

Micro Fiche Scan

Name of device(s) tested:

M7521, DELUA

Test description:

DELUA FUNCT DIAGNOSTIC

MAINDEC Number or Package Identifier (after SEP 1977):

CZUADB0

Fiche Document Part Number:

AH-T725B-MC

Fiche preparation date unknown, using copyright year:

1986

Image resolution:

1-bit black&white, compressed for minimal file size

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PARAMETER CODING

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IDENTIFICATION

PRODUCT CODE: AC T724B-MC
PRODUCT NAME: CZUADBO DELUA FUNCT DIAG
PRODUCT DATE: 28-MAR-1986
MAINTAINER: BRUCE RIBOLINI NAC DIAGNOSTIC ENG.
AUTHOR: JOHN C. CARMODY

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REVISION HISTORY

REV.	DATE	AUTHOR	REASON/DESCRIPTION OF CHANGE
A0	08-JUL-85	J. CARMODY	INITIAL RELEASE
B0	28-MAR-86	J. CARMODY	<ol style="list-style-type: none"> 1) Starting after Test 6, change all 'ERR006' messages immed. following first call to 'CHKFTL' in each test, to 'ERR042'. 2) Extend allowable range of DELUA address and vector. 3) Modify error reporting in Test 8, SelfTest Test, and expand comments. 4) Add code to Cleanup Coding Section to clear Interrupt Enable bit in PCSRO. 5) Change name of Test 3 from 'PCSR1 DELUA ID BIT' to 'DELUA RESET', and add code to verify operation of bit 07, INTR bit, of PCSRO. 6) Delete subroutines 'CKINTR', 'SETSER', 'CLRSER', 'CLRRCE' and 'CMRPT'. 7) Modify TEST 26, 'EXTERNAL LOOPBACK TEST', and message contained in the Software P-table, so that program now offers the possibility to install the loopback connector during, or prior to the change of the software P-table, and thus avoid attended mode operation. If do select attended mode, and answer no to install loopback now, then install question will be asked when External Loopback Test started. Message will be printed on first pass only. 8) Change Software P-table messages to more clearly identify the type of loopback to install, if plan to run in External Loopback mode.

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1.0 GENERAL INFORMATION

1.1 PROGRAM ABSTRACT

THIS PRODUCT IS THE PDP-11 FUNCTIONAL TESTING DIAGNOSTIC FOR THE DELUA. A CONFIGURATION OF UP TO EIGHT DELUA UNITS WILL BE ACCEPTED FOR TEST.

THIS DIAGNOSTIC WILL ONLY OPERATE IN A STAND ALONE, OFFLINE ENVIRONMENT USING THE DELUA OPERATIONAL MICROCODE FAILURE IDENTIFICATION WILL GENERALLY BE TO THE FAILING DELUA FUNCTION.

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, AND PAPER TAPE. FOR A COMPLETE DESCRIPTION OF THE RUNTIME SERVICES, REFER TO THE XXDP+ USER'S MANUAL. THERE IS A BRIEF DESCRIPTION OF THE RUNTIME SERVICES IN SECTION 2 OF THIS DOCUMENT.

1.2 SYSTEM REQUIREMENTS

THE FOLLOWING HARDWARE IS REQUIRED TO RUN THE DELUA FUNCTIONAL TESTING DIAGNOSTIC:

PDP-11 CPU FROM SUPPORTED LIST (SEE BELOW) ;80
32K MEMORY ;80
CONSOLE TERMINAL
DELUA, WITH H4080 OR EQUIVALENT LOOPBACK CONNECTOR INSTALLED, ;80
IF PLAN TO RUN EXTERNAL LOOPBACK TEST.

SUPPORTED PDP-11 CPU'S:
11/24, 11/34A, 11/44, 11/70, 11/84

1.3 RELATED DOCUMENTS AND STANDARDS

XXDP+ USER'S MANUAL - CHGUS

1.4 DIAGNOSTIC HIERARCHY PREREQUISITES

THE TESTS INCLUDED IN THIS DELUA FUNCTIONAL DIAGNOSTIC ARE ARRANGED IN A TEST HIERARCHY. TESTS SHOULD BE EXECUTED IN CONSECUTIVE ORDER FOR MAXIMUM FAULT ISOLATION.

1.5 ASSUMPTIONS

2.0 OPERATING INSTRUCTIONS

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

2.1 COMMANDS

THERE ARE ELEVEN LEGAL COMMANDS FOR THE DIAGNOSTIC RUNTIME SERVICES

(SUPERVISOR). THIS SECTION LISTS THE COMMANDS AND GIVES A VERY BRIEF DESCRIPTION OF THEM. THE XXDP+ USER'S MANUAL HAS MORE DETAILS.

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

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

2.2 SWITCHES

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

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

EXAMPLE OF SWITCH USAGE:

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

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

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

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

2.3 FLAGS

FLAGS ARE USED TO SET UP CERTAIN OPERATIONAL PARAMETERS SUCH AS LOOPING ON ERROR. ALL FLAGS ARE CLEARED AT STARTUP AND REMAIN CLEARED UNTIL EXPLICITLY SET USING THE FLAGS SWITCH. FLAGS ARE ALSO CLEARED AFTER A START COMMAND UNLESS SET USING THE FLAG SWITCH. THE ZFLAGS COMMAND MAY ALSO BE USED TO CLEAR ALL FLAGS. WITH THE EXCEPTION OF THE START AND ZFLAGS COMMANDS, NO COMMANDS AFFECT THE STATE OF THE FLAGS; THEY REMAIN SET OR CLEARED AS SPECIFIED BY THE LAST FLAG SWITCH.

FLAG	EFFECT
HOE	HALT ON ERROR - CONTROL IS RETURNED TO RUNTIME SERVICES COMMAND MODE
LOE	LOOP ON ERROR
IER*	INHIBIT ALL ERROR REPORTS
IBE*	INHIBIT ALL ERROR REPORTS EXCEPT FIRST LEVEL (FIRST LEVEL CONTAINS ERROR TYPE, NUMBER, PC, TEST AND UNIT)
IXE*	INHIBIT EXTENDED ERROR REPORTS (THOSE CALLED BY PRINTX MACRO'S)
PRI	DIRECT MESSAGES TO LINE PRINTER
PNT	PRINT TEST NUMBER AS TEST EXECUTES
BOE	"BELL" ON ERROR
UAM	UNATTENDED MODE (NO MANUAL INTERVENTION)
ISR	INHIBIT STATISTICAL REPORTS (DOES NOT APPLY TO DIAGNOSTICS WHICH DO NOT SUPPORT 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 (L) ?" YOU MUST ANSWER "Y" AFTER A START COMMAND UNLESS THE HARDWARE INFORMATION HAS BEEN "PRELOADED" USING THE SETUP UTILITY (SEE CHAPTER 6 OF THE XXDP+ USER'S MANUAL). WHEN YOU ANSWER THIS QUESTION WITH A "Y", THE RUNTIME SERVICES WILL ASK FOR THE NUMBER OF UNITS (IN DECIMAL). YOU WILL THEN BE ASKED THE FOLLOWING QUESTIONS FOR EACH UNIT.

WHAT IS THE PCSRO ADDRESS ?
THIS IS THE ADDRESS AT WHICH PCSRO RESIDES ON THE UNIBUS.
THE ALLOWABLE RANGE IS 160000 - 174600 OCTAL. ;BO

WHAT IS THE VECTOR ADDRESS ?
THIS IS THE INTERRUPT VECTOR ADDRESS FOR THIS DEVICE.
THE ALLOWABLE RANGE IS 120 - 770 OCTAL. ;BO

SAMPLE DIALOGUE:

UNIT 0
WHAT IS THE PCSRO ADDRESS? (0) ? 174510
WHAT IS THE VECTOR ADDRESS? (0) ? 120

UNIT 1
WHAT IS THE PCSRO ADDRESS? (0) ? 174520
WHAT IS THE VECTOR ADDRESS (0) ? 130

2.5 SOFTWARE QUESTIONS

AFTER YOU HAVE ANSWERED THE HARDWARE QUESTIONS OR AFTER A RESTART OR CONTINUE COMMAND, THE RUNTIME SERVICES WILL ASK FOR SOFTWARE PARAMETERS. THESE PARAMETERS WILL GOVERN SOME DIAGNOSTIC SPECIFIC OPERATION MODES. YOU WILL BE PROMPTED BY "CHANGE SW (L) ?" IF YOU WISH TO CHANGE ANY PARAMETERS, ANSWER BY TYPING "Y".

THE ONLY SOFTWARE QUESTIONS FOR THIS DEVICE CONCERN EXTERNAL LOOPBACK TEST:

RUN EXTERNAL LOOPBACK TEST?

THE DEFAULT IS NO (No skips test, This means that
External Loopback will not be tested
at all).
YES, WILL LOOP A FRAME USING EXTERNAL LOOPBACK MODE.

SAMPLE DIALOGUE:

RUN EXTERNAL LOOPBACK TEST (REQ. H4080 OR EQUIVALENT LOOPBACK?
(L) N ? Y <CR>

NOTE: THIS NEXT QUESTION IS ASKED REGARDLESS OF ANSWER TO ABOVE QUESTION.
IF ANSWERED NO TO ABOVE QUESTION, ANSWER NO HERE ALSO.

TO AVOID MAN. INTERVENTION, INSTALL H4080 OR EQUIV. LOOPBACK
NOW? (L) N ? Y <CR>

2.6 EXTENDED P-TABLE DIALOGUE

WHEN YOU ANSWER THE HARDWARE QUESTIONS, YOU ARE BUILDING ENTRIES
IN A TABLE THAT DESCRIBES THE DEVICES UNDER TEST. THE SIMPLEST
WAY TO BUILD THIS TABLE IS TO ANSWER ALL QUESTIONS FOR EACH
UNIT TO BE TESTED. IF YOU HAVE A MULTIPLEXED DEVICE SUCH AS
A MASS STORAGE CONTROLLER WITH SEVERAL DRIVES OR A COMMUNICATION
DEVICE WITH SEVERAL LINES, THIS BECOMES TEDIOUS SINCE MOST OF
THE ANSWERS ARE REPETITIOUS.

TO ILLUSTRATE A MORE EFFICIENT METHOD, SUPPOSE YOU ARE TESTING
A FICTIONAL DEVICE, THE XY11. SUPPOSE THIS DEVICE CONSISTS OF
A CONTROL MODULE WITH EIGHT UNITS (SUB-DEVICES) ATTACHED TO IT.
THESE UNITS ARE DESCRIBED BY THE OCTAL NUMBERS 0 THROUGH 7. THERE
IS ONE HARDWARE PARAMETER THAT CAN VARY AMONG UNITS CALLED THE
Q-FACTOR. THIS Q-FACTOR MAY BE 0 OR 1. BELOW IS A SIMPLE WAY
TO BUILD A TABLE FOR ONE XY11 WITH EIGHT UNITS.

UNITS (D) ? 8<CR>

UNIT 1
CSR ADDRESS (O) ? 174510<CR>
SUB-DEVICE # (O) ? 0<CR>
Q-FACTOR (O) 0 ? 1<CR>

UNIT 2
CSR ADDRESS (O) ? 174510<CR>
SUB-DEVICE # (O) ? 1<CR>
Q-FACTOR (O) 1 ? 0<CR>

UNIT 3
CSR ADDRESS (O) ? 174510<CR>
SUB-DEVICE # (O) ? 2<CR>
Q-FACTOR (O) 0 ? <CR>

UNIT 4
CSR ADDRESS (O) ? 174510<CR>
SUB-DEVICE # (O) ? 3<CR>
Q-FACTOR (O) 0 ? <CR>

UNIT 5
CSR ADDRESS (O) ? 174510<CR>
SUB-DEVICE # (O) ? 4<CR>
Q-FACTOR (O) 0 ? <CR>

UNIT 6
CSR ADDRESS (O) ? 174510<CR>
SUB-DEVICE # (O) ? 5<CR>
Q-FACTOR (O) 0 ? <CR>

```
UNIT 7
CSR ADDRESS (0) ? 174510<CR>
SUB-DEVICE # (0) ? 6<CR>
Q-FACTOR (0) 0 ? 1<CR>
```

```
UNIT 8
CSR ADDRESS (0) 174510<CR>
SUB-DEVICE # (0) ? 7<CR>
Q-FACTOR (0) 1 ? <CR>
```

NOTICE THAT THE DEFAULT VALUE FOR THE Q-FACTOR CHANGES WHEN A NON-DEFAULT RESPONSE IS GIVEN. BE CAREFUL WHEN SPECIFYING MULTIPLE UNITS!

AS YOU CAN SEE FROM THE ABOVE EXAMPLE, THE HARDWARE PARAMETERS DO NOT VARY SIGNIFICANTLY FROM UNIT TO UNIT. THE PROCEDURE SHOWN IS NOT VERY EFFICIENT.

