													
G\$DELM	21-120													
G\$DISP	21-120													
G\$EXCP	21-120													
G\$HILI	21-120													
G\$HOLI	21-120													
G\$NO	21-120	47-16	82-103	97-41	98-27									
G\$OFFS	21-120	47-16	55-26	77-76	82-103	88-52	88-67	88-69	97-41	98-27	112-27	112-48	112-49	112-50
	112-51	112-52	112-54											
G\$OFFS	21-120	47-16	55-26	77-76	82-103	88-52	88-67	88-69	97-41	98-27	112-27	112-48	112-49	112-50
	112-51	112-52	112-54											
G\$PRMA	21-120	112-48	112-49											
G\$PRMD	21-120	47-16	55-26	77-76	82-103	88-52	88-67	88-69	97-41	98-27	112-50	112-51		
G\$PRML	21-120	112-27	112-52	112-54										
G\$RADA	21-120	47-16	82-103	98-27										
G\$RADB	21-120													
G\$RADD	21-120	77-76												
G\$RADL	21-120	112-27	112-52	112-54										
G\$RADO	21-120	55-26	88-52	88-67	88-69	97-41	112-48	112-49	112-50	112-51				
L\$XFER	21-120	112-53												
G\$YES	21-120	55-26	77-76	88-52	88-57	88-69	112-27	112-48	112-49	112-50	112-51	112-52	112-54	
GARPI	68-190	68-24												
GARPEX	68-21	68-250												
GARPEL	68-170	94-141												
GATCI	69-180	69-23												
GATCEX	69-20	69-250												
GATCEL	69-150	94-128	94-132											
GETCI	82-92	82-1010	82-112	82-116	82-119	82-126	82-139	82-145	82-154	82-168	82-174	82-185	82-199	89-11
	89-56													
GETI1	70-370	70-41												
GETI2	70-420													

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GETIND	63-14	63-33	65-15	65-35	66-15	66-34	67-17	67-35	70-364	70-39	94-79	94-135	100-220
GETPRM	77-49	77-920	77-97										
GETRCL	47-110	47-25	47-29	47-34	47-36								
GLBDEF	30-200	71-23	71-31	88-134									
GLBEND	30-250	71-33											
GLBPLS	30-390	55-23	55-27*	71-30	100-194								
GNTX1	70-13	70-150											
GNTX2	70-140	70-17											
GNTXPR	70-120	70-20	94-53										
GOOD	31-540	43-29	95-72*										
GRPTCP	64-180	89-102	95-40										
GSS0A	36-4	41-360											
GSS10A	36-12	41-440											
GSS11A	36-13	41-450											
GSS12A	36-14	41-460											
GSS13A	36-15	41-470											
GSS14A	36-16	41-480											
GSS15A	36-17	41-490											
GSS16A	36-18	41-500											
GSS17A	36-19	41-520											
GSS1A	36-5	41-370											
GSS20A	36-20	41-530											
GSS21A	36-21	41-540											
GSS22A	36-22	41-550											
GSS23A	36-23	41-560											
GSS24A	36-24	41-570											
GSS25A	36-25	41-580											
GSS26A	36-26	41-590											
GSS27A	36-27	41-600											
GSS2A	36-6	41-380											
GSS30A	36-28	41-610											
GSS31A	36-29	41-620											
GSS32A	36-30	41-630											
GSS33A	36-31	41-640											
GSS34A	36-32	41-650											
GSS35A	36-33	41-660											
GSS36A	36-34	41-670											
GSS37A	36-35	41-680											
GSS3A	36-7	41-390											
GSS4A	36-8	41-400											
GSS5A	36-9	41-410											
GSS6A	36-10	41-420											
GSS7A	36-11	41-430											
GSSIND	36-420	107-141											
GSSLST	36-40	55-24	107-143										
GTR9	82-97	82-122	89-40										
GTRA2	82-360												
GTRA3	82-39	82-440											
GTRA4	82-490												
GTRA5	82-45	82-840	96-33	97-64	97-69	107-249							
GTRFX	89-63	89-650											
GTRX2	89-810	96-30	98-54	99-48									
GTRX22	89-84	89-870											
GTRX2A	89-86	89-890											
GTRX2B	89-91	89-1040											
GTRX2C	89-820	89-108											

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 Cross reference table (CREF V05.00)

GTVI1	62-190	62-21												
GTVIND	56-27	57-28	60-32	62-180	68-19	69-18	70-15	89-34	89-89	95-36	97-37	98-21	99-22	100-205
GTXXRB	105-49													
HELP	82-350													
	2-30	21-3	21-29	21-72	21-100	22-10	23-12	24-32	24-46	24-62	38-108	39-27	39-40	42-16
	42-28	43-12	44-8	75-11	75-26	75-34	76-16	77-10	77-171	78-12	79-10	79-29	80-10	80-21
	81-11	81-22	82-10	82-17	82-25	109-1	109-17	112-15	112-86	113-14	113-27	113-41		
HELPDC	2-80	2-17	21-90	23-30	24-3	26-50	26-92	26-191	26-215	38-1	38-121	39-14	40-162	41-70
	42-2	43-40	77-101	77-157	97-28	100-3	100-39	100-77	101-3	101-34	102-2	102-40	103-3	103-63
	103-77	108-1	108-12	108-23	108-33	108-44	112-30	112-64						
HLP	26-1270	37-20	37-22	84-15										
HLP0	40-150	82-83												
HLP1	28-8	40-170												
HLP2	28-9	40-180												
HLP2B	28-10	40-210												
HLP2C	28-11	40-220												
HLP3	28-12	40-230												
HLP3A	28-13	40-240												
HLP4	28-14	40-250												
HLP4A	28-15	40-260												
HLP5	28-16	40-270												
HLP6	28-17	40-280												
HLPEND	28-180	84-13												
HLPF	40-160	49-5	84-12											
HLP TAB	28-80	84-11												
HLTREX	105-41	105-51	105-610											
HLTTR1	105-490	105-60												
HLTTR2	105-43	105-470												
HLTTR3	105-450	105-46												
HLTTRB	79-20	96-32	105-400											
HOE	25-00													
I\$AU	21-120	81-90	81-360											
I\$AUTO	21-120	78-100	78-190											
I\$CLN	21-120	79-80	79-27	79-430										
I\$DU	21-120	80-80	80-350											
I\$HRO	112-130	112-560												
I\$INIT	21-120	77-80	77-169	77-1850										
I\$MOD	21-120	21-33	21-330	113-49	113-490									
I\$MSG	21-120	43-280	43-300	43-320	43-340	43-360	43-380	43-540	43-560	43-630	43-650	43-680	43-700	43-720
	43-740													
I\$PROT	21-120	76-80												
I\$PTAB	21-120													
I\$PWR	21-120													
I\$RPT	21-120	75-90	75-410											
I\$SEG	21-120	82-23												
I\$SETU	21-120													
I\$SRV	21-120	45-330	45-570	108-220	108-310	108-420	108-500							
I\$SUB	21-120	82-23												
I\$TST	21-120	82-23	82-230	82-95	82-130	109-15	109-150	109-150						
IB5	25-00													
IDU	25-00													
IEO	26-2330													
IEI	26-2320													
IER	25-00													
INDEX	29-240	56-26*	56-28	57-27*	57-29	58-25	58-28	60-31*	60-33	60-18	60-22*	60-18	60-10	60-30
	67-18	67-36	68-18*	68-20	69-16*	69-19	69-21	70-12	70-14*	70-16	70-40*	88-30	88-162*	89-33*

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[illegible]

L\$HIME	21-980						
L\$HPCP	21-980						
L\$HPTP	21-930						
L\$HW	21-98	23-10	23-100				
L\$ICP	21-980						
L\$INIT	21-98	77-80					
L\$LADP	21-980						
L\$LAST	21-98	113-480					
L\$LOAD	21-980						
L\$LUN	21-980						
L\$MREV	21-980						
L\$NAME	21-980						
L\$PRIO	21-980						
L\$PROT	21-98	76-80					
L\$PRT	21-980						
L\$REPP	21-980						
L\$REV	21-980						
L\$RPT	21-98	75-90					
L\$SPC	21-980						
L\$SPCP	21-980						
L\$SPTP	21-980						
L\$STA	21-980						
L\$TEST	21-980						
L\$TIML	21-980						
L\$UNIT	21-980	77-93					
L10000	23-10	23-590					
L10001	43-300						
L10002	43-340						
L10003	43-380						
L10004	43-560						
L10005	43-650						
L10006	43-700						
L10007	43-740	43-76					
L10010	45-570						
L10011	75-410						
L10013	77-169	77-1850					
L10014	78-190						
L10015	79-27	79-430					
L10016	80-19	80-350					
L10017	81-20	81-360					
L10020	82-95	82-130	109-150				
L10021	108-310						
L10022	108-500						
L10023	112-13	112-560					
L5060	40-890	77-76					
LCLKEN	26-350	77-59					
LCPR1	57-280	57-32					
LCPR2	58-280						
LCPREX	57-30	57-330					
LCPR11	57-31	58-240	94-80				
LCPR15	57-270	90-18	92-20	93-25			
LCPT1	60-320	60-37					
LCPTEX	60-34	60-380					
LCPTLS	60-290	91-18	92-19	93-24			
LDRCLS	65-150	94-100					
LDRPLS	56-33	63-140	94-50	94-82	94-95	94-111	