THE RUNTIME SERVICES CAN TAKE MULTIPLE UNIT SPECIFICATIONS HOWEVER. LET'S BUILD THE SAME TABLE USING THE MULTIPLE SPECIFICATION FEATURE.

```
# UNITS (0) ? 8<CR>
```

```
UNIT 1
CSR ADDRESS (0) ? 174510<CR>
SUB-DEVICE # (0) ? 0,1<CR>
Q-FACTOR (0) 0 ? 1,0<CR>
```

```
UNIT 3
CSR ADDRESS (0) ? 174510<CR>
SUB DEVICE # (0) ? 2-5<CR>
Q-FACTOR (0) 0 ? 0<CR>
```

```
UNIT 7
CSR ADDRESS (0) ? 174510<CR>
SUB-DEVICE # (0) ? 6,7<CR>
Q-FACTOR (0) 0 ? 1<CR>
```

AS YOU CAN SEE IN THE ABOVE DIALOGUE, THE RUNTIME SERVICES WILL BUILD AS MANY ENTRIES AS IT CAN WITH THE INFORMATION GIVEN IN ANY ONE PASS THROUGH THE QUESTIONS. IN THE FIRST PASS, TWO ENTRIES ARE BUILT SINCE TWO SUB-DEVICES AND Q-FACTORS WERE SPECIFIED. THE SERVICES ASSUME THAT THE CSR ADDRESS IS 174510 FOR BOTH SINCE IT WAS SPECIFIED ONLY ONCE. IN THE SECOND PASS, FOUR ENTRIES WERE BUILT. THIS IS BECAUSE FOUR SUB-DEVICES WERE SPECIFIED. THE "-" CONSTRUCT TELLS THE RUNTIME SERVICES TO INCREMENT THE DATA FROM THE FIRST NUMBER TO THE SECOND. IN THIS CASE, SUB-DEVICES 2, 3, 4 AND 5 WERE SPECIFIED. (IF THE SUB-DEVICE WERE SPECIFIED BY ADDRESSES, THE INCREMENT WOULD BE BY 2 SINCE ADDRESSES MUST BE ON AN EVEN BOUNDARY.) THE CSR ADDRESSES AND Q-FACTORS FOR THE FOUR ENTRIES ARE ASSUMED TO BE 174510 AND 0 RESPECTIVELY SINCE THEY WERE ONLY SPECIFIED ONCE. THE LAST TWO UNITS ARE SPECIFIED IN THE THIRD PASS.

THE WHOLE PROCESS COULD HAVE BEEN ACCOMPLISHED IN ONE PASS AS SHOWN BELOW.

```
# UNITS (0) ? 8<CR>
UNIT 1
CSR ADDRESS (0) ? 174510<CR>
SUB-DEVICE # (0) ? 0-7<CR>
Q-FACTOR (0) 0 ? 0,1,0,...,1,1<CR>
```

AS YOU CAN SEE FROM THIS EXAMPLE, NULL REPLIES (COMMAS ENCLOSING A NULL FIELD) TELL THE RUNTIME SERVICES TO REPEAT THE LAST REPLY.

2.7 QUICK START-UP PROCEDURE (XXDP+)

TO START-UP THIS PROGRAM:

1. BOOT XXDP+
2. GIVE THE DATE AND ANSWER ANY 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
7. ANSWER THE "CHANGE SW" QUESTION WITH "N"

WHEN YOU FOLLOW THIS PROCEDURE YOU WILL BE USING ONLY THE DEFAULTS FOR FLAGS AND SOFTWARE PARAMETERS. THESE DEFAULTS ARE DESCRIBED IN SECTIONS 2.3 AND 2.5.

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

ALL ERROR REPORTS FOR THIS DIAGNOSTIC ARE SELF-EXPLANATORY AND WHENEVER POSSIBLE CALLS OUT THE FAILING DELUA FUNCTION. WHENEVER A DATA COMPARE ERROR IS REPORTED THE "SHOULD BE" AND "WAS" DATA WILL ALSO BE REPORTED.

THE FOLLOWING IS A LIST OF ALL THE POSSIBLE ERRORS:

REGISTER ACCESS ERROR
DATA COMPARE ERROR IN PCSR2
DATA COMPARE ERROR IN PCSR3
DNI BIT FAILED TO SET AFTER DEVICE RESET
SELF TEST FAILURE
WRITING ONE TO CLEAR DNI BIT FAILED
NO DNI INTERRUPT OCCURED AFTER GET PCBB PORT COMMAND
DNI BIT FAILED TO SET AFTER NOP PORT COMMAND
DNI BIT FAILED TO SET AFTER GET PCBB PORT COMMAND
DNI BIT FAILED TO SET AFTER GET CMD PORT COMMAND
DNI BIT FAILED TO SET AFTER START PORT COMMAND
TXI BIT FAILED TO SET
WRITING ONE TO CLEAR TXI BIT FAILED
RXI BIT FAILED TO SET
WRITING ONE TO CLEAR RXI BIT FAILED
TIMEOUT ERROR - DELUA FAILED TO RELINQUISH OWNERSHIP OF RDRB
TIMEOUT ERROR - DELUA FAILED TO RELINQUISH OWNERSHIP OF TDRB
DNI BIT FAILED TO SET AFTER STOP PORT COMMAND
DATA COMPARE ERROR IN TRANSMIT DESCRIPTOR RING
DATA COMPARE ERROR IN RECEIVE DESCRIPTOR RING
TRANSMIT-RECEIVE DATA COMPARE ERROR
CRC COMPARE ERROR
INTERNAL ROM CRC COMPARE ERROR
RCBI BIT FAILED TO SET
TIMEOUT ERROR - DELUA FAILED TO RELINQUISH OWNERSHIP OF FIRST TDRB
TIMEOUT ERROR - DELUA FAILED TO RELINQUISH OWNERSHIP OF SECOND TDRB
TIMEOUT ERROR - DELUA FAILED TO RELINQUISH OWNERSHIP OF FIRST RDRB
TIMEOUT ERROR - DELUA FAILED TO RELINQUISH OWNERSHIP OF SECOND RDRB
DATA COMPARE ERROR IN FIRST TRANSMIT DESCRIPTOR RING
DATA COMPARE ERROR IN SECOND TRANSMIT DESCRIPTOR RING
DATA COMPARE ERROR IN FIRST RECEIVE DESCRIPTOR RING
DATA COMPARE ERROR IN SECOND RECEIVE DESCRIPTOR RING
DNI BIT NOT SET AFTER PORT HALT COMMAND
FATAL ERROR - DELUA ID BIT NOT SET
ERROR - LOOPBACK SUCCESSFUL WITH INVALID DESTINATION ADDRESS
INTERNAL RAM MEMORY DATA COMPARE ERROR
DNI BIT FAILED TO SET AFTER SELF TEST PORT COMMAND
INTERRUPT SUMMARY BIT FAILED TO SET ON DNI SET
'BUFL', IN TDRB+6 NOT SET ON XMIT BUFF OVERFLOW WITH <DTCR=0>
'BUFL', IN TDRB+6 NOT SET ON XMIT BUFF OVERFLOW WITH <DTCR=1>
PCSR0 INTERRUPT BIT CLEAR ERROR
RECEIVED PACKET COUNTER NOT GREATER THAN 0

4.0 PERFORMANCE AND PROGRESS REPORTS

AT THE END OF EACH PASS, THE PASS COUNT IS GIVEN ALONG WITH THE TOTAL NUMBER OF ERRORS REPORTED SINCE THE DIAGNOSTIC WAS STARTED. THE "EOP" SWITCH CAN BE USED TO CONTROL HOW OFTEN THE END OF PASS MESSAGE IS PRINTED. SECTION 2.2 DESCRIBES SWITCHES.

5.0 DEVICE INFORMATION TABLES

AT THE COMPLETION OF THE FIRST PASS FOR EACH DEVICE BEING TESTED DEVICE INFORMATION FOR THAT DEVICE IS PRINTED. THIS PRINTOUT CONTAINS THE ETHERNET DEFAULT ADDRESS, THE ROM MICROCODE VERSION, AND THE SWITCH PACK SETTINGS FOR SELF TEST LOOP AND REMOTE BOOT.

EXAMPLE PRINTOUT:

ETHERNET DEFAULT ADDRESS (HEX): AA-00-03-00-00-02

ROM MICROCODE VERSION (DECIMAL): 1

SWITCH PACK SET FOR :

SELF TEST MANUFACTURING MODE DISABLED

REMOTE BOOT ENABLED WITH ROM

NOTE: THIS INFORMATION MAY BE PRINTED WITHOUT RUNNING THE ENTIRE DIAGNOSTIC IF TEST 27 IS RUN SEPARATELY VIA THE /TESTS:27 SUPERVISOR SWITCH.

6.0 TEST SUMMARIES

TEST 1: PCSRO READ ACCESS

VERIFIES:
A DEVICE IS PRESENT AT THE PCSRO
UNIBUS ADDRESS SPECIFIED.

TEST 2: PCSR1 READ ACCESS

VERIFIES:
A DEVICE IS PRESENT AT THE PCSR1
UNIBUS ADDRESS SPECIFIED.

TEST 3: DELUA RESET TEST

VERIFIES:
BOTH DNI, AND INTR BITS SET IN PCSRO
FOLLOWING SETTING THE DELUA RESET BIT.

:B0

ALSO THAT BIT 06, AND NO OTHER BITS IN THE
IN THE PCSR1 DEVICE ID FIELD IS SET FOLLOWING
A DELUA RESET

:B0
:B0

TEST 4: PCSR2 READ ACCESS

VERIFIES:
A DEVICE IS PRESENT AT THE PCSR2
UNIBUS ADDRESS SPECIFIED.

TEST 5: PCSR3 READ ACCESS

VERIFIES:
A DEVICE IS PRESENT AT THE PCSR3
UNIBUS ADDRESS SPECIFIED.

TEST 6: PCSR2 STATIC BIT

VERIFIES:
PCSR2 FOR ALL STUCK-AT-0 (SA0) AND STUCK-AT-1
(SA1) ERRORS. THE HOST WILL WRITE PATTERNS
TO PCSR2, AND READ THEM BACK TO VERIFY.

TEST 7: PCSR3 STATIC BIT

VERIFIES:

PCSR3 FOR ALL SA0 AND SA1 ERRORS. THE HOST WILL WRITE PATTERNS TO PCSR3 AND READ THEM BACK TO VERIFY.

TEST 8: SELF TEST

VERIFIES:

THE ROM BASED SELF TEST CAN BE RUN SUCCESSFULLY WHEN INVOKED VIA THE SELF TEST PORT COMMAND.

TEST 9: PORT COMMAND

VERIFIES:

NO ERRORS OCCUR WHEN A DELUA PORT COMMAND IS ISSUED.

TEST 10: INTERRUPT LOGIC

VERIFIES:

A DELUA INTERRUPT CAN BE GENERATED.

TEST 11: READ INTERNAL ROM

VERIFIES:

INTERNAL ROM.

TEST 12: READ/WRITE INTERNAL MEMORY

VERIFIES:

INTERNAL RAM CAN BE WRITTEN AND READ

TEST 13: INTERNAL LOOPBACK

VERIFIES:

NO ERRORS OCCUR WHEN A DATAGRAM IS TRANSMITTED AND RECEIVED IN INTERNAL LOOPBACK MODE.

TEST 14: CRC CHECKING

VERIFIES:

CRC CHECKING LOGIC IS OPERATIONAL.

TEST 15: FORCE CRC ERROR

VERIFIES:
CRC ERROR DETECTION IS OPERATIONAL.

TEST 16: NO RECEIVE BUFFER

VERIFIES:
A RECEIVE BUFFER ERROR (RCBI) CAN BE GENERATED.

TEST 17: DISABLE RECEIVE CHAINING

VERIFIES:
DISABLE RECEIVE CHAINING MODE IS OPERATIONAL.

TEST 18: TRANSMIT CHAINING ERROR

VERIFIES:
DETECTION OF A BUFFER LENGTH ERROR WILL CAUSE
THE CORRESPONDING ERROR BIT, 'BUFL' TO SET IN
THE TRANSMIT DESCRIPTOR RING.

TEST 19: DATA CHAINING

VERIFIES:
TRANSMIT AND RECEIVE DATA CHAINING.

TEST 20: PHYSICAL ADDRESS

VERIFIES:
PHYSICAL ADDRESS FUNCTION IS OPERATIONAL.

TEST 21: MULTICAST ADDRESS

VERIFIES:
MULTICAST ADDRESS FUNCTION IS OPERATIONAL.

TEST 22: PROMISCUOUS ADDRESS

VERIFIES:
THE DELUA IN PROMISCUOUS MODE WILL ACCEPT ALL
PACKETS REGARDLESS OF DESTINATION ADDRESS.

TEST 23: ENABLE ALL MULTICAST

VERIFIES:
THE DELUA IN MULTICAST MODE WILL ACCEPT ALL
PACKETS WITH MULTICAST DESTINATION ADDRESSES.

TEST 24: INT. LOOPBACK TRANSMIT LENGTH ERROR

VERIFIES:
IF PORT DRIVER ATTEMPTS TO TRANSMIT GREATER THAN A
32 BYTE <DTCR = 0> OR 36 BYTE <DTCR = 1> TRANSMIT
FRAME, THE DEVICE WILL RETURN A 'TRANSMIT LENGTH'
ERROR.

TEST 25: SIMULTANEOUS OPERATIONS

VERIFIES:
SIMULTANEOUS OPERATIONS CAN BE PERFORMED.

TEST 26: EXTERNAL LOOPBACK (MANUAL INTERVENTION REQUIRED ON FIRST PASS) ;B0

NOTE: IN ORDER TO PERFORM, THIS TEST MUST BE SOFTWARE SELECTED

;***** ;B0

OPTIONAL SETUPS:

- 1) DEFAULT - (DID NOT CHANGE SOFTWARE P-TABLE), OR ANSWERED NO FOR "RUN EXTERNAL LOOPBACK TEST?" IN SOFTWARE P-TABLE.
ACTION - EXTERNAL LOOPBACK TEST WILL BE SKIPPED.
- 2) TEST SELECTED, BUT ANSWERED NO FOR "TO AVOID MAN. INTERVENTION, INSTALL LOOPBACK NOW?", IN SOFTWARE P-TABLE.
ACTION - IF IN ATTENDED MODE, TEST WILL ASK, ON FIRST PASS ONLY, TO HAVE OPERATOR INSTALL LOOPBACK CONNECTOR, THEN PROCEED WITH TEST.

IF IN UAM, WILL ISSUE A SKIP TEST MESSAGE AND EXIT THE TEST.
- 3) TEST SELECTED, ANSWERED YES FOR "TO AVOID MAN. INTERVENTION INSTALL LOOPBACK NOW?", IN

ACTION SOFTWARE P-TABLE.
TEST ASSUMES THAT LOOPBACK HAS BEEN INSTALLED,
AND WILL RUN WITHOUT OPERATOR INTERVENTION
REGARDLESS OF UAM SELECTION.

VERIFIES:
USING AN H4080, OR EQUIVALENT, LOOPBACK CONNECTOR,
INSURES NO ERRORS OCCUR WHEN A DATAGRAM IS TRANSMITTED
AND, RECEIVED IN EXTERNAL LOOPBACK MODE.

TEST 27: PRINT DEVICE PARAMETERS (PERFORMED ON FIRST PASS ONLY)

VERIFIES:
PRINTS THE DEFAULT PHYSICAL ADDRESS, THE MICROCODE
REVISION, AND THE SWITCH PACK SETTINGS.

&

```

896 .TITLE PROGRAM HEADER AND TABLES
897
898 .SBTTL PROGRAM HEADER
916
918 000000 .ENABL ABS,AMA
919 002000 .=2000
921
922 002000 BGNMOD
923
924 ;++
925 ; THE PROGRAM HEADER IS THE INTERFACE BETWEEN
926 ; THE DIAGNOSTIC PROGRAM AND THE SUPERVISOR.
927 ;--
928
929 002000 POINTER BGNRPT,BGNSW,BGNSFT,BGNAU,BGNDU,ERRTBL
930
931
932 002000 HEADER CZUAD,B,0,11,0,340
    
```

```

002000
002000 103
002001 132
002002 121
002003 101
002004 104
002005 000
002006 000
002007 000
002010
002010 102
002011
002011 060
002012
002012 000000
002014
002014 000011
002016
002016 104272
002020
002020 104404
002022
002022 002214
002024
002024 002222
002026
002026 104700
002030
002030 000000
002032
002032 000000
002034
002034 000000
002036
002036 000000
002040
002040 002124
002042
002042 000340
    
```

```

L$NAME:: .ASCII /C/
          .ASCII /Z/
          .ASCII /U/
          .ASCII /A/
          .ASCII /D/
          .BYTE 0
          .BYTE 0
          .BYTE 0
L$REV:: .ASCII /B/
L$DEPO:: .ASCII /O/
L$UNIT:: .WORD 0
L$TIML:: .WORD 11
L$HPCP:: .WORD L$HARD
L$SPCP:: .WORD L$SOFT
L$HPTP:: .WORD L$HW
L$SPTP:: .WORD L$SW
L$LADP:: .WORD L$LAST
L$STA:: .WORD 0
L$CO:: .WORD 0
L$DTYP:: .WORD 0
L$APT:: .WORD 0
L$DTP:: .WORD L$DISPATCH
L$PRIO:: .WORD 340
    
```

```

002044
002044 000000
002046
002046 000000
002050
002050 004
002051 000
002052
002052 000000
002054 000000
002056
002056 000000
002060
002060 020662
002062
002062 035370
002064
002064 000000
002066
002066 000000
002070
002070 036350
002072
002072 036342
002074
002074 000000
002076
002076 020670
002100
002100 104035
002102
002102 020652
002104
002104 035404
002106
002106 036172
002110
002110 036170
002112
002112 035376
002114
002114 000000
002116
002116 000000
002120
002120 000000

```

```

933
934

```

```

L$ENVI:: .WORD 0
L$EXP1:: .WORD 0
L$MREV:: .BYTE C$REVISION
          .BYTE C$EDIT
L$EF:: .WORD 0
        .WORD 0
L$SPC:: .WORD 0
L$DEVP:: .WORD L$DVTYP
L$REPP:: .WORD L$RPT
L$EXP4:: .WORD 0
L$EXP5:: .WORD 0
L$AUT:: .WORD L$AU
L$DUT:: .WORD L$DU
L$LUN:: .WORD 0
L$DESP:: .WORD L$DESC
L$LOAD:: .WORD EMT E$LOAD
L$ETP:: .WORD L$ERRTBL
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

```

H2

.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 27.

936		
937		
938		
939		
940		
941		
942		
943	002122	
	002122	000033
	002124	
	002124	036436
	002126	036614
	002130	037000
	002132	037224
	002134	037410
	002136	037574
	002140	040006
	002142	040220
	002144	041652
	002146	042276
	002150	042644
	002152	043370
	002154	044624
	002156	046234
	002160	047612
	002162	051226
	002164	052330
	002166	053742
	002170	055230
	002172	057034
	002174	062512
	002176	066446
	002200	072702
	002202	075174
	002204	076634
	002206	100520
	002210	102400

944

	.WORD	27
L\$DISPATCH:	:	
	.WORD	T1
	.WORD	T2
	.WORD	T3
	.WORD	T4
	.WORD	T5
	.WORD	T6
	.WORD	T7
	.WORD	T8
	.WORD	T9
	.WORD	T10
	.WORD	T11
	.WORD	T12
	.WORD	T13
	.WORD	T14
	.WORD	T15
	.WORD	T16
	.WORD	T17
	.WORD	T18
	.WORD	T19
	.WORD	T20
	.WORD	T21
	.WORD	T22
	.WORD	T23
	.WORD	T24
	.WORD	T25
	.WORD	T26
	.WORD	T27

I2

946
947
948
949
950
951
952
953
954

.SBTTL DEFAULT HARDWARE P-TABLE

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

955 002212
002212 000002
002214
002214

BGNHW DFPTBL

.WORD L10000-L\$HW/2

L\$HW::
DFPTBL::

956
957 002214 000000
958 002216 000000
959 002220
002220

.WORD 0
.WORD 0
ENDHW

: PCSRO - UNIBUS ADDRESS
: DELUA INTERRUPT VECTOR

L10000:

J2

961
962
963
964
965
966
967
968
969
970
971
972
973
974
975
976
977
978

002220
002220 000002
002222
002222

002222 000000
002224 000000

002226
002226

.SBTTL SOFTWARE P-TABLE

; THE SOFTWARE TABLE CONTAINS VARIOUS DATA USED BY THE
; PROGRAM AS OPERATIONAL PARAMETERS. THESE PARAMETERS ARE
; SET UP AT ASSEMBLY TIME AND MAY BE VARIED BY THE OPERATOR
; AT RUN TIME.

BGNSW SFPTBL

.WORD L10001-L\$SW/2
L\$SW::
SFPTBL::

EXLOOP: .WORD 0 ; SELECT EXTERNAL LOOPBACK TEST FLAG
LOOPCN: .WORD 0 ; LOOPBACK CONNECTOR INSTALLED FLAG ;80
.EVEN
ENDSW

L10001:

K2

991
992
1012
1013
1014
1015
1016
1017
1018
1019
1020
1021
1022 002226

.TITLE GLOBAL AREAS
.SBTTL GLOBAL EQUATES SECTION

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

EQUALS

; BIT DIFINITIONS

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.	; BIT POSITION IN SECOND STATUS WORD
000037	EF.RESTART== 31.	; (100000) START COMMAND WAS ISSUED
000036	EF.CONTINUE== 30.	; (040000) RESTART COMMAND WAS ISSUED
000035	EF.NEW== 29.	; (020000) CONTINUE COMMAND WAS ISSUED
000034	EF.PWR== 28.	; (010000) A NEW PASS HAS BEEN STARTED
		; (004000) A POWER-FAIL/POWER-UP OCCURRED

; PRIORITY LEVEL DEFINITIONS
;

L2

```

000340      PRI07== 340
000300      PRI06== 300
000240      PRI05== 240
000200      PRI04== 200
000140      PRI03== 140
000100      PRI02== 100
000040      PRI01== 40
000000      PRI00== 0

```

; OPERATOR FLAG BITS

```

000004      EVL==      4
000010      LOT==     10
000020      ADR==     20
000040      IDU==     40
000100      ISR==    100
000200      UAM==    200
000400      BOE==    400
001000      PNT==   1000
002000      PRI==   2000
004000      IXE==   4000
010000      IBE==  10000
020000      IER==  20000
040000      LOE==  40000
100000      HOE== 100000

```

```

1023
1024
1025
1026
1027
1028
1029
1030
1031
1032
1033
1034
1035
1036
1037
1038
1039
1040
1041
1042
1043
1044
1045
1046
1047
1048
1049
1050
1051
1052
1053
1054

```

```

100000
040000
020000
010000
004000
002000
001000
000400
175400
000200
000100
000040
000020
000010
000004
000002
000001
000200
000100
000040
000001
000002
000003

```

; PCSRO - PORT CONTROL AND STATUS REGISTER 0

```

SERI == BIT15
PCEI == BIT14
RXI  == BIT13
TXI  == BIT12
DNI  == BIT11
RCBI == BIT10
FATL == BIT09

```

```

; STATUS ERROR INTERRUPT
; PORT COMMAND ERROR INTERRUPT
; RECEIVE RING INTERRUPT
; TRANSMIT RING INTERRUPT
; DONE INTERRUPT
; RECEIVE BUFFER UNAVAILABLE
; FATAL ERROR INTERRUPT -
; TELL PORT DRIVER TO IGNORE CONTENTS
; OF PCSR1
; UNSOLICITED STATE CHANGE INTERRUPT
DNI+RCBI+USCI
; WRITE 1 TO CLEAR MASK - PCSRO UPPER BYTE
; STATUS ERROR INTERRUPT BYTE REFERENCE
; PORT COMMAND ERROR INTERRUPT BYTE REF
; RECEIVE RING INTERRUPT BYTE REF
; TRANSMIT RING INTERRUPT BYTE REF
; DONE INTERRUPT BYTE REF
; RECEIVE BUFFER UNAVAILABLE
; FATAL ERROR INTERRUPT BYTE REF.
; UNSOLICITED STATE CHANGE INTERRUPT BYTE REF.