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Cross reference table (CREF V05.00)

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CZCLMCO DMP/V-11 DELT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 5-18
Cross reference table (CREF V05.00)

[illegible]

NOD102	37-108	37-108	
NOD103	37-109	37-109	37-109
NOD104	37-110	37-110	
NOD105	37-124	37-124	37-124
NOD106	37-125	37-125	
NOD107	37-127	37-127	37-127
NOD11	37-28	37-28	37-28
NOD110	37-128	37-128	
NOD111	37-130	37-130	37-130
NOD112	37-131	37-131	
NOD113	37-134	37-134	
NOD114	37-137	37-137	37-137
NOD115	37-138	37-138	
NOD116	37-139	37-139	37-139
NOD117	37-140	37-140	
NOD12	37-29	37-29	
NOD120	37-141	37-141	37-141
NOD121	37-142	37-142	
NOD122	37-143	37-143	37-143
NOD123	37-144	37-144	
NOD124	37-145	37-145	37-145
NOD125	37-146	37-146	
NOD126	37-147	37-147	37-147
NOD127	37-148	37-148	
NOD13	37-30	37-30	37-30
NOD130	37-149	37-149	37-149
NOD131	37-150	37-150	
NOD132	37-151	37-151	37-151
NOD133	37-152	37-152	
NOD134	37-155	37-155	
NOD135	37-156	37-156	
NOD136	37-157	37-157	
NOD137	37-158	37-158	
NOD14	37-31	37-31	
NOD140	37-159	37-159	
NOD141	37-160	37-160	
NOD142	37-161		
NOD143	37-164	37-164	
NOD144	37-165	37-165	
NOD145	37-166	37-166	37-166
NOD146	37-167	37-167	
NOD147	37-168	37-168	37-168
NOD15	37-32	37-32	37-32
NOD150	37-169	37-169	
NOD151	37-172	37-172	
NOD152	37-173	37-173	
NOD153	37-174	37-174	
NOD154	37-177	37-177	
NOD155	37-188	37-188	37-188
NOD156	37-189	37-189	
NOD157	37-190	37-190	37-190
NOD16	37-33	37-33	
NOD160	37-191	37-191	
NOD161	37-192	37-192	37-192
NOD162	37-193	37-193	
NOD163	37-194	37-194	37-194

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 Cross reference table (CREF V05.00)

NOD164	37-195	37-195	
NOD165	37-198	37-198	
NOD166	37-199	37-199	
NOD167	37-200	37-200	
NOD17	37-34	37-34	37-34
NOD170	37-202	37-202	
NOD171	37-203	37-203	37-203
NOD172	37-204		
NOD173	37-205	37-205	37-205
NOD174	37-206	37-206	
NOD175	37-207	37-207	37-207
NOD176	37-208	37-208	
NOD177	37-209	37-209	37-209
NOD2	37-210		
NOD20	37-35	37-35	
NOD200	37-210	37-210	
NOD201	37-211	37-211	37-211
NOD202	37-212	37-212	
NOD203	37-213	37-213	
NOD204	37-216		
NOD205	50-3	50-3	
NOD206	50-4	50-4	
NOD207	50-5		
NOD21	37-36	37-36	
NOD210	50-6	50-6	50-6
NOD211	50-7		
NOD212	50-8	50-8	50-8
NOD213	50-9		
NOD214	50-10	50-10	50-10
NOD215	50-11	50-11	
NOD216	50-12	50-12	50-12
NOD217	50-13		
NOD22	37-37	37-37	37-37
NOD220	50-14	50-14	50-14
NOD221	50-15	50-15	
NOD222	50-16	50-16	
NOD223	50-17	50-17	
NOD224	50-18	50-18	50-18
NOD225	50-19		
NOD226	50-20	50-20	50-20
NOD227	50-21		
NOD23	37-38	37-38	
NOD230	50-22	50-22	50-22
NOD231	50-23	50-23	
NOD232	50-24	50-24	
NOD233	50-25		
NOD234	50-26		
NOD235	50-27		
NOD24	37-39	37-39	37-39
NOD25	37-40	37-40	
NOD26	37-41		
NOD27	37-45	37-45	
NOD3	37-22	37-22	37-22
NOD30	37-46	37-46	37-46
NOD31	37-47	37-47	
NOD32	37-48	37-48	37-48

NOD33	37-49	37-49											
NOD34	37-50	37-50	37-50										
NOD35	37-51	37-51											
NOD36	37-52	37-52	37-52										
NOD37	37-53	37-53											
NOD4	37-23												
NOD40	37-54	37-54	37-54										
NOD41	37-55	37-55											
NOD42	37-56	37-56	37-56										
NOD43	37-57	37-57											
NOD44	37-58	37-58											
NOD45	37-59	37-59	37-59										
NOD46	37-60	37-60											
NOD47	37-61	37-61	37-61										
NOD5	37-24	37-24	37-24										
NOD50	37-62	37-62											
NOD51	37-66	37-66											
NOD52	37-67	37-67	37-67										
NOD53	37-68												
NOD54	37-69	37-69	37-69										
NOD55	37-70												
NOD56	37-75	37-75											
NOD57	37-76	37-76	37-76										
NOD6	37-25												
NOD60	37-77	37-77											
NOD61	37-78	37-78	37-78										
NOD62	37-79	37-79											
NOD63	37-82	37-82											
NOD64	37-83	37-83											
NOD65	37-84	37-84											
NOD66	37-85	37-85											
NOD67	37-86	37-86											
NOD7	37-26	37-26	37-26										
NOD70	37-87	37-87											
NOD71	37-88	37-88											
NOD72	37-89	37-89											
NOD73	37-92	37-92											
NOD74	37-93	37-93											
NOD75	37-94	37-94	37-94										
NOD76	37-95	37-95											
NOD77	37-96	37-96	37-96										
NOEXM	38-79	41-154											
NONE	26-25												
NOTNUF	26-162	37-30	37-33	37-35	37-36	37-46	37-85	37-87	37-93	37-165	37-202	37-212	
NULEV	40-152	47-85											
NULL	26-122												
NUM	26-134	37-173											
O\$APTS	21-12	21-98											
O\$AU	21-12	21-70	21-98										
O\$BGMR	21-12	21-70	21-98										
O\$BGNS	21-12	21-98											
O\$DU	21-12	21-70	21-98										

CZCUMCO DMPV-11 DCLT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 5 22
Cross reference table (CREF V05.00)

OPSET	31-45*	43-29	95-65*	95-78*										
OPRFPT	27-66*	99-42												
OPBUF	27-35	27-67*	85-39	98-23	98-27	98-29	98-35	98-36	98-48	98-50	99-25	99-26	99-43	99-45
OPCNT	27-19*	85-37*	98-33*	98-37	98-38									
OPEND	27-68*	98-25												
OPRMM	40-98*	98-27												
OPRMSG	26-135*	37-155												
OPTYP	38-36*	77-137*	77-138	88-140	100-99	100-131	100-173	106-29						
OPTYPM	112-51	112-81*												
OPVAR	31-22*	89-72*	96-21	107-79*										
OPVAR1	31-23*	89-73*	96-20	107-83*										
OTINT	26-86*	103-102	106-44	107-34	107-218	108-49								
OUTH1	107-36	107-39*												
OUTHDL	103-105	106-48	107-33*	107-220										
OUTHE2	107-253	107-256*												
OUTHE3	107-216	107-222	107-232*											
OUTHE4	107-217*	107-227	107-257											
OUTHE5	107-219	107-221*												
OUTHE6	107-233	107-252*												
OUTHEX	107-66	107-76	107-80	107-84	107-115	107-126	107-156	107-159	107-178	107-196	107-211	107-214*		
OUTVEC	38-34*	77-133*	77-134*	77-166										
OVRCNT	31-35*	107-105*	107-195	107-210	107-215	107-258*								
P\$ACT	28-54*	47-19*	74-65	82-106*										
P\$BUFA	28-52*	47-17*	74-20	82-104*										
P\$CNT	28-55*	74-157*	74-164	74-221*	74-228*	74-233								
P\$EXIT	74-23	74-58*	74-82	74-87										
P\$GDBD	28-59*	47-11*	47-22	49-33*	49-44*	74-80*	74-85*	74-93	74-139*	74-177*	82-101*	82-109	85-21*	85-71*
	87-10*	87-51*	88-10*	88-11	88-75	88-104	88-175*	89-20*	89-24*	89-30*	89-39*	89-40		
P\$NNUF	28-58*	47-12*	47-26	49-2*	49-19*	49-23*	49-25*	49-37*	49-40*	82-102*	82-113	84-2*	84-24*	84-32*
	84-46*	84-94*	85-79*	86-5*	86-24*	87-54*	88-7*	88-73*	88-103*	88-171*				
P\$NUM	28-56*	49-28	49-32	49-35	49-41	49-43	49-46	74-152*	74-155*	74-157	74-158*	74-160*	74-164*	74-166*
	74-172*	84-87	84-93	85-18	85-25	85-25	87-36	88-107						
P\$RADX	28-57*	74-117*	74-120*	74-127*	74-134	74-162	74-170							
P\$TR5	74-22*	74-31	74-51	74-56										
P\$TREE	28-53*	47-18*	74-21	82-105*										
P\$TRV	47-21	74-19*	82-108											
PARAM	32-14*	46-67	46-107	82-76*	82-88	84-83	86-23*	87-6*	87-11*	87-29*	87-32*	89-4	89-46	89-62
	89-85	91-17*	93-21	94-71	94-77	94-139	95-33	97-49*	98-22*	99-23*				

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Cross reference table (CREF V05.00)

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[illegible]

RPTSS	26-183*	47-31	49-17	49-22	50-14												
RPTTSS	47-33	47-43*															
RPTTXQ	34-48	34-49	34-50	34-51	47-111*												
RQI	26-228*	47-59	47-67	100-211	100-232	101-40	102-45	103-69	104-20	105-15	105-55	107-255					
RQIFLG	31-32*	107-226*	107-252	107-254*													
RSEL3	43-69	103-138	107-266*														
RSEL4	43-69	103-137	107-264*														
RSEL6	43-69	103-139	107-265*														
RSPTRE	29-28*	89-69*	107-187	107-194*													
RSPTRS	29-27*	89-68*	103-145	103-155*													
RTS	26-210*	34-6															
RUN	26-126*	37-28	82-120	84-23													
RUNING	32-24*	77-38*	79-18*	96-31*	107-58	107-75*	107-242*										
RUNST	26-103*	100-239	107-73														
RUSH	38-52	41-128*															
RXBUF	29-5*	89-95	97-75	97-76	97-95	97-116	97-122	97-125	97-131								
RXC	26-74*	46-54	46-105														
RXM1	41-161*	97-119															
RXM2	41-162*	97-124															
RXMTOT	31-19*	58-29	89-61*	89-64*	93-23*	95-42											
RXNC	41-160*	97-111															
RXON3	90-20*																
RXDML1	32-27	90-17*															
RXPTR	31-2*	64-20	82-54*	89-59*													
RXQ	26-73*	46-50															
HXQU1	56-27*	56-34															
RXQUAL	56-26*	90-19	92-22	93-27													
RXQUEX	56-29	56-35*															
RXSKEN	29-32*	103-152	107-191														
RXSTAK	29-31*	89-68	89-69	103-154	107-193	107-206											
RXTHEM	38-43	41-149*															
S&LSYM	21-12*	23-59*	43-30*	43-34*	43-38*	43-56*	43-65*	43-70*	43-74*	45-57*	47-16	47-16	47-16	47-16*	47-16*	47-16*	47-16*
	55-26	55-26	55-26	55-26*	75-41*	77-76	77-76	77-76	77-76*	77-185*	78-19*	79-43*	80-35*	81-36*	81-36*	81-36*	81-36*
	82-103	82-103	82-103	82-103*	88-52	88-52	88-52	88-52*	88-67	88-67	88-67	88-67*	88-69	88-69	88-69	88-69	88-69
	88-69	88-69*	97-41	97-41	97-41	97-41*	98-27	98-27	98-27	98-27*	108-31*	108-50*	109-15*	112-56*			
S1	77-45	77-47*															
S2	77-57	77-62*															

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C70CMCO BMP/V-11 DCUT MACRO V05.00 Thursday 22-Mar-84 16:24 Page 5-26
Cross reference table (CREF V05.00)

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[illegible]

SVCSUB	21-120	21-200												
SVCTAG	21-120	21-220	23-59	43-30	43-34	43-38	43-56	43-65	43-70	43-74	45-57	47-16	55-26	75-41

	77-76	77-185	78-19	79-43	80-35	81-36	82-103	88-52	88-67	88-69	97-41	98-27	108-31	108-50
SVCTST	109-15	112-56												
T\$AU	21-120	21-190	82-23											
T\$AUT	81-90	81-20	81-36											
T\$CLE	78-100	78-19												
T\$DU	79-80	79-27	79-43											
T\$HAR	80-80	80-19	80-35											
T\$HW	112-15	112-130	112-56											
T\$INI	23-10	23-100	23-59											
T\$MSG	77-80	77-169	77-185											
	43-260	43-30	43-320	43-34	43-360	43-38	43-540	43-56	43-630	43-65	43-680	43-70	43-720	43-74
T\$PRO	43-76													
T\$RPT	70-80													
T\$SRV	75-95	75-41												
T\$TES	45-330	45-57	108-220	108-31	108-420	108-50								
T\$ARGC	82-250	82-95	82-130	109-15										
	21-90	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98
	21-980	21-980	21-980	43-29	43-29	43-29	43-29	43-29	43-290	43-290	43-290	43-290	43-33	43-33
	43-30	43-330	43-330	43-37	43-37	43-37	43-37	43-370	43-370	43-370	43-370	43-370	43-35	43-35
	43-500	43-550	43-550	43-64	43-64	43-64	43-64	43-640	43-640	43-640	43-640	43-640	43-69	43-69
	43-60	43-69	43-69	43-690	43-690	43-690	43-690	43-73	43-73	43-73	43-73	43-73	43-730	43-730
	43-700	43-730	46-115	46-115	46-1150	46-118	46-118	46-1180	47-10	47-10	47-100	47-24	47-24	47-240
	47-20	47-28	47-280	47-85	47-85	47-850	47-103	47-103	47-1030	47-108	47-108	47-108	47-108	47-108
	47-108	47-1080	47-1080	47-1080	47-1080	47-1080	47-115	47-115	47-115	47-115	47-1150	47-1150	47-1150	47-123
	47-120	47-123	47-1230	47-1230	47-124	47-124	47-124	47-124	47-1240	47-1240	47-1240	47-1240	47-145	47-145
	47-140	47-1450	47-1450	47-1450	47-146	47-146	47-146	47-146	47-1460	47-1460	47-1460	47-1460	47-154	47-154
	47-150	47-154	47-1540	47-1540	47-1540	47-1540	47-162	47-162	47-162	47-162	47-162	47-1620	47-1620	47-1620
	47-1620	47-171	47-171	47-1710	47-188	47-188	47-1880	47-203	47-203	47-2030	47-209	47-209	47-209	47-2090
	47-2090	49-5	49-5	49-5	49-50	49-50	49-32	49-32	49-32	49-320	49-320	49-43	49-43	49-43
	49-400	49-430	51-30	51-30	51-30	51-300	51-300	51-34	51-34	51-34	51-340	51-340	51-36	51-36
	51-30	51-360	51-360	52-30	52-30	52-300	55-17	55-17	55-170	55-25	55-25	55-25	55-250	55-250
	73-30	73-33	73-33	73-33	73-33	73-33	73-330	73-330	73-330	73-330	73-330	73-330	73-71	73-71
	73-70	73-71	73-71	73-710	73-710	73-710	73-710	73-710	74-138	74-138	74-1380	74-176	74-176	74-1760
	77-80	77-80	77-800	82-42	82-42	82-420	82-83	82-83	82-830	82-111	82-111	82-1110	82-115	82-115
	82-170	82-144	82-144	82-144	82-1440	82-1440	82-153	82-153	82-1530	82-1530	82-1530	82-173	82-173	82-173
	82-1700	82-1730	82-184	82-184	82-1840	82-1840	84-12	84-12	84-12	84-120	84-120	84-76	84-76	84-76
	84-76	84-76	84-760	84-760	84-760	85-20	85-20	85-200	85-45	85-45	85-450	87-9	87-9	87-90
	87-30	87-53	87-530	88-29	88-29	88-29	88-290	88-290	88-51	88-51	88-51	88-510	88-510	88-66
	88-60	88-66	88-66	88-660	88-660	88-660	88-81	88-81	88-810	88-85	88-85	88-850	88-89	88-89
	88-80	88-890	88-890	88-93	88-93	88-930	88-98	88-98	88-980	88-112	88-112	88-112	88-1120	88-1120
	88-122	88-122	88-122	88-1220	88-1220	88-145	88-145	88-145	88-1450	88-1450	88-165	88-165	88-165	88-1650
	88-160	88-174	88-174	88-1740	89-10	89-10	89-100	89-18	89-18	89-180	89-23	89-23	89-230	89-29
	89-20	89-290	89-37	89-37	89-370	89-38	89-38	89-380	89-55	89-55	89-550	97-63	97-63	97-630
	97-100	97-138	97-138	97-138	97-1380	97-1380	97-1380	99-24	99-24	99-240	99-42	99-42	99-420	107-155
	107-150	107-155	107-1550	107-1550	107-158	107-158	107-158	107-158	107-1580	107-1580	107-1580	107-177	107-177	107-177
	107-177	107-177	107-177	107-177	107-1770	107-1770	107-1770	107-1770	107-1770	107-1770	107-1770	107-1770	107-1770	107-1770
T\$CODE	47-16	47-16	47-16	47-160	47-160	47-160	55-26	55-26	55-26	55-260	55-260	55-260	77-76	77-76
	77-76	77-760	77-760	77-760	82-103	82-103	82-103	82-1030	82-1030	82-1030	88-52	88-52	88-52	88-520
	88-100	88-520	88-67	88-67	88-670	88-670	88-670	88-670	88-69	88-69	88-690	88-690	88-690	88-690
	97-40	97-41	97-41	97-410	97-410	97-410	98-27	98-27	98-27	98-270	98-270	98-270	112-27	112-27
	112-50	112-270	112-270	112-270	112-48	112-48	112-48	112-480	112-480	112-480	112-49	112-49	112-49	112-490
	112-490	112-490	112-50	112-50	112-50	112-500	112-500	112-500	112-51	112-51	112-51	112-510	112-510	112-510
	112-50	112-52	112-52	112-520	112-520	112-520	112-53	112-53	112-53	112-53	112-53	112-530	112-530	112-530
	112-530	112-54	112-54	112-54	112-540	112-540	112-540							
T\$ERRN	21-100	95-61	95-610	95-75	95-750	95-84	95-840	97-67	97-670	100-96	100-960	100-115	100-1150	100-127
	100-1270	103-97	103-970	103-119	103-1190	103-141	103-1410	106-40	106-400	107-114	107-1140	107-197	107-1970	107-212