```

```

USCI == BIT08
CLINTB == SERI+PCEI+RXI+TXI
SERIB == BIT07
PCEIB == BIT06
RXIB  == BIT05
TXIB  == BIT04
DNIB  == BIT03
RCBIB == BIT02
FATLIB == BIT01
USCIB == BIT00

```

```

; INTR == BIT07
; INTE == BIT06
; RSET == BIT05

```

```

; INTERRUPT SUMMARY <15:08>
; INTERRUPT ENABLE
; DELUA RESET

```

; DEVICE ID <06:04>

; IDENTIFIES DEVICE TO HOST

; PORT COMMANDS <03:00>

```

GETPCB == BIT00
GETCMD == BIT01
SLFT   == BIT00!BIT01

```

```

1055      000004      START      ==      BIT02
1056      000006      PNOP       ==      BIT01!BIT02
1057      000010      PDM      ==      BIT03
1058      000016      HALT      ==      BIT03!BIT02!BIT01
1059      000017      STOP      ==      BIT03!BIT02!BIT01!BIT00
1060
1061      ;PCSR1 - PORT CONTROL AND STATUS REGISTER 1
1062
1063      ;SELF TEST ERROR CODE <13:08>
1064      140377      STMASK    ==      140377      ; SELF TEST MASK
1065
1066      000200      PCTO     ==      BIT07      ; PORT COMMAND TIMEOUT
1067
1068      000010      RMTC     ==      BIT03      ; REMOTE CONSOLE RESERVED
1069
1070
1071      ;DEVICE ID FIELD <06:04>
1072      000020      DELUAI  ==      20      ;DEVICE IS DELUA IF ONLY BIT SET
1073
1074      ;PORT STATE <02:00>
1075      177770      SMASK    ==      177770      ; STATE MASK
1076
1077      000000      RESET    ==      0
1078      000001      PRILD   ==      BIT00      ; PRIMARY LOAD STATE
1079      000002      READY   ==      BIT01
1080      000003      RUN      ==      BIT00!BIT01
1081      000005      UNHLT   ==      BIT00!BIT02
1082      000006      NIHLT   ==      BIT01!BIT02
1083      000007      NIUNI   ==      BIT00!BIT01!BIT02
1084
1085      ;DESCRIPTOR RING DEFINITIONS
1086      100000      OMM      ==      BIT15
1087      040000      ERRS     ==      BIT14
1088      001000      STP      ==      BIT09
1089      000400      ENP      ==      BIT08
1090
1091      100000      BUFL     ==      BIT15
1092      ;GLOBAL EQUATES
1093      000000      ZERO     ==      0
1094      177777      ONES     ==      177777
1095      000377      TIMASK   ==      377      ; UPPER BYTE = ONES
1096      000000      GOODST   ==      0      ; SUCCESSFUL SELF TEST CODE
1097      172377      STATEM   ==      172377 ; MASK ALL PCSRO BITS EXCEPT STATE BITS
1098      175015      CMODE1   ==      175015 ; ALL SETABLE MODE BITS = ONES
1099      007777      TDRMSK   ==      7777   ; TDR MASK
1100      002540      DTYPE    ==      2540   ; DIAGNOSTIC TYPE FIELD
1101
1102      000000      INITH    ==      0      ; INITIAL CRC VALUE
1103      ;POLYH      ==      120001 ; CRC POLYNOMIAL
1104      120001      POLYHI   ==      120001 ;CRC POLYNOMIAL
1105
1106      ;
1107      020000      SIZ4K    ==      20000   ; 4K WORDS
1108      040000      SIZ8K    ==      SIZ4K*2 ; 8K WORDS
1109      000077      SECOND   ==      63.    ;63 LINE CLOCK TICKS = APROX. 1 SECOND
1109      000100      IE       ==      100   ;INTERRUPT ENABLE FOR LINE CLOCK

```

```

1111          .SBTTL  GLOBAL DATA SECTION
1112
1113          ;++
1114          ; THE GLOBAL DATA SECTION CONTAINS DATA THAT ARE USED
1115          ; IN MORE THAN ONE TEST.
1116          ;--
1117          ; ADDRESSES FOR DELUA UNDER TEST
1118          ;
1119 002226 000000 PCSRO:      .WORD 0      ; ADDRESS OF PCSRO
1120 002230 000000 PCSR1:      .WORD 0      ; ADDRESS OF PCSR1
1121 002232 000000 PCSR2:      .WORD 0      ; ADDRESS OF PCSR2
1122 002234 000000 PCSR3:      .WORD 0      ; ADDRESS OF PCSR3
1123 002236 000000 PCSROUB:   .WORD 0      ; ADDRESS OF THE UPPER BYTE OF PCSRO
1124 002240 000000 PCSROC:      .WORD 0      ; PCSRO DATA SAVE LOCATION
1125          ;
1126 002242 000000 INTVEC:   .WORD 0      ; ADDRESS OF DELUA INTERRUPT VECTOR
1127 002244 000240 UNAPRI:   .WORD 240    ; UNA PRIORITY = 5
1128 002246 000000 UNIT:      .WORD 0      ; UNIT NUMBER
1129          ;
1130          ;
1131 002250 000000 CLKTAB:   .WORD 0      ;LINE CLOCK STATUS REGISTER
1132 002252 000000 CLKCSR:   .WORD 0      ;LINE CLOCK PRIORITY
1133 002254 000000 CLKC?:   .WORD 0      ;LINE CLOCK VECTOR
1134 002256 000000 CLKVEC:   .WORD 0      ;LINE CLOCK FREQUENCY
1135          ;
1136 002260 000000 DEST:      .WORD 0      ; DESTINATION ADDRESS
1137 002262 000000          .WORD 0
1138 002264 000000          .WORD 0
1139          ;
1140 002266 000000 SRC:      .WORD 0      ; SOURCE ADDRESS
1141 002270 000000          .WORD 0
1142 002272 000000          .WORD 0
1143          ;
1144 002274 000000 DFAULT:   .WORD 0      ; DEFAULT ADDRESS
1145 002276 000010          .WORD 10
1146 002300 000000          .WORD 0
1147
1148          ;
1149          ;DATA STRUCTURES
1150          ;
1151 002302 PCBB:      .BLKW 4      ; PORT CONTROL BLOCK
1152 002312 UOBB:      .BLKW 100.    ; UNIBUS DATA BLOCK
1153 002622 TDRB:      .BLKW 15.      ; TRANSMIT DESCRIPTOR RING
1154 002662 RDRB:      .BLKW 16.      ; RECEIVE DESCRIPTOR RING
1155 002722 RDRBE:     .BLKW 30.      ; EXTENDED TDRB
1156 0J3016 TDRX:      .BLKW 196.    ; VERY EXTENDED TDRB
1157 003626 RDRX:      .BLKW 196.    ; VERY EXTENDED RDRB
1158          ;
1159 004436 004000 .WORD TEND-TBUF ;LENGTH OF TRANSMIT BUFFERS IN BYTES
1160 004440 TBUF:      .BLKW 128.    ; TRANSMIT BUFFER
1161 005040 TBUF2:     .BLKW 128.
1162 005440 TBUF3:     .BLKW 128.
1163 006040 TBUF4:     .BLKW 128.
1164 006440 TBUF5:     .BLKW 128.
1165 007040 TBUF6:     .BLKW 128.
1166 007440 TBUF7:     .BLKW 128.
1167 010040 TBUF8:     .BLKW 128.

```

```

1168          010440      TEND =.
1169
1170 010440 004000      .WORD  REND-RBUF          ;LENGTH OF RECEIVE BUFFERS IN BYTES
1171 010442          RBUF:          .BLKW  128.      ; RECEIVE BUFFER
1172 011042          RBUF2:         .BLKW  128.
1173 011042          RBUF3:         .BLKW  128.
1174 012042          RBUF4:         .BLKW  128.
1175 012442          RBUF5:         .BLKW  128.
1176 013042          RBUF6:         .BLKW  128.
1177 013442          RBUF7:         .BLKW  128.
1178 014042          RBUF8:         .BLKW  128.
1179          014442      REND =.
1180
1181          ;
1182          ;DEFAULT PORT FUNCTIONS
1183
1184 014442 000000      NOPF:          .WORD  0          ; NOP FUNCTION
1185 014444 000000          .WORD  0
1186 014446 000000          .WORD  0
1187 014450 000000          .WORD  0
1188
1189 014452 000001      ;LSMA:          .WORD  1          ; LOAD AND START MICROADDRESS FUNCTION
1190 014454 177777          .WORD  177777      ; STARTING INTERNAL ADDRESS OF SELFTEST
1191 014456 000000          .WORD  0
1192 014460 000000          .WORD  0
1193
1194 014462 000002      ;RDDEFA:         .WORD  2          ; READ DEFAULT PHYSICAL ADDRESS FUNCTION
1195 014464 000000          .WORD  0
1196 014466 000000          .WORD  0
1197 014470 000000          .WORD  0
1198
1199 014472 000004      ;RDPHYA:         .WORD  4          ; READ PHYSICAL ADDRESS FUNCTION
1200 014474 000000          .WORD  0
1201 014476 000000          .WORD  0
1202 014500 000000          .WORD  0
1203
1204 014502 000005      ;WTPHYA:         .WORD  5          ; WRITE PHYSICAL ADDRESS
1205 014504 000000          .WORD  0          ; PHYADR
1206 014506 000000          .WORD  0          ; PHYADR
1207 014510 000000          .WORD  0          ; PHYADR
1208
1209 014512 000006      ;RDMULA:         .WORD  6          ; READ MULTICAST ADDRESS LIST FUNCTION
1210 014514 002312          .WORD  UD88      ; ADDRESS OF UNIBUS DATA BLOCK BASE
1211 014516 005000          .WORD  5000      ; MULTICAST ADDR TABLE LENGTH= 10(10)
1212 014520 000000          .WORD  0
1213
1214 014522 000007      ;WTMULA:         .WORD  7          ; WRITE MULTICAST ADDRESS LIST FUNCTION
1215 014524 002312          .WORD  UD88      ; ADDRESS OF UNIBUS DATA BLOCK BASE
1216 014526 005000          .WORD  5000      ; MULTICAST ADDR TABLE LENGTH= 10(10)
1217 014530 000000          .WORD  0
1218
1219 014532 000010      ;RDRNGS:         .WORD  10         ; READ RING FORMAT FUNCTION
1220 014534 002312          .WORD  UD88      ; ADDRESS OF UNIBUS DATA BLOCK BASE
1221 014536 000000          .WORD  0
1222 014540 000000          .WORD  0
1223
1224 014542 000011      ;WTRNGS:         .WORD  11         ; WRITE RING FORMAT FUNCTION

```

1225	014544	002312	.WORD	UDBB	; ADDRESS OF UNIBUS DATA BLOCK BASE
1226	014546	000000	.WORD	0	
1227	014550	000000	.WORD	0	
1228					
1229	014552	000012	.WORD	12	; READ COUNTERS FUNCTION
1230	014554	002312	.WORD	UDBB	; ADDRESS OF UNIBUS DATA BLOCK BASE
1231	014556	000000	.WORD	0	
1232	014560	000070	.WORD	70	; COUNTERS LIST LENGTH= 56(10)
1233					
1234	014562	000013	.WORD	13	; READ AND CLEAR COUNTERS FUNCTION
1235	014564	002312	.WORD	UDBB	; ADDRESS OF UNIBUS DATA BLOCK BASE
1236	014566	000000	.WORD	0	
1237	014570	000070	.WORD	70	; COUNTERS LIST LENGTH= 56(10)
1238					
1239	014572	000014	.WORD	14	; READ MODE FUNCTION
1240	014574	000000	.WORD	0	
1241	014576	000000	.WORD	0	
1242	014600	000000	.WORD	0	
1243					
1244	014602	000015	.WORD	15	; WRITE MODE FUNCTION
1245	014604	100104	.WORD	100104	; PROM AND INTERNAL LOOPBACK MODE
1246					; GENERATE CRC
1247	014606	000000	.WORD	0	
1248	014610	000000	.WORD	0	
1249					
1250	014612	000015	.WORD	15	; WRITE MODE FUNCTION
1251	014614	104104	.WORD	104104	; PROM AND INTERN LOOPBACK AND ENABL COLL TEST
1252					; GENERATE CRC
1253	014616	000000	.WORD	0	
1254	014620	000000	.WORD	0	
1255					
1256	014622	000015	.WORD	15	; WRITE MODE FUNCTION
1257	014624	100114	.WORD	100114	; PROM,INTERNAL LOOPBACK,NO GENERATE CRC
1258	014626	000000	.WORD	0	
1259	014630	000000	.WORD	0	
1260					
1261	014632	000015	.WORD	15	; WRITE MODE FUNCTION
1262	014634	100004	.WORD	100004	; PROM,EXT.LOOPBACK, GENERATE CRC
1263	014636	000000	.WORD	0	
1264	014640	000000	.WORD	0	
1265					
1266	014642	000015	.WORD	15	; WRITE MODE FUNCTION
1267	014644	100014	.WORD	100014	; PROM;EXT.LOOPBACK, NO GENERATE CRC
1268					
1269	014646	000016	.WORD	16	; READ STATUS FUNCTION
1270	014650	000000	.WORD	0	
1271	014652	000000	.WORD	0	
1272	014654	000000	.WORD	0	
1273					
1274	014656	000017	.WORD	17	; READ AND CLEAR STATUS FUNCTION
1275	014660	000000	.WORD	0	
1276	014662	000000	.WORD	0	
1277	014664	000000	.WORD	0	
1278					
1279	014666	000020	.WORD	20	; DUMP INTERNAL MEMORY FUNCTION
1280	014670	002312	.WORD	UDBB	; ADDRESS OF UNIBUS DATA BLOCK BASE
1281	014672	000000	.WORD	0	

```

1282 014674 000000      .WORD 0
1283
1284 014676 000021      ; LD MEM:      .WORD 21      ; LOAD INTERNAL MEMORY FUNCTION
1285 014700 002312      .WORD UDBB      ; ADDRESS OF UNIBUS DATA BLOCK BASE
1286 014702 000000      .WORD 0
1287 014704 000000      .WORD 0
1288
1289
1290      ; DEFAULT RING FORMATS
1291
1292 014706 002622      RFRMT:      .WORD TDRB      ; TRANSMIT DESCRIPTOR RING ADDRESS
1293 014710 002000      .WORD 2000      ; TELEN = 6
1294 014712 000004      .WORD 4      ; TRLEN = 4
1295 014714 002662      .WORD RDRB      ; RECEIVE DESCRIPTOR RING ADDRESS
1296 014716 002000      .WORD 2000      ; RELEN = 6
1297 014720 000004      .WORD 4      ; RRLEN = 4
1298
1299 014722 003016      RFRMTX:     .WORD TDRX      ; TRANSMIT DESCRIPTOR RING ADDRESS
1300 014724 002000      .WORD 2000      ; TELEN = 6
1301 014726 000063      .WORD 51      ; TRLEN = 51
1302 014730 002662      .WORD RDRB      ; RECEIVE DESCRIPTOR RING ADDRESS
1303 014732 002000      .WORD 2000      ; RELEN = 6
1304 014734 000062      .WORD 50      ; RRLEN = 50
1305
1306
1307 014736 003016      RFRMTE:     .WORD TDRX      ; TRANSMIT DESCRIPTOR RING ADDRESS
1308 014740 002000      .WORD 2000      ; TELEN = 6
1309 014742 000063      .WORD 51      ; TRLEN = 51
1310 014744 003626      .WORD RDRX      ; RECEIVE DESCRIPTOR RING ADDRESS
1311 014746 002000      .WORD 2000      ; RELEN = 6
1312 014750 000062      .WORD 50      ; RRLEN = 30
1313
1314
1315      ; DEFAULT RECEIVE DESCRIPTOR RINGS
1316
1317 014752 000040      PDRB1A:     .WORD 32      ; SLEN = 32 BYTES
1318 014754 010442      .WORD RBUF      ; SEGB = RBUF
1319 014756 100000      .WORD 100000    ; OWN = UNA
1320 014760 000000      .WORD 0
1321
1322 014762 000040      ;           .WORD 32      ; SLEN = 32 BYTES
1323 014764 010442      .WORD RBUF      ; SEGB = RBUF
1324 014766 000000      .WORD 0      ; OWN = PORT DRIVER
1325 014770 000000      .WORD 0
1326
1327 014772 000040      ;           .WORD 32      ; SLEN = 32 BYTES
1328 014774 010442      .WORD RBUF      ; SEGB = RBUF
1329 014776 000000      .WORD 0      ; OWN = PORT DRIVER
1330 015000 000000      .WORD 0
1331
1332 015002 000040      ;           .WORD 32      ; SLEN = 32 BYTES
1333 015004 010442      .WORD RBUF      ; SEGB = RBUF
1334 015006 000000      .WORD 0      ; OWN = PORT DRIVER
1335 015010 000000      .WORD 0
1336
1337 015012 000040      RDRB1B:     .WORD 32      ; SLEN = 32 BYTES
1338 015014 010442      .WORD RBUF      ; SEGB = RBUF

```

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1339 015016 000000 .WORD 0 ; OWN = PORT DRIVER
1340 015020 000000 .WORD 0
1341 ;
1342 015022 000040 .WORD 32. ; SLEN = 32 BYTES
1343 015024 010442 .WORD RBUF ; SEGB = RBUF
1344 015026 000000 .WORD 0 ; OWN = PORT DRIVER
1345 015030 000000 .WORD 0
1346 ;
1347 015032 000040 .WORD 32. ; SLEN = 32 BYTES
1348 015034 010442 .WORD RBUF ; SEGB = RBUF
1349 015036 000000 .WORD 0 ; OWN = PORT DRIVER
1350 015040 000000 .WORD 0
1351 ;
1352 015042 000040 .WORD 32. ; SLEN = 32 BYTES
1353 015044 010442 .WORD RBUF ; SEGB = RBUF
1354 015046 000000 .WORD 0 ; OWN = PORT DRIVER
1355 015050 000000 .WORD 0
1356 ;
1357 015052 000040 RDRB2A: .WORD 32. ; SLEN = 32 BYTES
1358 015054 010442 .WORD RBUF ; SEGB = RBUF
1359 015056 100000 .WORD 100000 ; OWN = UNA
1360 015060 000000 .WORD 0
1361 ;
1362 015062 000040 .WORD 32. ; SLEN = 32 BYTES
1363 015064 010442 .WORD RBUF ; SEGB = RBUF
1364 015066 100000 .WORD 100000 ; OWN = UNA
1365 015070 000000 .WORD 0
1366 ;
1367 015072 000040 .WORD 32. ; SLEN = 32 BYTES
1368 015074 010442 .WORD RBUF ; SEGB = RBUF
1369 015076 000000 .WORD 0 ; OWN = PORT DRIVER
1370 015100 000000 .WORD 0
1371 ;
1372 015102 000040 .WORD 32. ; SLEN = 32 BYTES
1373 015104 010442 .WORD RBUF ; SEGB = RBUF
1374 015106 000000 .WORD 0 ; OWN = PORT DRIVER
1375 015110 000000 .WORD 0
1376 ;
1377 015112 000100 RDRB3A: .WORD 64. ; SLEN = 64 BYTES
1378 015114 010442 .WORD RBUF ; SEGB = RBUF
1379 015116 100000 .WORD 100000 ; OWN = LUA
1380 015120 000000 .WORD 0
1381 ;
1382 015122 000100 .WORD 64. ; SLEN = 64 BYTES
1383 015124 011042 .WORD RBUF2 ; SEGB = RBUF2
1384 015126 100000 .WORD 100000 ; OWN = LUA
1385 015130 000000 .WORD 0
1386 ;
1387 015132 000100 .WORD 64. ; SLEN = 64 BYTES
1388 015134 011442 .WORD RBUF3 ; SEGB = RBUF3
1389 015136 100000 .WORD 100000 ; OWN = LUA
1390 015140 000000 .WORD 0
1391 ;
1392 015142 000100 .WORD 64. ; SLEN = 64 BYTES
1393 015144 010442 .WORD RBUF ; SEGB = RBUF
1394 015146 000000 .WORD 0 ; OWN = PORT DRIVER
1395 015150 000000 .WORD 0

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1396					
1397					
1398	015152	000040	RDRB4B:	.WORD	32. ; SLEN = 32 BYTES
1399	015154	010442		.WORD	RBUF ; SEGB = RBUF
1400	015156	100000		.WORD	100000 ; OWN = LUA
1401	015160	000000		.WORD	0 ;
1402					
1403	015162	000040		.WORD	32. ;
1404	015164	010442		.WORD	RBUF ;
1405	015166	100000		.WORD	100000 ;
1406	015170	000000		.WORD	0 ;
1407					
1408	015172	000040		.WORD	32. ;
1409	015174	010442		.WORD	RBUF ;
1410	015176	100000		.WORD	100000 ;
1411	015200	000000		.WORD	0 ;
1412					
1413	015202	000040		.WORD	32. ;
1414	015204	010442		.WORD	RBUF ;
1415	015206	100000		.WORD	100000 ;
1416	015210	000000		.WORD	0 ;
1417					
1418	015212	000040		.WORD	32. ;
1419	015214	010442		.WORD	RBUF ;
1420	015216	100000		.WORD	100000 ;
1421	015220	000000		.WORD	0 ;
1422					
1423	015222	000040		.WORD	32. ; SLEN = 32 BYTES
1424	015224	010442		.WORD	RBUF ; SEGB = RBUF
1425	015226	100000		.WORD	100000 ; OWN = LUA
1426	015230	000000		.WORD	0 ;
1427					
1428	015232	000040		.WORD	32. ;
1429	015234	010442		.WORD	RBUF ;
1430	015236	100000		.WORD	100000 ;
1431	015240	000000		.WORD	0 ;
1432					
1433	015242	000040		.WORD	32. ;
1434	015244	010442		.WORD	RBUF ;
1435	015246	100000		.WORD	100000 ;
1436	015250	000000		.WORD	0 ;
1437					
1438	015252	000040		.WORD	32. ;
1439	015254	010442		.WORD	RBUF ;
1440	015256	100000		.WORD	100000 ;
1441	015260	000000		.WORD	0 ;
1442					
1443	015262	000040		.WORD	32. ;
1444	015264	010442		.WORD	RBUF ;
1445	015266	100000		.WORD	100000 ;
1446	015270	000000		.WORD	0 ;
1447					
1448	015272	000040		.WORD	32. ; SLEN = 32 BYTES
1449	015274	010442		.WORD	RBUF ; SEGB = RBUF
1450	015276	100000		.WORD	100000 ; OWN = LUA
1451	015300	000000		.WORD	0 ;
1452					

1453	015302	000040	.WORD	32.	:
1454	015304	010442	.WORD	RBUF	:
1455	015306	100000	.WORD	100000	:
1456	015310	000000	.WORD	0	:
1457			:		
1458	015312	000040	.WORD	32.	:
1459	015314	010442	.WORD	RBUF	:
1460	015316	100000	.WORD	100000	:
1461	015320	000000	.WORD	0	:
1462			:		
1463	015322	000040	.WORD	32.	:
1464	015324	010442	.WORD	RBUF	:
1465	015326	100000	.WORD	100000	:
1466	015330	000000	.WORD	0	:
1467			:		
1468	015332	000040	.WORD	32.	:
1469	015334	010442	.WORD	RBUF	:
1470	015336	100000	.WORD	100000	:
1471	015340	000000	.WORD	0	:
1472			:		
1473	015342	000040	.WORD	32.	: SLEN = 32 BYTES
1474	015344	010442	.WORD	RBUF	: SEGB = RBUF
1475	015346	100000	.WORD	100000	: OWN = LUA
1476	015350	000000	.WORD	0	:
1477			:		
1478	015352	000040	.WORD	32.	:
1479	015354	010442	.WORD	RBUF	:
1480	015356	100000	.WORD	100000	:
1481	015360	000000	.WORD	0	:
1482			:		
1483	015362	000040	.WORD	32.	:
1484	015364	010442	.WORD	RBUF	:
1485	015366	100000	.WORD	100000	:
1486	015370	000000	.WORD	0	:
1487			:		
1488	015372	000040	.WORD	32.	:
1489	015374	010442	.WORD	RBUF	:
1490	015376	100000	.WORD	100000	:
1491	015400	000000	.WORD	0	:
1492			:		
1493	015402	000040	.WORD	32.	:
1494	015404	010442	.WORD	RBUF	:
1495	015406	100000	.WORD	100000	:
1496	015410	000000	.WORD	0	:
1497			:		
1498			:		
1499	015412	000040	.WORD	32.	: SLEN = 32 BYTES
1500	015414	010442	.WORD	RBUF	: SEGB = RBUF
1501	015416	100000	.WORD	100000	: OWN = LUA
1502	015420	000000	.WORD	0	:
1503			:		
1504	015422	000040	.WORD	32.	: SLEN = 32 BYTES
1505	015424	010442	.WORD	RBUF	: SEGB = RBUF
1506	015426	100000	.WORD	100000	: OWN = LUA
1507	015430	000000	.WORD	0	:
1508			:		
1509	015432	000040	.WORD	32.	: SLEN = 32 BYTES

RDRB5A:

1510	015434	010442	.WORD	RBUF	; SEGB = RBUF
1511	015436	100000	.WORD	100000	; OWN = LUA
1512	015440	000000	.WORD	0	;
1513					;
1514	015442	000040	.WORD	32.	; SLEN = 32 BYTES
1515	015444	010442	.WORD	RBUF	; SEGB = RBUF
1516	015446	100000	.WORD	100000	; OWN = LUA
1517	015450	000000	.WORD	0	;
1518					;
1519	015452	000040	.WORD	32.	; SLEN = 32 BYTES
1520	015454	010442	.WORD	RBUF	; SEGB = RBUF
1521	015456	100000	.WORD	100000	; OWN = LUA
1522	015460	000000	.WORD	0	;
1523					;
1524	015462	000040	.WORD	32.	; SLEN = 32 BYTES
1525	015464	010442	.WORD	RBUF	; SEGB = RBUF
1526	015466	100000	.WORD	100000	; OWN = LUA
1527	015470	000000	.WORD	0	;
1528					;
1529	015472	000040	.WORD	32.	; SLEN = 32 BYTES
1530	015474	010442	.WORD	RBUF	; SEGB = RBUF
1531	015476	100000	.WORD	100000	; OWN = LUA
1532	015500	000000	.WORD	0	;
1533					;
1534	015502	000040	.WORD	32.	; SLEN = 32 BYTES
1535	015504	010442	.WORD	RBUF	; SEGB = RBUF
1536	015506	100000	.WORD	100000	; OWN = LUA
1537	015510	000000	.WORD	0	;
1538					;
1539	015512	000040	.WORD	32.	; SLEN = 32 BYTES
1540	015514	010442	.WORD	RBUF	; SEGB = RBUF
1541	015516	100000	.WORD	100000	; OWN = LUA
1542	015520	000000	.WORD	0	;
1543					;
1544	015522	000040	.WORD	32.	; SLEN = 32 BYTES
1545	015524	010442	.WORD	RBUF	; SEGB = RBUF
1546	015526	100000	.WORD	100000	; OWN = LUA
1547	015530	000000	.WORD	0	;
1548					;
1549	015532	000040	.WORD	32.	; SLEN = 32 BYTES
1550	015534	010442	.WORD	RBUF	; SEGB = RBUF
1551	015536	000000	.WORD	0	; OWN = PORT DRIVER
1552	015540	000000	.WORD	0	;
1553					;
1554					;
1555	015542	000020	.WORD	16.	; SLEN = 16 BYTES
1556	015544	010442	.WORD	RBUF	; SEGB = RBUF
1557	015546	100000	.WORD	100000	; OWN = LUA
1558	015550	000000	.WORD	0	;
1559					;
1560	015552	000026	.WORD	22.	; SLEN = 22 BYTES (INCL. CRC)
1561	015554	011042	.WORD	RBUF2	; SEGB = RBUF2
1562	015556	100000	.WORD	100000	; OWN = LUA
1563	015560	000000	.WORD	0	;
1564					;
1565	015562	000020	.WORD	16.	; SLEN = 16 BYTES
1566	015564	010442	.WORD	RBUF	; SEGB = RBUF