T\$EXCP	107-212#													
	47-16	47-16#	55-26	55-26#	77-76	77-76#	82-103	82-103#	88-52	88-52#	88-67	88-67#	88-69	88-69#
T\$FLAG	97-41	97-41#	98-27	98-27#	112-48	112-48#	112-49	112-49#	112-50	112-50#	112-51	112-51#		
	43-76	43-76#	43-76#	77-169	77-169	77-169#	77-169#	79-27	79-27	79-27#	79-27#	80-19	80-19#	80-19#
T\$GMAN	81-20	81-20#	81-20#	82-95	82-95	82-95#	82-95#	82-130	82-130	82-130#	82-130#			
	21-12#	47-16	47-16#	47-16#	55-26#	55-26#	77-76#	77-76#	82-103	82-103#	82-103#	88-52#	88-52#	88-67#
T\$HILI	88-67#	88-69#	88-69#	97-41#	97-41#	98-27	98-27#	98-27#						
	47-16	47-16#	55-26	55-26#	77-76	77-76#	82-103	82-103#	88-52	88-52#	88-67	88-67#	88-69	88-69#
T\$LAST	97-41	97-41#	98-27	98-27#	112-48	112-48#	112-49	112-49#	112-50	112-50#	112-51	112-51#		
T\$LOUT	21-12#	113-48#												
	47-16	47-16#	55-26	55-26#	77-76	77-76#	82-103	82-103#	88-52	88-52#	88-67	88-67#	88-69	88-69#
T\$LSYM	97-41	97-41#	98-27	98-27#	112-48	112-48#	112-49	112-49#	112-50	112-50#	112-51	112-51#		
	21-12	21-12#	23-59	43-30	43-34	43-38	43-56	43-65	43-70	43-74	45-57	75-41	77-185	78-19
	79-43	80-35	81-36	108-31	108-50	109-15	112-56							
T\$LTND	113-48#													
T\$NEST	21-12#	21-33	21-33	21-33#	23-10	23-10	23-10#	23-59	23-59	23-59	23-59#	43-28	43-28	43-28#
	43-30	43-30	43-30	43-30#	43-32	43-32	43-32#	43-34	43-34	43-34	43-34#	43-36	43-36	43-36#
	43-36	43-38	43-38	43-38#	43-54	43-54	43-54#	43-56	43-56	43-56	43-56#	43-63	43-63	43-63#
	43-65	43-65	43-65	43-65#	43-68	43-68	43-68#	43-70	43-70	43-70	43-70#	43-72	43-72	43-72#
	43-74	43-74	43-74	43-74#	45-33	45-33	45-33#	45-57	45-57	45-57	45-57#	75-9	75-9	75-9#
	75-41	75-41	75-41	75-41#	76-8	76-8	76-8#	76-14	76-14	76-14	76-14#	77-8	77-8	77-8#
	77-185	77-185	77-185	77-185#	78-10	78-10	78-10#	78-19	78-19	78-19	78-19#	79-8	79-8	79-8#
	79-43	79-43	79-43	79-43#	80-8	80-8	80-8#	80-35	80-35	80-35	80-35#	81-9	81-9	81-9#
	81-36	81-36	81-36	81-36#	82-23	82-23	82-23#	108-22	108-22	108-22#	108-31	108-31	108-31	108-31#
	108-42	108-42	108-42#	108-50	108-50	108-50	108-50#	109-15	109-15	109-15	109-15#	112-13	112-13	112-13#
	112-53	112-56	112-56	112-56#	113-49	113-49	113-49	113-49#						
T\$NGO	21-33#	113-49												
T\$NS1	23-10#	23-59	43-28#	43-30	43-32#	43-34	43-36#	43-38	43-54#	43-56	43-63#	43-65	43-68#	43-70
	43-72#	43-74	45-33#	45-57	75-9#	75-41	76-8#	76-14	77-8#	77-185	78-10#	78-19	79-8#	79-43
	80-64	80-35	81-9#	81-36	82-23#	109-15	112-13#	112-53	112-56					
T\$NS2	108-22#	108-31	108-42#	108-50										
T\$PTNG	21-12#													
T\$SAVL	21-12#													
T\$SEGL	21-12#													
T\$SUBN	21-12#	82-23#												
T\$TAGL	21-12#													
T\$TAGN	21-12#	23-10	23-10	23-10#	43-28	43-28	43-28#	43-32	43-32	43-32#	43-36	43-36	43-36#	43-54
	43-54	43-54#	43-63	43-63#	43-68	43-68	43-68#	43-72	43-72	43-72#	45-33	45-33	45-33#	45-33#
	75-9	75-9	75-9#	76-8	76-8	76-8#	77-8	77-8	77-8#	78-10	78-10	78-10#	79-8	79-8
	79-8#	80-8	80-8	80-8#	81-9	81-9	81-9#	82-23	82-23	82-23#	108-22	108-22	108-22#	108-42
	108-42	108-42#	112-13	112-13	112-13#									
T\$TEMP	22-8	22-8	22-8#	22-8#	23-59	23-59#	43-30	43-30#	43-34	43-34#	43-38	43-38#	43-56	43-56#
	43-65	43-65#	43-70	43-70#	43-74	43-74#	43-76	43-76#	45-57	45-57#	47-16	47-16	47-16	47-16#
	47-16#	47-16#	55-26	55-26	55-26	55-26#	55-26#	55-26#	75-41	75-41#	76-14	76-14#	77-76	77-76#
	77-76	77-76#	77-76#	77-76#	77-169	77-169#	77-169#	77-185	77-185#	78-19	78-19#	79-27	79-27#	79-43
	80-19	80-19#	80-35	80-35#	81-20	81-20#	81-36	81-36#	82-95	82-95#	82-103	82-103#	82-103	82-103#
	82-103#	82-103#	82-130	82-130#	88-52	88-52	88-52#	88-52#	88-52#	88-52#	88-67	88-67#	88-67	88-67#
	88-67#	88-67#	88-69	88-69#	88-69	88-69#	88-69#	88-69#	97-41	97-41	97-41#	97-41#	97-41#	97-41#
	98-27	98-27	98-27	98-27#	98-27#	98-27#	108-31	108-31#	108-50	108-50#	109-15	109-15#	112-27	112-27#
	112-27	112-27#	112-27#	112-27#	112-48	112-48	112-48	112-48#	112-48#	112-48#	112-49	112-49	112-49	112-49#
	112-48#	112-49#	112-50	112-50	112-50	112-50#	112-50#	112-50#	112-50#	112-51	112-51	112-51	112-51#	112-51#
	112-51	112-52	112-52	112-52#	112-52#	112-52#	112-54	112-54	112-54	112-54#	112-54#	112-54#	112-56	112-56#
	113-49	113-49#												
T\$TEST	21-12#	82-23	82-23#	113-48										
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	79-27	79-43	80-35	81-36	82-42	82-83	82-91	82-95	82-103	82-111	82-115	82-130	82-144	82-153
	82-173	82-184	84-12	84-76	85-20	85-45	87-9	87-53	88-29	88-51	88-52	88-66	88-67	88-69
	88-81	88-85	88-89	88-93	88-98	88-112	88-122	88-145	88-165	88-174	89-10	89-18	89-23	89-29
	89-37	89-38	89-55	95-61	95-75	95-84	97-41	97-63	97-67	97-138	98-27	99-24	99-42	100-96
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	55-27	58-26	59-13	59-16	61-21	64-19	73-24	73-33	73-36	73-39	73-71	79-23	84-75	84-76
	85-30	85-31	85-35	85-38	88-31	88-46	88-51	88-52	88-53	88-66	88-66	88-67	88-68	88-70
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TAFLP	29-19*	49-27	62-20	70-40	88-15	88-83	88-117	88-126	88-147	88-154	88-159	89-14*			
TRIEN	29-22*	46-81	46-95	47-44	47-62	47-69	49-15*	49-35*	62-20*	68-17	68-25*	69-15	69-25*	70-40	
	79-22*	89-35	94-69*	94-116*	97-38	100-193*	100-213	100-234	102-50	103-73	103-94*	103-117*	103-124*	103-125*	
	103-126	103-138*	103-149*	103-150*	103-151	104-22	105-17	105-57	107-239*						
TRACCT	74-52	74-63*	74-79	74-84	74-89	74-92	74-112	74-173	74-191	74-212	74-236				
TRAVAL	74-41	74-195*													
TRVLIP	74-40	74-181*													
TRVLEF	74-37	74-92*													
TRVBH	74-36	74-89*													
TRVBHO	74-50	74-70*	74-90	74-95	74-114	74-178	74-193	74-214	74-240						
TRYDNC	74-45	74-117*													
TRZERR	74-34	74-79*													
TRVXT	74-35	74-84*													
TRVNMA	74-113	74-121*													
TRYNOR	74-75*	74-96	74-113	74-174	74-192	74-213									
TRYNOM	74-39	74-120*													
TRVLCI	74-42	74-119*													
TRVSP,	74-38	74-98*													
TRVSTR	74-44	74-218*													
TSSOA	41-23*														
TSEL*	43-73	103-117	107-263*												
TSEL4	43-73	103-115	107-262*												
TSEL6	43-73	103-116	107-261*												
TSPIR	29-29*	89-70*	103-122	103-129*	107-201	107-205*									
TSSOA	35-2	41-3*													
TSS10A	35-10	41-11*													
TSS11A	35-11	41-12*													
TSS12A	35-12	41-13*													
TSS13A	35-13	41-14*													
TSS14A	35-14	41-15*													
TSS15A	35-15	41-16*													
TSS16A	35-16	41-17*													
TSS17A	35-17	41-18*													
TSS1A	35-3	41-4*													
TSS20A	35-18	41-19*													
TSS21A	35-19	41-20*													
TSS22A	35-20	41-21*													
TSS23A	35-21	41-22*													
TSS24A	35-22	41-23*													
TSS25A	35-23	41-24*													
TSS26A	35-24	41-25*				</									