RDRB4A:

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1567 015566 000000      .WORD 000000 ; OWN = PORT DRIVER
1568 015570 000000      .WORD 0      ;
1569                    ;
1570                    ;
1571 015572 000040      .WORD 32.    ; SLEN = 32 BYTES
1572 015574 010442      .WORD RBUF   ; SEGB = RBUF
1573 015576 100000      .WORD 100000 ; OWN = LUA
1574 015600 000000      .WORD 0      ;
1575                    ;
1576 015602 000040      .WORD 32.    ;
1577 015604 010442      .WORD RBUF   ;
1578 015606 100000      .WORD 100000 ;
1579 015610 000000      .WORD 0      ;
1580                    ;
1581 015612 000040      .WORD 32.    ;
1582 015614 010442      .WORD RBUF   ;
1583 015616 100000      .WORD 100000 ;
1584 015620 000000      .WORD 0      ;
1585                    ;
1586 015622 000040      .WORD 32.    ;
1587 015624 010442      .WORD RBUF   ;
1588 015626 100000      .WORD 100000 ;
1589 015630 000000      .WORD 0      ;
1590                    ;
1591 015632 000040      .WORD 32.    ; SLEN = 32 BYTES
1592 015634 010442      .WORD RBUF   ; SEGB = RBUF
1593 015636 100000      .WORD 100000 ; OWN = LUA
1594 015640 000000      .WORD 0      ;
1595                    ;
1596 015642 000040      .WORD 32.    ;
1597 015644 010442      .WORD RBUF   ;
1598 015646 100000      .WORD 100000 ;
1599 015650 000000      .WORD 0      ;
1600                    ;
1601 015652 000040      .WORD 32.    ;
1602 015654 010442      .WORD RBUF   ;
1603 015656 100000      .WORD 100000 ;
1604 015660 000000      .WORD 0      ;
1605                    ;
1606 015662 000040      .WORD 32.    ;
1607 015664 010442      .WORD RBUF   ;
1608 015666 100000      .WORD 100000 ;
1609 015670 000000      .WORD 0      ;
1610                    ;
1611 015672 000040      .WORD 32.    ;
1612 015674 010442      .WORD RBUF   ;
1613 015676 100000      .WORD 100000 ;
1614 015700 000000      .WORD 0      ;
1615                    ;
1616 015702 000040      .WORD 32.    ;
1617 015704 010442      .WORD RBUF   ;
1618 015706 100000      .WORD 100000 ;
1619 015710 000000      .WORD 0      ;
1620                    ;
1621 015712 000040      .WORD 32.    ; SLEN = 32 BYTES
1622 015714 010442      .WORD RBUF   ; SEGB = RBUF
1623 015716 100000      .WORD 100000 ; OWN = LUA

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1624	015720	000000	.WORD	0	;
1625					
1626	015722	000040	.WORD	32.	;
1627	015724	010442	.WORD	RBUF	;
1628	015726	100000	.WORD	100000	;
1629	015730	000000	.WORD	0	;
1630					
1631	015732	000040	.WORD	32.	;
1632	015734	010442	.WORD	RBUF	;
1633	015736	100000	.WORD	100000	;
1634	015740	000000	.WORD	0	;
1635					
1636	015742	000040	.WORD	32.	;
1637	015744	010442	.WORD	RBUF	;
1638	015746	100000	.WORD	100000	;
1639	015750	000000	.WORD	0	;
1640					
1641	015752	000040	.WORD	32.	;
1642	015754	010442	.WORD	RBUF	;
1643	015756	100000	.WORD	100000	;
1644	015760	000000	.WORD	0	;
1645					
1646	015762	000040	.WORD	32.	;
1647	015764	010442	.WORD	RBUF	;
1648	015766	100000	.WORD	100000	;
1649	015770	000000	.WORD	0	;
1650					
1651	015772	000040	.WORD	32.	;
1652	015774	010442	.WORD	RBUF	;
1653	015776	100000	.WORD	100000	;
1654	016000	000000	.WORD	0	;
1655					
1656	016002	000040	.WORD	32.	;
1657	016004	010442	.WORD	RBUF	;
1658	016006	100000	.WORD	100000	;
1659	016010	000000	.WORD	0	;
1660					
1661	016012	000040	.WORD	32.	;
1662	016014	010442	.WORD	RBUF	;
1663	016016	100000	.WORD	100000	;
1664	016020	000000	.WORD	0	;
1665					
1666	016022	000040	.WORD	32.	;
1667	016024	010442	.WORD	RBUF	;
1668	016026	100000	.WORD	100000	;
1669	016030	000000	.WORD	0	;
1670					
1671	016032	000040	.WORD	32.	;
1672	016034	010442	.WORD	RBUF	;
1673	016036	100000	.WORD	100000	;
1674	016040	000000	.WORD	0	;
1675					
1676	016042	000040	.WORD	32.	;
1677	016044	010442	.WORD	RBUF	;
1678	016046	100000	.WORD	100000	;
1679	016050	000000	.WORD	0	;
1680					

: SLEN = 32 BYTES
: SEGB = RBUF
: OWN = LUA

: SLEN = 32 BYTES
: SEGB = RBUF
: OWN = DELUA

: SLEN = 32 BYTES
: SEGB = RBUF
: OWN = LUA

1681	016052	000040	.WORD	32.	:	
1682	016054	010442	.WORD	RBUF	:	
1683	016056	100000	.WORD	100000	:	
1684	016060	000000	.WORD	0	:	
1685						
1686	016062	000040	.WORD	32.	:	
1687	016064	010442	.WORD	RBUF	:	
1688	016066	100000	.WORD	100000	:	
1689	016070	000000	.WORD	0	:	
1690						
1691	016072	000040	.WORD	32.	:	
1692	016074	010442	.WORD	RBUF	:	
1693	016076	100000	.WORD	100000	:	
1694	016100	000000	.WORD	0	:	
1695						
1696	016102	000040	.WORD	32.	:	SLEN = 32 BYTES
1697	016104	010442	.WORD	RBUF	:	SEGB = RBUF
1698	016106	100000	.WORD	100000	:	OWN = LUA
1699	016110	000000	.WORD	0	:	
1700						
1701	016112	000040	.WORD	32.	:	
1702	016114	010442	.WORD	RBUF	:	
1703	016116	100000	.WORD	100000	:	
1704	016120	000000	.WORD	0	:	
1705						
1706	016122	000040	.WORD	32.	:	
1707	016124	010442	.WORD	RBUF	:	
1708	016126	100000	.WORD	100000	:	
1709	016130	000000	.WORD	0	:	
1710						
1711	016132	000040	.WORD	32.	:	
1712	016134	010442	.WORD	RBUF	:	
1713	016136	100000	.WORD	100000	:	
1714	016140	000000	.word	0	:	
1715						
1716	016142	000040	.WORD	32.	:	
1717	016144	010442	.WORD	RBUF	:	
1718	016146	100000	.WORD	100000	:	
1719	016150	000000	.WORD	0	:	
1720						
1721	016152	000040	.WORD	32.	:	SLEN = 32 BYTES
1722	016154	010442	.WORD	RBUF	:	SEGB = RBUF
1723	016156	100000	.WORD	100000	:	OWN = LUA
1724	016160	000000	.WORD	0	:	
1725						
1726	016162	000040	.WORD	32.	:	
1727	016164	010442	.WORD	RBUF	:	
1728	016166	100000	.WORD	100000	:	
1729	016170	000000	.WORD	0	:	
1730						
1731	016172	000040	.WORD	32.	:	
1732	016174	010442	.WORD	RBUF	:	
1733	016176	100000	.WORD	100000	:	
1734	016200	000000	.WORD	0	:	
1735						
1736	016202	000040	.WORD	32.	:	
1737	016204	010442	.WORD	RBUF	:	

L3

1738	016206	100000	.WORD	100000	;
1739	016210	000000	.WORD	0	;
1740					
1741	016212	000040	.WORD	32.	;
1742	016214	010442	.WORD	RBUF	;
1743	016216	100000	.WORD	100000	;
1744	016220	000000	.WORD	0	;
1745					
1746	016222	000040	.WORD	32.	;
1747	016224	010442	.WORD	RBUF	;
1748	016226	100000	.WORD	100000	;
1749	016230	000000	.WORD	0	;
1750					
1751	016232	000040	.WORD	32.	;
1752	016234	010442	.WORD	RBUF	;
1753	016236	100000	.WORD	100000	;
1754	016240	000000	.WORD	0	;
1755					
1756	016242	000040	.WORD	32.	;
1757	016244	010442	.WORD	RBUF	;
1758	016246	100000	.WORD	100000	;
1759	016250	000000	.WORD	0	;
1760					
1761	016252	000040	.WORD	32.	;
1762	016254	010442	.WORD	RBUF	;
1763	016256	100000	.WORD	100000	;
1764	016260	000000	.WORD	0	;
1765					
1766	016262	000040	.WORD	32.	;
1767	016264	010442	.WORD	RBUF	;
1768	016266	100000	.WORD	100000	;
1769	016270	000000	.WORD	0	;
1770					
1771					
1772	016272	000040	.WORD	32.	;
1773	016274	010442	.WORD	RBUF	;
1774	016276	100000	.WORD	100000	;
1775	016300	000000	.WORD	0	;
1776					
1777	016302	000040	.WORD	32.	;
1778	016304	010442	.WORD	RBUF	;
1779	016306	100000	.WORD	100000	;
1780	016310	000000	.WORD	0	;
1781					
1782	016312	000040	.WORD	32.	;
1783	016314	010442	.WORD	RBUF	;
1784	016316	100000	.WORD	100000	;
1785	016320	000000	.WORD	0	;
1786					
1787	016322	000040	.WORD	32.	;
1788	016324	010442	.WORD	RBUF	;
1789	016326	100000	.WORD	100000	;
1790	016330	000000	.WORD	0	;
1791					
1792	016332	000040	.WORD	32.	;
1793	016334	010442	.WORD	RBUF	;
1794	016336	100000	.WORD	100000	;

SLEN = 32 BYTES
SEGB = RBUF
OWN = LUA

SLEN = 32 BYTES
SEGB = RBUF
OWN = LUA

```

1795 016340 000000 .WORD 0 ;
1796
1797 016342 000040 .WORD 32. ; SLEN = 32 BYTES
1798 016344 010442 .WORD RBUF ; SEGB = RBUF
1799 016346 100000 .WORD 100000 ; OWN = LUA
1800 016350 000000 .WORD 0 ;
1801
1802 016352 000040 .WORD 32. ;
1803 016354 010442 .WORD RBUF ;
1804 016356 100000 .WORD 100000 ;
1805 016360 000000 .WORD 0 ;
1806
1807 016362 000040 .WORD 32. ;
1808 016364 010442 .WORD RBUF ;
1809 016366 100000 .WORD 100000 ;
1810 016370 000000 .WORD 0 ;
1811
1812 016372 000040 .WORD 32. ;
1813 016374 010442 .WORD RBUF ;
1814 016376 000000 .WORD 0 ; OWN = PORT DRIVER
1815 016400 000000 .WORD 0 ;
1816
1817 016402 000040 .WORD 32. ;
1818 016404 010442 .WORD RBUF ;
1819 016406 000000 .WORD 0 ; OWN = PORT DRIVER
1820 016410 000000 .WORD 0 ;
1821
1822
1823
1824
1825

```

; DEFAULT TRANSMIT DESCRIPTOR RINGS

```

1826 016412 000032 TDRB1A: .WORD 26. ; SLEN = 26 BYTES
1827 016414 004440 .WORD TBUF ; SEGB = TBUF
1828 016416 101400 .WORD 101400 ; OWN = UNA ; STP, ENP
1829 016420 000000 .WORD 0 ;
1830 ;
1831 016422 000030 .WORD 24. ; SLEN = 24 BYTES
1832 016424 004440 .WORD TBUF ; SEGB = TBUF
1833 016426 000000 .WORD 0 ; OWN = PORT DRIVER
1834 016430 000000 .WORD 0 ;
1835 ;
1836 016432 000030 .WORD 24. ; SLEN = 24 BYTES
1837 016434 004440 .WORD TBUF ; SEGB = TBUF
1838 016436 000000 .WORD 0 ; OWN = PORT DRIVER
1839 016440 000000 .WORD 0 ;
1840 ;
1841 016442 000030 .WORD 24. ; SLEN = 24 BYTES
1842 016444 004440 .WORD TBUF ; SEGB = TBUF
1843 016446 000000 .WORD 0 ; OWN = PORT DRIVER
1844 016450 000000 .WORD 0 ;
1845 ;
1846 016452 000040 TDRB1B: .WORD 32. ; SLEN = 32 BYTES
1847 016454 004440 .WORD TBUF ; SEGB = TBUF
1848 016456 101400 .WORD 101400 ; OWN = UNA ; STP, ENP
1849 016460 000000 .WORD 0 ;
1850 ;
1851 016462 000040 .WORD 32. ; SLEN = 32 BYTES

```

```

1852 016464 004440      .WORD  TBUF      ; SEGB = TBUF
1853 016466 000000      .WORD  0          ; OWN = PORT DRIVER
1854 016470 000000      .WORD  0
1855                    ;
1856 016472 000040      .WORD  32.        ; SLEN = 32 BYTES
1857 016474 004440      .WORD  TBUF      ; SEGB = TBUF
1858 016476 000000      .WORD  0          ; OWN = PORT DRIVER
1859 016500 000000      .WORD  0
1860                    ;
1861 016502 000040      .WORD  32.        ; SLEN = 32 BYTES
1862 016504 004440      .WORD  TBUF      ; SEGB = TBUF
1863 016506 000000      .WORD  0          ; OWN = PORT DRIVER
1864 016510 000000      .WORD  0
1865                    ;
1866 016512      TDRB1C:
1867 016512 000042      .WORD  34.        ; SLEN = 34 BYTES
1868 016514 004440      .WORD  TBUF      ; SEGB = TBUF
1869 016516 101400      .WORD  101400    ; OWN = LUA;STP;ENP
1870 016520 000000      .WORD  0
1871                    ;
1872 016522 000042      .WORD  34.        ; SLEN = 34 BYTES
1873 016524 004440      .WORD  TBUF      ; SEGB = TBUF
1874 016526 001400      .WORD  001400    ; OWN = PORT DRIVER;STP;ENP
1875 016530 000000      .WORD  0
1876                    ;
1877 016532 000050      TDRB1D:
1878 016534 004440      .WORD  40.        ; SLEN = 40 BYTES
1879 016536 101400      .WORD  TBUF      ; SEGB = TBUF
1880 016540 000000      .WORD  101400    ; OWN = LUA;STP;ENP
1881                    ;
1882 016542 000050      .WORD  40.        ; SLEN = 40 BYTES
1883 016544 004440      .WORD  TBUF      ; SEGB = TBUF
1884 016546 001400      .WORD  001400    ; OWN = PORT DRIVER;STP;ENP
1885 016550 000000      .WORD  0
1886                    ;
1887 016552      TDRB1E:
1888 016552 000016      .WORD  14.        ; SLEN = 14 BYTES
1889 016554 004440      .WORD  TBUF      ; SEGB = TBUF
1890 016556 101000      .WORD  101000    ; OWN = DELUA ;STP
1891 016560 000000      .WORD  0
1892                    ;
1893 016562 000022      .WORD  18.        ; SLEN = 18 BYTES
1894 016564 004440      .WORD  TBUF      ; SEGB = TBUF
1895 016566 101000      .WORD  101000    ; OWN = DELUA ;STP
1896 016570 000000      .WORD  0
1897                    ;
1898 016572 000022      .WORD  18.        ; SLEN = 18 BYTES
1899 016574 004440      .WORD  TBUF      ; SEGB = TBUF
1900 016576 000000      .WORD  0          ; OWN = PRT DRIVER
1901 016600 000000      .WORD  0
1902                    ;
1903                    ;
1904 016602 000016      TDRB2A:
1905 016604 004440      .WORD  14.        ; SLEN = 14 BYTES
1906 016606 101000      .WORD  TBUF      ; SEGB = TBUF
1907 016610 000000      .WORD  101000    ; OWN = DELUA ;STP
1908                    ;
    
```