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Cross reference table (CREF V05.00)

TSS6A	35-8	41-90												
TSS7A	35-9	41-100												
TSSA	35-740	47-43*	47-46*	47-50*	47-54*	47-55*	47-58*	47-63	47-65	104-17*	104-19*	104-24	104-26	104-28*
TSSE	35-730	47-47*	47-51*	47-56*	47-65	100-194*	100-227*	104-23	104-29*					
TSSFLG	31-340	47-61*	107-133*	107-256										
TSSIND	35-400	88-40	107-146											
TSSKEY	35-750	47-48	47-52	47-54	47-56	49-16*	49-21*	49-38*	49-46*	49-47*				
TSSLST	35-20	88-47	107-148											
TYL	26-260	82-96	89-21	89-25										
TYLLOP	26-1580	37-188												
TYTOTC	31-130	54-93	82-50*	82-141	82-146	82-163*	84-50*							
TXBUF	29-30	54-61	82-59	84-53	97-96									
TXC	26-720	46-45												
TXMTOT	31-120	54-81	60-29	82-65*	82-148*	82-150	82-165*	84-45	84-49*	89-8	93-23			
TXNC	41-1590	97-94												
TXON2	91-180													
TXONLY	32-28	91-170												
TXPTR	31-30	54-74*	54-76*	54-77	54-86*	54-88	82-52*	82-63	82-149*	82-157*	82-158	82-162*	84-51*	84-52
	89-57*													
TXQ	26-710	46-40												
TXSTAK	29-300	89-70												
TXTHEM	38-44	41-1480												
UAM	25-00													
ULRCLS	65-350	94-104												
ULRPLS	56-30	63-330	68-22	94-48	94-85									
ULTCLS	67-350	70-18	94-118											
ULTPLS	66-340	70-21	94-73											
UNKM	38-101	40-2260	97-130											
UPTA1	94-78	94-850												
UPTA4	94-72	94-770												
UPTABL	94-710													
UPTEX	94-83	94-960												
VALTRB	28-620	88-26	88-102*	88-161*										
VECTOR	112-49	112-770												
WRDE5A	71-220	71-24												
WRDE5B	71-210	71-26												
WRDE5D	71-320	71-34												
WRDEFP	71-150	82-81	88-20											
WRFLG	28-600	55-16*	82-136	88-28*										
WRIP1	104-18	104-200	104-30											
WRIPEX	104-27	104-310												
WRIPP	100-228	104-190												
WRIPPG	100-195	104-170												
WRMCS	79-24	100-202	105-150	107-241										
X\$	21-360	37-19	37-19	37-190	37-20	37-20	37-200	37-21	37-21	37-210	37-22	37-22	37-220	37-23
	37-23	37-230	37-24	37-24	37-240	37-25	37-25	37-250	37-26	37-26	37-260	37-27	37-27	37-270
	37-28	37-28	37-280	37-29	37-29	37-290	37-30	37-30	37-300	37-31	37-31	37-310	37-32	37-320
	37-320	37-33	37-33	37-330	37-34	37-34	37-340	37-35	37-35	37-350	37-36	37-36	37-360	37-37
	37-37	37-370	37-38	37-38	37-380	37-39	37-39	37-390	37-40	37-40	37-400	37-41	37-41	37-410
	37-45	37-45	37-450	37-46	37-46	37-460	37-47	37-47	37-470	37-48	37-48	37-480	37-49	37-49
	37-490	37-50	37-50	37-500	37-51	37-51	37-510	37-52	37-52	37-520	37-53	37-53	37-530	37-54
	37-54	37-540	37-55	37-55	37-550	37-56	37-56	37-560	37-57	37-57	37-570	37-58	37-58	37-580
	37-59	37-59	37-590	37-60	37-60	37-600	37-61	37-61	37-610	37-62	37-62	37-620	37-63	37-630
	37-660	37-67	37-67	37-670	37-68	37-68	37-680	37-69	37-69	37-690	37-70	37-70	37-700	37-71
	37-75	37-750	37-76	37-76	37-760	37-77	37-77	37-770	37-78	37-78	37-780	37-79	37-79	37-790
	37-82	37-82	37-820	37-83	37-83	37-830	37-84	37-84	37-840	37-85	37-85	37-850	37-86	37-86

[illegible]

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Cross reference table (CREF V05.00)

SEQ 259

ENDHW	1-465#	21-12#	23-59														
ENDINI	1-475#	21-12#	77-185														
ENDMOD	1-487#	21-12#	113-49														
ENDMSG	1-500#	21-12#	43-30	43-34	43-38	43-56	43-65	43-70	43-74								
ENDPRO	1-512#	21-12#	76-14														
ENDPTA	1-520#	21-12#															
ENDRPT	1-529#	21-12#	75-41														
ENDSEG	1-541#	21-12#															
ENDSET	1-555#	21-12#															
ENDSFT	1-568#	21-12#															
ENDSRV	1-580#	21-12#	45-57	108-31	108-50												
ENDSUB	1-596#	21-12#															
ENDSW	1-614#	21-12#															
ENDTST	1-624#	21-12#	109-15														
EQUALS	1-642#	21-12#	24-77														
ERRDF	1-714#	21-12#															
ERRHRD	1-718#	21-12#															
ERROR	1-722#	21-12#															
ERRSF	1-726#	21-12#															
ERRSOF	1-730#	21-12#	95-61	95-75	95-84	97-67	100-96	100-115	100-127	103-97	103-119	103-141	106-40	107-114			
	107-197	107-212															
ERRTBL	1-734#	21-12#															
ESCAPE	1-744#	21-12#															
EXIT	1-771#	21-12#	43-76	77-169	79-27	80-19	81-20	82-95	82-130								
FEQUAL	1-810#	21-12#															
GETBYT	1-824#	21-12#															
GETPRI	1-934#	21-12#															
GETWOR	1-829#	21-12#															
GMANIA	1-839#	21-12#															
GMANID	1-848#	21-12#	47-16	55-26	77-76	82-103	88-52	88-67	88-69	97-41	98-27						
GMANIL	1-859#	21-12#															
GPHARD	1-868#	21-12#	77-96														
GPRMA	1-874#	21-12#	112-48	112-49													
GPRMD	1-903#	21-12#	47-16	47-16#	55-26	55-26#	77-76	77-76#	82-103	82-103#	88-52	88-52#	88-67	88-67#			
	88-69	88-69#	97-41	97-41#	98-27	98-27#	112-50	112-51									
GPRML	1-934#	21-12#	112-27	112-52	112-54												
HEADER	1-954#	21-12#	21-98														
INLOOP	1-962#	21-12#															
IOSETU	1-966#	21-12#															
IOSTAR	1-974#	21-12#															
KT11	1-982#	21-12#															
LASTAD	1-;47#	21-12#	113-48														
M\$BYTE	1-000#	21-12#	21-98	21-98	21-98	21-98#											
M\$CHEC	1-E18#	21-12#	43-76	43-76#	77-169	77-169#	79-27	79-27#	80-19	80-19#	81-20	81-20#	82-95	82-95#			
	82-130	82-130#															
M\$CNTD	1-E82#	21-12#	47-16	47-16#	55-26	55-26#	77-76	77-76#	82-103	82-103#	88-52	88-52#	88-67	88-67#			
	88-69	88-69#	97-41	97-41#	98-27	98-27#	112-27	112-27#	112-48	112-48#	112-49	112-49#	112-50	112-50#			
	112-51	112-51#	112-52	112-52#	112-54	112-54#											
M\$COUN	1-D66#	21-12#	43-29	43-29	43-29	43-29#	43-33	43-33#	43-37	43-37	43-37#	43-55	43-55	43-55#			
	43-64	43-64	43-64	43-64#	43-69	43-69	43-69	43-69#	43-73	43-73	43-73#	43-73#	46-115	46-115#			
	46-118	46-118#	47-10	47-10#	47-24	47-24#	47-28	47-28#	47-85	47-85#	47-103	47-103#	47-108	47-108#			
	47-108	47-108	47-108#	47-115	47-115	47-115#	47-123	47-123#	47-124	47-124	47-124#	47-145	47-145	47-145#			
	47-146	47-146	47-146#	47-154	47-154	47-154#	47-154	47-154#	47-162	47-162	47-162#	47-162	47-162	47-162#			
	47-188#	47-203	47-203#	47-209	47-209#	47-209	47-209	47-209#	49-50	49-50#	49-50	49-50#	49-50	49-50#			
	51-34#	51-36	51-36#	52-30	52-30#	52-30	52-30	52-30#	55-17	55-17#	55-25	55-25#	55-25	55-25#			
	73-71	73-71	73-71	73-71	73-71#	73-71	74-138	74-138#	74-176	74-176#	77-80	77-80#	82-42	82-42#	82-83		

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Cross reference table (CREF V05.00)

	82-830	82-111	82-1110	82-115	82-1150	82-144	82-1440	82-153	82-1530	82-173	82-1730	82-184	82-1840	84-12
	84-120	84-76	84-76	84-760	85-20	85-200	85-45	85-450	87-9	87-90	87-53	87-530	88-29	88-290
	88-51	88-510	88-66	88-66	88-660	88-81	88-810	88-85	88-850	88-89	88-890	88-93	88-930	88-98
	88-980	88-112	88-1120	88-122	88-1220	88-145	88-1450	88-165	88-1650	88-174	88-1740	89-10	89-100	89-18
	89-180	89-23	89-230	89-29	89-290	89-37	89-370	89-38	89-380	89-55	89-550	97-63	97-630	97-138
	97-138	97-1380	99-24	99-240	99-42	99-420	107-155	107-1550	107-158	107-158	107-1580	107-177	107-177	107-177
M\$DATA	107-177	107-177	107-1770											
	1-8670	21-120	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98
	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98
	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-980	21-980	39-25
	39-250	39-36	39-360											
M\$DECR	1-0290	21-120	23-59	23-590	43-30	43-300	43-34	43-340	43-38	43-380	43-56	43-560	43-65	43-650
	43-70	43-700	43-74	43-740	45-57	45-570	75-41	75-410	76-14	76-140	77-185	77-1850	78-19	78-190
	79-43	79-430	80-35	80-350	81-36	81-360	108-31	108-310	108-50	108-500	109-15	109-150	112-56	112-560
	113-49	113-490												
M\$DEFA	1-E700	21-120	47-16	47-160	55-26	55-260	77-76	77-760	82-103	82-1030	88-52	88-520	88-67	88-670
	88-69	88-690	97-41	97-410	98-27	98-270	112-27	112-270	112-48	112-480	112-49	112-490	112-50	112-500
	112-51	112-510	112-52	112-520	112-54	112-540								
M\$ENDE	1-0740	21-120	23-590	43-300	43-340	43-380	43-560	43-650	43-700	43-740	45-570	75-410	77-1850	78-190
	79-430	80-350	81-360	108-310	108-500	109-150	112-560	113-490						
M\$ERRI	1-8490	21-120	95-61	95-610	95-75	95-750	95-84	95-840	97-67	97-670	100-96	100-960	100-115	100-1150
	100-127	100-1270	103-97	103-970	103-119	103-1190	103-141	103-1410	106-40	106-400	107-114	107-1140	107-197	107-1970
	107-212	107-2120												
M\$ESCA	1-0060	21-120												
M\$ESCS	1-0100	21-120												
M\$EXCP	1-E010	21-120	47-16	47-16	47-160	55-26	55-26	55-260	77-76	77-76	77-760	82-103	82-103	82-1030
	88-52	88-52	88-520	88-67	88-67	88-670	88-69	88-69	88-690	97-41	97-41	97-410	98-27	98-27
	98-270	112-48	112-48	112-480	112-49	112-49	112-490	112-50	112-50	112-500	112-51	112-51	112-510	
M\$EXIT	1-0140	21-120	43-760	77-169	77-1690	79-27	79-270	80-190	81-200	82-95	82-950	82-130	82-1300	
M\$EXSE	1-0220	21-120	43-760	77-1690	79-270	80-190	81-200	82-950	82-1300					
M\$EXTJ	1-0180	21-120	43-76	43-760	77-1690	79-270	80-19	80-190	81-20	81-200	82-950	82-1300		
M\$GEN	1-0380	21-120	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98
	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98
	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-980	21-980
	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980
	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980
	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980
	23-59	23-590	39-25	39-250	39-36	39-360	43-28	43-280	43-30	43-300	43-32	43-320	43-34	43-340
	43-36	43-360	43-38	43-380	43-54	43-540	43-56	43-560	43-63	43-630	43-65	43-650	43-68	43-680
	43-70	43-700	43-72	43-720	43-74	43-740	45-33	45-330	45-57	45-570	47-16	47-160	55-26	55-260
	75-9	75-90	75-41	75-410	76-8	76-80	77-8	77-80	77-76	77-760	77-185	77-1850	78-10	78-100
	78-19	78-190	79-8	79-80	79-43	79-430	80-8	80-80	80-35	80-350	81-9	81-90	81-36	81-360
	82-23	82-230	82-103	82-1030	88-52	88-520	88-67	88-670	88-69	88-690	97-41	97-410	98-27	98-270
	108-22	108-220	108-31	108-310	108-42	108-420	108-50	108-500	109-15	109-150	112-13	112-130	112-56	112-560
	113-48	113-480												
M\$GENB	1-C380	21-120	47-16	47-160	55-26	55-260	77-76	77-760	82-103	82-1030	88-52	88-520	88-67	88-670
	88-69	88-690	97-41	97-410	98-27	98-270								
M\$GETS	1-0350	21-120	23-59	23-590	43-30	43-300	43-34	43-340	43-38	43-380	43-56	43-560	43-65	43-650
	43-70	43-700	43-74	43-740	45-57	45-570	75-41	75-410	76-14	76-140	77-185	77-1850	78-19	78-190
	79-43	79-430	80-35	80-350	81-36	81-360	108-31	108-310	108-50	108-500	109-15	109-150	112-53	112-530
	112-56	112-560	113-49	113-490										
M\$GETT	1-8770	21-120	43-760	77-1690	79-270	80-190	81-200	82-950	82-1300	112-53	112-530			
M\$GNGB	1-C020	21-120	21-350	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98
	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98
	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-980
	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980

21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980
21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980
39-25	39-250	39-36	39-360	43-28	43-280	43-32	43-320	43-36	43-360	43-54	43-540	43-63	43-630
43-68	43-680	43-72	43-720	45-33	45-330	75-9	75-90	76-8	76-80	77-8	77-80	78-10	78-100
79-8	79-80	80-8	80-80	81-9	81-90	108-22	108-220	108-42	108-420	112-13	112-130	113-48	113-480
1-D490	21-120	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98
21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98
21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-98
21-98	21-98	21-98	21-98	21-98	21-98	21-98	21-980	21-980	21-980	21-980	21-980	21-980	21-980
21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980
21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980
21-980	21-980	21-980	21-980	21-980	21-980	21-980	21-980	22-8	22-8	22-80	22-80	23-10	23-100
39-25	39-25	39-250	39-250	39-36	39-36	39-360	39-360	43-29	43-29	43-29	43-29	43-29	43-29
43-29	43-29	43-29	43-29	43-290	43-290	43-290	43-290	43-290	43-290	43-290	43-290	43-30	43-300
43-33	43-33	43-33	43-33	43-33	43-330	43-330	43-330	43-330	43-330	43-34	43-340	43-37	43-37
43-37	43-37	43-37	43-37	43-37	43-370	43-370	43-370	43-370	43-370	43-370	43-370	43-38	43-380
43-55	43-55	43-55	43-55	43-55	43-55	43-550	43-550	43-550	43-550	43-550	43-550	43-56	43-560
43-64	43-64	43-64	43-64	43-64	43-64	43-64	43-64	43-640	43-640	43-640	43-640	43-640	43-640
43-640	43-65	43-650	43-69	43-69	43-69	43-69	43-69	43-69	43-69	43-69	43-69	43-690	43-690
43-690	43-690	43-690	43-690	43-690	43-70	43-700	43-73	43-73	43-73	43-73	43-73	43-73	43-73
43-73	43-73	43-730	43-730	43-730	43-730	43-730	43-730	43-730	43-730	43-74	43-740	43-76	43-760
43-760	45-57	45-570	46-115	46-115	46-115	46-115	46-115	46-1150	46-1150	46-1150	46-1150	46-118	46-118
46-118	46-118	46-118	46-1180	46-1180	46-1180	46-1180	46-1180	47-10	47-10	47-10	47-10	47-100	47-100
47-100	47-100	47-16	47-16	47-16	47-16	47-16	47-16	47-16	47-16	47-160	47-160	47-160	47-160
47-24	47-24	47-24	47-24	47-24	47-240	47-240	47-240	47-240	47-240	47-28	47-28	47-28	47-28
47-280	47-280	47-280	47-280	47-85	47-85	47-85	47-85	47-85	47-850	47-850	47-850	47-850	47-103
47-103	47-103	47-103	47-103	47-1030	47-1030	47-1030	47-1030	47-108	47-108	47			

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 Cross reference table (CREF V05.00)

M\$CNSU	1-B980	21-120												
M\$GNTA	1-B900	21-120	23-59	23-590	43-30	43-300	43-34	43-340	43-38	43-380	43-56	43-560	43-65	43-650
	43-70	43-700	43-74	43-740	45-57	45-570	75-41	75-410	77-185	77-1850	78-19	78-190	79-43	79-430
	80-35	80-350	81-36	81-360	108-31	108-310	108-50	108-500	109-15	109-150	112-56	112-560		
M\$GNTF	1-B940	21-120	82-23	82-230										
M\$HAPT	1-A390	21-120	21-98	21-980										
M\$HNAP	1-B240	21-120	21-98	21-980										
M\$INCR	1-D260	21-120	21-33	21-330	23-10	23-10	23-100	23-100	43-28	43-28	43-280	43-280	43-290	43-300
	43-32	43-32	43-320	43-320	43-330	43-340	43-36	43-36	43-360	43-360	43-370	43-380	43-54	43-54
	43-540	43-540	43-550	43-560	43-63	43-63	43-630	43-630	43-640	43-650	43-68	43-68	43-680	43-680
	43-690	43-700	43-72	43-72	43-720	43-720	43-730	43-740	45-33	45-33	45-330	45-330	46-1150	46-1180
	47-100	47-16	47-160	47-160	47-240	47-280	47-850	47-1030	47-1080	47-1150	47-1230	47-1240	47-1450	47-1460
	47-1540	47-1620	47-1710	47-1880	47-2030	47-2090	49-50	49-320	49-430	51-300	51-340	51-360	52-300	55-170
	55-250	55-26	55-260	55-260	73-330	73-710	74-1380	74-1760	75-9	75-9	75-90	75-90	75-410	76-8
	76-8	76-80	76-80	77-8	77-8	77-80	77-80	77-370	77-400	77-420	77-440	77-470	77-520	77-560
	77-620	77-710	77-76	77-760	77-760	77-800	77-960	77-1530	77-1650	77-1660	77-1680	77-1690	77-1850	78-10
	78-10	78-100	78-100	78-190	79-8	79-8	79-80	79-80	79-260	79-270	79-430	80-8	80-8	80-80
	80-80	80-350	81-9	81-9	81-90	81-90	81-360	82-23	82-23	82-23	82-230	82-230	82-230	82-420
	82-830	82-910	82-950	82-103	82-1030	82-1030	82-1110	82-1150	82-1300	82-1440	82-1530	82-1730	82-1840	84-120
	84-760	85-200	85-450	87-90	87-530	88-290	88-510	88-52	88-520	88-520	88-660	88-67	88-670	88-670
	88-69	88-690	88-690	88-810	88-850	88-890	88-930	88-980	88-1120	88-1220	88-1450	88-1650	88-1740	89-100
	89-180	89-230	89-290	89-370	89-380	89-550	95-610	95-750	95-840	97-41	97-410	97-410	97-630	97-670
	97-1380	98-27	98-270	98-270	99-240	99-420	100-960	100-1060	100-1150	100-1270	100-1390	103-970	103-1010	103-1190
	103-1410	106-400	106-430	107-1140	107-1550	107-1580	107-1770	107-1840	107-1970	107-2080	107-2120	107-2170	108-22	108-22
	108-220	108-220	108-42	108-42	108-420	108-420	109-150	112-13	112-13	112-130	112-130			
M\$IOSE	1-A000	21-120												
M\$LDRO	1-C420	21-120	77-40	77-400	77-42	77-420	77-44	77-440	77-47	77-470	77-56	77-560	77-62	77-620
	77-96	77-960	77-168	77-1680	79-26	79-260								
M\$MASK	1-0710	21-120												
M\$MCHI	1-40	21-12	21-120	21-120										
M\$MCLO	1-0240	21-12	21-120	21-120										
M\$MSK1	1-0770	21-120												
M\$POP	1-B810	21-120	23-59	23-590	43-30	43-300	43-34	43-340	43-38	43-380	43-56	43-560	43-65	43-650
	43-70	43-700	43-74	43-740	45-57	45-570	75-41	75-410	76-14	76-140	77-185	77-1850	78-19	78-190
	79-43	79-430	80-35	80-350	81-36	81-360	108-31	108-310	108-50	108-500	109-15	109-150	112-56	112-560
	113-49	113-490												
M\$PRIN	1-0360	21-120	43-29	43-290	43-33	43-330	43-37	43-370	43-55	43-550	43-64	43-640	43-69	43-690
	43-73	43-730	46-115	46-1150	46-118	46-1180	47-10	47-100	47-24	47-240	47-28	47-280	47-85	47-850
	47-103	47-1030	47-108	47-1080	47-115	47-1150	47-123	47-1230	47-124	47-1240	47-145	47-1450	47-146	47-1460
	47-154	47-1540	47-162	47-1620	47-171	47-1710	47-188	47-1880	47-203	47-2030	47-209	47-2090	49-5	49-50
	49-32	49-320	49-43	49-430	51-30	51-300	51-34	51-340	51-36	51-360	52-30	52-300	55-17	55-170
	55-25	55-250	73-33	73-330	73-71	73-710	74-138	74-1380	74-176	74-1760	77-80	77-800	82-42	82-420
	82-83	82-830	82-111	82-1110	82-115	82-1150	82-144	82-1440	82-153	82-1530	82-173	82-1730	82-184	82-1840
	84-12	84-120	84-76	84-760	85-20	85-200	85-45	85-450	87-9	87-90	87-53	87-530	88-29	88-290
	88-51	88-510	88-66	88-660	88-81	88-810	88-85	88-850	88-89	88-890	88-93	88-930	88-98	88-980
	88-112	88-1120	88-122	88-1220	88-145	88-1450	88-165	88-1650	88-174	88-1740	89-10	89-100	89-18	89-180
	89-23	89-230	89-29	89-290	89-37	89-370	89-38	89-380	89-55	89-550	97-63	97-630	97-138	97-1380
	99-24	99-240	99-42	99-420	107-155	107-1550	107-158	107-1580	107-177	107-1770				
M\$PUSH	1-0310	21-120	21-33	21-330	23-10	23-100	43-28	43-280	43-32	43-320	43-36	43-360	43-54	43-540
	43-63	43-630	43-68	43-680	43-72	43-720	45-33	45-330	75-9	75-90	76-8	76-80	77-8	77-80
	78-10	78-100	79-8	79-80	80-8	80-80	81-9	81-90	82-23	82-230	108-22	108-220	108-42	108-420
	112-13	112-130												
M\$PUT	1-0720	21-120	43-29	43-29	43-29	43-29	43-29	43-290	43-33	43-33	43-33	43-330	43-37	43-37
	43-37	43-37	43-370	43-55	43-55	43-55	43-55	43-550	43-64	43-64	43-64	43-64	43-64	43-640
	43-69	43-69	43-69	43-69	43-69	43-690	43-73	43-73	43-73	43-73	43-73	43-730	46-115	46-115
	46-1150	46-118	46-118	46-1180	47-10	47-10	47-100	47-24	47-24	47-240	47-28	47-28	47-280	47-85

	107-158	107-158	107-177	107-177	107-177	107-177	107-177	107-177	107-177	107-177	107-177	107-177	107-177	107-177
M\$RADI	1-D77	21-12	47-16	47-16	55-26	55-26	77-76	77-76	82-103	82-103	88-52	88-52	56-67	88-67
	88-69	88-69	97-41	97-41	98-27	98-27	112-27	112-27	112-48	112-48	112-49	112-49	112-50	112-50
M\$RBRO	1-C52	21-12												
M\$RNRO	1-C62	21-12	77-56	77-56	77-62	77-62	77-96	77-96						
M\$SETS	1-D32	21-12	21-33	21-33	23-10	23-10	43-28	43-28	43-32	43-32	43-36	43-36	43-54	43-54
	43-63	43-63	43-68	43-68	43-72	43-72	45-33	45-33	75-9	75-9	76-8	76-8	77-8	77-8
	78-10	78-10	79-8	79-8	80-8	80-8	81-9	81-9	82-23	82-23	108-22	108-22	108-42	108-42
	112-13	112-13												
M\$STAR	1-A33	21-12												
M\$SVC	1-C33	21-12	43-29	43-29	43-30	43-30	43-33	43-33	43-34	43-34	43-37	43-37	43-38	43-38
	43-55	43-55	43-56	43-56	43-64	43-64	43-65	43-65	43-69	43-69	43-70	43-70	43-73	43-73
	43-74	43-74	43-76	43-76	46-115	46-115	46-118	46-118	47-10	47-10	47-16	47-16	47-24	47-24
	47-28	47-85	47-85	47-103	47-103	47-108	47-108	47-115	47-115	47-123	47-123	47-124	47-124	47-145
	47-145	47-146	47-146	47-154	47-154	47-162	47-162	47-171	47-171	47-188	47-188	47-203	47-203	47-209
	47-209	49-5	49-5	49-32	49-32	49-43	49-43	51-30	51-30	51-34	51-34	51-36	51-36	52-30
	52-30	55-17	55-17	55-25	55-25	55-26	55-26	73-33	73-33	73-71	73-71	74-138	74-138	74-176
	74-176	75-41	75-41	77-37	77-37	77-40	77-40	77-42	77-42	77-44	77-44	77-47	77-47	77-52
	77-52	77-56	77-56	77-62	77-62	77-71	77-71	77-76	77-76	77-80	77-80	77-96	77-96	77-153
	77-153	77-165	77-165	77-166	77-166	77-168	77-168	77-169	77-169	77-185	77-185	78-19	78-19	79-26
	79-26	79-27	79-27	79-43	79-43	80-19	80-19	80-35	80-35	81-20	81-20	81-36	81-36	82-83
	82-83	82-91	82-91	82-95	82-95	82-103	82-103	82-111	82-111	82-115	82-115	82-130	82-130	82-144
	82-144	82-153	82-153	82-175	82-175	82-184	82-184	84-12	84-12	84-76	84-76	85-20	85-20	85-45
	85-45	87-9	87-9	87-53	87-53	88-29	88-29	88-51	88-51	88-52	88-52	88-66	88-66	88-67
	88-67	88-69	88-69	88-81	88-81	88-85	88-85	88-89	88-89	88-93	88-93	88-98	88-98	88-112
	88-112	88-122	88-122	88-145	88-145	88-165	88-165	88-174	88-174	89-10	89-10	89-18	89-18	89-23
	89-23	89-29	89-29	89-37	89-37	89-38	89-38	89-55	89-55	95-61	95-61	95-84	95-84	97-41
	97-63	97-63	97-67	97-138	97-138	98-27	98-27	99-24	99-24	99-42	99-42	100-96	100-96	100-106
	100-115	100-127	100-139	100-139	103-97	103-101	103-101	103-119	103-141	106-40	106-43	106-43	106-43	107-114
	107-155	107-158	107-158	107-177	107-177	107-184	107-184	107-197	107-208	107-208	107-212	107-217	107-217	107-217
	109-15													109-15
M\$TLAB	1-C29	21-12	43-29	43-30	43-33	43-34	43-37	43-38	43-55	43-56	43-64	43-65	43-69	43-70
	43-73	43-74	46-115	46-118	47-10	47-16	47-24	47-28	47-85	47-103	47-108	47-115	47-123	47-124
	47-145	47-146	47-154	47-162	47-171	47-188	47-203	47-209	49-5	49-32	49-43	51-30	51-34	51-36
	52-30	55-17	55-17	55-26	73-33	73-71	74-138	74-138	75-41	77-37	77-40	77-42	77-44	77-47
	77-52	77-56	77-62	77-71	77-76	77-80	77-96	77-153	77-153	77-166	77-168	77-169	77-185	78-19
	79-26	79-27	79-43	80-35	81-36	82-42	82-83	82-91	82-95	82-103	82-111	82-115	82-130	82-144
	82-153	82-173	82-184	84-12	84-76	85-20	85-45	87-9	87-53	88-29	88-51	88-52	88-66	88-67
	88-69	88-81	88-85	88-89	88-93	88-98	88-112	88-122	88-145	88-165	88-174	89-10	89-18	89-23
	89-29	89-37	89-38	89-55	95-61	95-75	95-84	97-41	97-63	97-67	97-138	98-27	99-24	99-42
	100-96	100-106	100-115	100-127	100-139	103-97	103-101	103-119	103-141	106-40	106-43	107-114	107-155	107-158
	107-177	107-184	107-197	107-208	107-212	107-217	109-15							
M\$TSTL	1-C21	21-12	43-29	43-29	43-30	43-33	43-33	43-34	43-34	43-37	43-37	43-38	43-38	43-38
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	43-74	43-74	46-115	46-115	46-118	46-118	47-10	47-10	47-16	47-16	47-24	47-24	47-28	47-28
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	47-146	47-146	47-154	47-154	47-162	47-162	47-171	47-171	47-188	47-188	47-203	47-203	47-209	47-209
	49-5	49-5	49-32	49-32	49-43	49-43	51-30	51-30	51-34	51-34	51-36	51-36	52-30	52-30
	55-17	55-17	55-25	55-25	55-26	55-26	73-33	73-33	73-71	73-71	74-138	74-138	74-176	74-176
	75-41	75-41	77-37	77-37	77-40	77-40	77-42	77-42	77-44	77-44	77-47	77-47	77-52	77-52
	77-56	77-56	77-62	77-62	77-71	77-71	77-76	77-76	77-80	77-80	77-96	77-96	77-153	77-153
	77-165	77-165	77-166	77-166	77-168	77-168	77-169	77-169	77-185	77-185	78-19	78-19	79-26	79-26
	79-27	79-27	79-43	79-43	80-35	80-35	81-36	81-36	82-42	82-42	82-83	82-83	82-91	82-91
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