1909	016612	000022		.WORD	18.	; SLEN = 18 BYTES
1910	016614	004440		.WORD	TBUF	; SEGB = TBUF
1911	016616	100400		.WORD	100400	; OWN = DELUA ;ENP
1912	016620	000000		.WORD	0	
1913			;			
1914	016622	000020		.WORD	16.	; SLEN = 16 BYTES
1915	016624	004440		.WORD	TBUF	; SEGB = TBUF
1916	016626	000000		.WORD	0	; OWN = PORT DRIVER
1917	016630	000000		.WORD	0	
1918			;			
1919	016632	000020		.WORD	16.	; SLEN = 16 BYTES
1920	016634	004440		.WORD	TBUF	; SEGB = TBUF
1921	016636	000000		.WORD	0	; OWN = PORT DRIVER
1922	016640	000000		.WORD	0	
1923						
1924						
1925	016642	000020	TDRB2B:	.WORD	20	; SLEN = 20 BYTES
1926	016644	004440		.WORD	TBUF	; SEGB = TBUF
1927	016646	101000		.WORD	101000	; OWN = UNA;STP
1928	016650	000000		.WORD	0	
1929						
1930	016652	000020		.WORD	20	; SLEN = 20 BYTES
1931	016654	004440		.WORD	TBUF	; SEGB = TBUF
1932	016656	100400		.WORD	100400	; OWN = UNA;ENP
1933	016660	000000		.WORD	0	
1934						
1935	016662	000020		.WORD	20	; SLEN = 20 BYTES
1936	016664	004440		.WORD	TBUF	; SEGB = TBUF
1937	016666	101000		.WORD	101000	; OWN = UNA;STP
1938	016670	000000		.WORD	0	
1939						
1940	016672	000020		.WORD	20	; SLEN = 20 BYTES
1941	016674	004440		.WORD	TBUF	; SEGB = TBUF
1942	016676	100400		.WORD	100400	; OWN = UNA;ENP
1943	016700	000000		.WORD	0	
1944						
1945						
1946			;			
1947	016702	000040	TDRB3A:	.WORD	42.	; SLEN = 42 BYTES
1948	016704	004440		.WORD	TBUF	; SEGB = TBUF
1949	016706	101400		.WORD	101400	; OWN = LUA ;STP,ENP
1950	016710	000000		.WORD	0	
1951			;			
1952	016712	000042		.WORD	42	; SLEN = 42 BYTES
1953	016714	004440		.WORD	TBUF	; SEGB = TBUF
1954	016716	100000		.WORD	100000	; OWN = LUA
1955	016720	000000		.WORD	0	
1956			;			
1957	016722	000052		.WORD	42.	; SLEN = 42 BYTES
1958	016724	004440		.WORD	TBUF	; SEGB = TBUF3
1959	016726	100400		.WORD	100400	; OWN = LUA ;ENP
1960	016730	000000		.WORD	0	
1961			;			
1962	016732	000174		.WORD	124.	; SLEN = 124 BYTES
1963	016734	004440		.WORD	TBUF	; SEGB = TBUF
1964	016736	000000		.WORD	0	; OWN = PORT DRIVER
1965	016740	000000		.WORD	0	

```

1966 ;
1967 ;
1968 016742 000032 TDRBXX: .WORD 26. ; SLEN = 32 BYTES
1969 016744 004440 .WORD TBUF ; SEGB = TBUF
1970 016746 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
1971 016750 000000 .WORD 0
1972 ;
1973 016752 000032 .WORD 26. ; SLEN = 32 BYTES
1974 016754 004440 .WORD TBUF ; SEGB = TBUF
1975 016756 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
1976 016760 000000 .WORD 0
1977 ;
1978 016762 000032 .WORD 26. ; SLEN = 32 BYTES
1979 016764 004440 .WORD TBUF ; SEGB = TBUF
1980 016766 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
1981 016770 000000 .WORD 0
1982 ;
1983 016772 000032 .WORD 26. ; SLEN = 32 BYTES
1984 016774 004440 .WORD TBUF ; SEGB = TBUF
1985 016776 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
1986 017000 000000 .WORD 0
1987 ;
1988 017002 000032 .WORD 26. ; SLEN = 32 BYTES
1989 017004 004440 .WORD TBUF ; SEGB = TBUF
1990 017006 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
1991 017010 000000 .WORD 0
1992 ;
1993 017012 000032 .WORD 26. ; SLEN = 32 BYTES
1994 017014 004440 .WORD TBUF ; SEGB = TBUF
1995 017016 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
1996 017020 000000 .WORD 0
1997 ;
1998 017022 000032 .WORD 26. ; SLEN = 32 BYTES
1999 017024 004440 .WORD TBUF ; SEGB = TBUF
2000 017026 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
2001 017030 000000 .WORD 0
2002 ;
2003 017032 000032 .WORD 26. ; SLEN = 32 BYTES
2004 017034 004440 .WORD TBUF ; SEGB = TBUF
2005 017036 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
2006 017040 000000 .WORD 0
2007 ;
2008 017042 000032 .WORD 26. ; SLEN = 32 BYTES
2009 017044 004440 .WORD TBUF ; SEGB = TBUF
2010 017046 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
2011 017050 000000 .WORD 0
2012 ;
2013 017052 000032 .WORD 26. ; SLEN = 32 BYTES
2014 017054 004440 .WORD TBUF ; SEGB = TBUF
2015 017056 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
2016 017060 000000 .WORD 0
2017 ;
2018 017062 000032 .WORD 26. ; SLEN = 32 BYTES
2019 017064 004440 .WORD TBUF ; SEGB = TBUF
2020 017066 101400 .WORD 101400 ; OWN = LUA ;STP ;ENP
2021 017070 000000 .WORD 0
2022 ;

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2023	017072	000032	.WORD	26.	; SLEN = 32 BYTES
2024	017074	004440	.WORD	TBUF	; SEGB = TBUF
2025	017076	101400	.WORD	101400	; OVN = LUA ;STP ;ENP
2026	017100	000000	.WORD	0	
2027					
2028	017102	000032	.WORD	26.	; SLEN = 32 BYTES
2029	017104	004440	.WORD	TBUF	; SEGB = TBUF
2030	017106	101400	.WORD	101400	; OVN = LUA ;STP ;ENP
2031	017110	000000	.WORD	0	
2032					
2033	017112	000032	.WORD	26.	; SLEN = 32 BYTES
2034	017114	004440	.WORD	TBUF	; SEGB = TBUF
2035	017116	101400	.WORD	101400	; OVN = LUA ;STP ;ENP
2036	017120	000000	.WORD	0	
2037					
2038	017122	000032	.WORD	26.	; SLEN = 32 BYTES
2039	017124	004440	.WORD	TBUF	; SEGB = TBUF
2040	017126	101400	.WORD	101400	; OVN = LUA ;STP ;ENP
2041	017130	000000	.WORD	0	
2042					
2043	017132	000032	.WORD	26.	; SLEN = 32 BYTES
2044	017134	004440	.WORD	TBUF	; SEGB = TBUF
2045	017136	101400	.WORD	101400	; OVN = LUA ;STP ;ENP
2046	017140	000000	.WORD	0	
2047					
2048	017142	000032	.WORD	26.	; SLEN = 32 BYTES
2049	017144	004440	.WORD	TBUF	; SEGB = TBUF
2050	017146	101400	.WORD	101400	; OVN = LUA;STP;ENP
2051	017150	000000	.WORD	0	
2052					
2053	017152	000032	.WORD	26.	; SLEN = 32 BYTES
2054	017154	004440	.WORD	TBUF	; SEGB = TBUF
2055	017156	101400	.WORD	101400	; OVN = LUA;STP;ENP
2056	017160	000000	.WORD	0	
2057					
2058	017162	000032	.WORD	26.	; SLEN = 32 BYTES
2059	017164	004440	.WORD	TBUF	; SEGB = TBUF
2060	017166	101400	.WORD	101400	; OVN = LUA;STP;ENP
2061	017170	000000	.WORD	0	
2062					
2063	017172	000032	.WORD	26.	; SLEN = 32 BYTES
2064	017174	004440	.WORD	TBUF	; SEGB = TBUF
2065	017176	101400	.WORD	101400	; OVN = LUA;STP;ENP
2066	017200	000000	.WORD	0	
2067					
2068	017202	000032	.WORD	26.	; SLEN = 32 BYTES
2069	017204	004440	.WORD	TBUF	; SEGB = TBUF
2070	017206	101400	.WORD	101400	; OVN = LUA;STP;ENP
2071	017210	000000	.WORD	0	
2072					
2073	017212	000032	.WORD	26.	; SLEN = 32 BYTES
2074	017214	004440	.WORD	TBUF	; SEGB = TBUF
2075	017216	101400	.WORD	101400	; OVN = LUA;STP;ENP
2076	017220	000000	.WORD	0	
2077					
2078	017222	000032	.WORD	26.	; SLEN = 32 BYTES
2079	017224	004440	.WORD	TBUF	; SEGB = TBUF

2080	017226	101400	.WORD	101400	; OWN = LUA;STP;ENP
2081	017230	000000	.WORD	0	;
2082					;
2083	017232	000032	.WORD	26.	; SLEN = 32 BYTES
2084	017234	004440	.WORD	TBUF	; SEGB = TBUF
2085	017236	101400	.WORD	101400	; OWN = LUA;STP;ENP
2086	017240	000000	.WORD	0	;
2087					;
2088	017242	000032	.WORD	26.	; SLEN = 32 BYTES
2089	017244	004440	.WORD	TBUF	; SEGB = TBUF
2090	017246	101400	.WORD	101400	; OWN = LUA;STP;ENP
2091	017250	000000	.WORD	0	;
2092					;
2093	017252	000032	.WORD	26.	; SLEN = 32 BYTES
2094	017254	004440	.WORD	TBUF	; SEGB = TBUF
2095	017256	101400	.WORD	101400	; OWN = LUA;STP;ENP
2096	017260	000000	.WORD	0	;
2097					;
2098	017262	000032	.WORD	26.	; SLEN = 32 BYTES
2099	017264	004440	.WORD	TBUF	; SEGB = TBUF
2100	017266	101400	.WORD	101400	; OWN = LUA;STP;ENP
2101	017270	000000	.WORD	0	;
2102					;
2103	017272	000032	.WORD	26.	; SLEN = 32 BYTES
2104	017274	004440	.WORD	TBUF	; SEGB = TBUF
2105	017276	101400	.WORD	101400	; OWN = LUA;STP;ENP
2106	017300	000000	.WORD	0	;
2107					;
2108	017302	000032	.WORD	26.	; SLEN = 32 BYTES
2109	017304	004440	.WORD	TBUF	; SEGB = LUA;STP;ENP
2110	017306	101400	.WORD	101400	; OWN = LUA;STP;ENP
2111	017310	000000	.WORD	0	;
2112					;
2113	017312	000032	.WORD	26.	; SLEN = 32 BYTES
2114	017314	004440	.WORD	TBUF	; SEGB = TBUF
2115	017316	101400	.WORD	101400	; OWN = LUA;STP;ENP
2116	017320	000000	.WORD	0	;
2117					;
2118	017322	000032	.WORD	26.	; SLEN = 32 BYTES
2119	017324	004440	.WORD	TBUF	; SEGB = TBUF
2120	017326	101400	.WORD	101400	; OWN = LUA;STP;ENP
2121	017330	000000	.WORD	0	;
2122					;
2123	017332	000032	.WORD	26.	; SLEN = 32 BYTES
2124	017334	004440	.WORD	TBUF	; SEGB = TBUF
2125	017336	101400	.WORD	101400	; OWN = LUA;STP;ENP
2126	017340	000000	.WORD	0	;
2127					;
2128	017342	000032	.WORD	26.	; SLEN = 32 BYTES
2129	017344	004440	.WORD	TBUF	; SEGB = TBUF
2130	017346	101400	.WORD	101400	; OWN = LUA;STP;ENP
2131	017350	000000	.WORD	0	;
2132					;
2133	017352	000032	.WORD	26.	; SLEN = 32 BYTES
2134	017354	004440	.WORD	TBUF	; SEGB = TBUF
2135	017356	101400	.WORD	101400	; OWN = LUA;STP;ENP
2136	017360	000000	.WORD	0	;

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2137 ;
2138 017362 000032 .WORD 26. ; SLEN = 32 BYTES
2139 017364 004440 .WORD TBUF ; SEGB = TBUF
2140 017366 101400 .WORD 101400 ; OWN = LUA;STP;ENP
2141 017370 000000 .WORD 0 ;
2142 ;
2143 017372 000032 .WORD 26. ; SLEN = 32 BYTES
2144 017374 004440 .WORD TBUF ; SEGB = TBUF
2145 017376 101400 .WORD 101400 ; OWN = LUA;STP;ENP
2146 017400 000000 .WORD 0 ;
2147 ;
2148 017402 000032 .WORD 26. ; SLEN = 32 BYTES
2149 017404 004440 .WORD TBUF ; SEGB = TBUF
2150 017406 101400 .WORD 101400 ; OWN = LUA;STP;ENP
2151 017410 000000 .WORD 0 ;
2152 ;
2153 017412 000032 .WORD 26. ; SLEN = 32 BYTES
2154 017414 004440 .WORD TBUF ; SEGB = TBUF
2155 017416 101400 .WORD 101400 ; OWN = LUA;STP;ENP
2156 017420 000000 .WORD 0 ;
2157 ;
2158 017422 000032 .WORD 26. ; SLEN = 32 BYTES
2159 017424 004440 .WORD TBUF ; SEGB = TBUF
2160 017426 101400 .WORD 101400 ; OWN = LUA;STP;ENP
2161 017430 000000 .WORD 0 ;
2162 ;
2163 017432 000032 .WORD 26. ; SLEN = 32 BYTES
2164 017434 004440 .WORD TBUF ; SEGB = TBUF
2165 017436 101400 .WORD 101400 ; OWN = LUA;STP;ENP
2166 017440 000000 .WORD 0 ;
2167 ;
2168 017442 000032 .WORD 26. ; SLEN = 32 BYTES
2169 017444 004440 .WORD TBUF ; SEGB = TBUF
2170 017446 101400 .WORD 101400 ; OWN = LUA;STP;ENP
2171 017450 000000 .WORD 0 ;
2172 ;
2173 017452 000032 .WORD 26. ; SLEN = 32 BYTES
2174 017454 004440 .WORD TBUF ; SEGB = TBUF
2175 017456 101400 .WORD 101400 ; OWN = LUA;STP;ENP
2176 017460 000000 .WORD 0 ;
2177 ;
2178 017462 000032 .WORD 26. ; SLEN = 32 BYTES
2179 017464 004440 .WORD TBUF ; SEGB = TBUF
2180 017466 101400 .WORD 101400 ; OWN = LUA;STP;ENP
2181 017470 000000 .WORD 0 ;
2182 ;
2183 017472 000032 .WORD 26. ; SLEN = 32 BYTES
2184 017474 004440 .WORD TBUF ;
2185 017476 101400 .WORD 101400 ;
2186 017500 000000 .WORD 0 ;
2187 ;
2188 017502 000032 .WORD 26. ;
2189 017504 004440 .WORD TBUF ;
2190 017506 101400 .WORD 101400 ;
2191 017510 000000 .WORD 0 ;
2192 ;
2193 017512 000032 .WORD 26. ;

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2194 017514 004440      .WORD  TBUF      ;
2195 017516 101400      .WORD  101400    ;
2196 017520 000000      .WORD  0          ;
2197                   ;
2198 017522 000032      .WORD  26.       ;
2199 017524 004440      .WORD  TBUF      ;
2200 017526 101400      .WORD  101400    ;
2201 017530 000000      .WORD  0          ;
2202                   ;
2203 017532 000032      .WORD  26.       ;
2204 017534 004440      .WORD  TBUF      ;
2205 017536 101400      .WORD  101400    ;
2206 017540 000000      .WORD  0          ;
2207                   ;
2208 017542 000032      .WORD  26.       ;
2209 017544 004440      .WORD  TBUF      ;
2210 017546 101400      .WORD  101400    ;
2211 017550 000000      .WORD  0          ;
2212                   ;
2213 017552 000032      .WORD  26.       ; SLEN = 32 BYTES
2214 017554 004440      .WORD  TBUF      ; SEGB = TBUF
2215 017556 101400      .WORD  101400    ; OWN = LUA;STP;ENP
2216 017560 000000      .WORD  0          ;
2217                   ;
2218 017562 000032      .WORD  26.       ; SLEN = 32 BYTES
2219 017564 004440      .WORD  TBUF      ; SEGB = TBUF
2220 017566 001400      .WORD  001400    ; OWN = PORT DRIVER;STP;ENP
2221 017570 000000      .WORD  0          ;
2222                   ;
2223 017572 000016      .WORD  14.       ; SLEN = 14 BYTES
2224 017574 004440      .WORD  TBUF      ; SEGB = TBUF
2225 017576 101000      .WORD  101000    ; OWN = LUA;STP
2226 017600 000000      .WORD  0          ;
2227                   ;
2228 017602 000016      .WORD  14.       ; SLEN = 14 BYTES
2229 017604 004440      .WORD  TBUF      ; SEGB = TBUF
2230 017606 100400      .WORD  100400    ; OWN = LUA;ENP
2231 017610 000000      .WORD  0          ;
2232                   ;
2233 017612 000016      .WORD  14.       ; SLEN = 14 BYTES
2234 017614 004440      .WORD  TBUF      ; SEGB = TBUF
2235 017616 001400      .WORD  001400    ; OWN = PORT DRIVER;STP,ENP
2236 017620 000000      .WORD  0          ;
2237                   ;
2238                   ;
2239                   ;DEFAULT DATA FOR TEST11
2240                   ;
2241 017622 000000      CRCH:      .WORD  0          ; CRC STORAGE
2242                   ;
2243                   ;DEFAULT UDBB FOR TEST11
2244                   ;
2245 017624 002000      UDB10A:   .WORD  2000      ; FLEN = 1024 WORDS
2246 017626 010442      .WORD  RBUF      ; HDBB = RBUF
2247 017630 000000      .WORD  0          ;
2248 017632 000000      .WORD  0          ;
2249 017634 000010      .WORD  10         ;
2250

```

```

2251          ;ROM ADDRESS TABLE FOR TEST11
2252
2253 017636    MEM10A:
2254 017636    000000    .WORD    0          ; ADDRESS OF ROM 1ST 1K
2255 017640    002000    .WORD    2000       ; SECOND 1K
2256 017642    004000    .WORD    4000       ; ETC.
2257 017644    006000    .WORD    6000
2258 017646    010000    .WORD    10000
2259 017650    012000    .WORD    12000
2260 017652    014000    .WORD    14000
2261 017654    016000    .WORD    16000
2262 017656    020000    .WORD    20000
2263 017660    022000    .WORD    22000
2264 017662    024000    .WORD    24000
2265 017664    026000    .WORD    26000
2266 017666    030000    .WORD    30000
2267 017670    032000    .WORD    32000
2268 017672    034000    .WORD    34000
2269 017674    036000    .WORD    36000
2270
2271
2272          ;DEFAULT UDBB FOR TST12
2273
2274 017676    004000    UDB11A: .WORD    4000   ; FLEN = 1024. WORDS
2275 017700    000000    .WORD    0          ; HDBB = RBUF OR TBUF (LOADED BY TEST)
2276 017702    000000    .WORD    0
2277 017704    000000    .WORD    0          ; IDBB (LOADED BY TEST)
2278 017706    000000    .WORD    0          ; IDBB (Upper addr bits) loaded by test
2279
2280          ;WCS DOWNLINE LOAD ADDRESS TABLE FOR TEST12
2281
2282 017710    014000    MEM11A: .WORD    14000   ; TOP 1K SECTION OF MEMORY
2283
2284          ;INTERNAL RAM MEMORY ADDRESS TABLE FOR TEST12
2285
2286 017712    000146    .WORD END13A-MEM13A ; WORD SIZE OF MEM13A
2287
2288 017714    062000    MEM13A: .WORD    062000   ; FIRST 1K BLOCK OF INTERNAL RAM MEMORY
2289 017716    066000    .WORD    066000
2290 017720    072000    .WORD    072000
2291 017722    076000    .WORD    076000
2292 017724    102000    .WORD    102000
2293 017726    106000    .WORD    106000
2294 017730    112000    .WORD    112000
2295 017732    116000    .WORD    116000
2296 017734    122000    .WORD    122000
2297 017736    126000    .WORD    126000
2298 017740    132000    .WORD    132000
2299 017742    136000    .WORD    136000
2300 017744    142000    .WORD    142000
2301 017746    146000    .WORD    146000
2302 017750    152000    .WORD    152000
2303 017752    156000    .WORD    156000
2304 017754    162000    .WORD    162000
2305 017756    166000    .WORD    166000
2306 017760    172000    .WORD    172000
2307 017762    176000    .WORD    176000

```

```

2308 017764 002000      .WORD 002000      ;FROM HERE ON EXT ADDR BIT WILL BE
2309                                     ;SET IN UDDB+4
2310 017766 006000      .WORD 006000
2311 017770 012000      .WORD 012000
2312 017772 016000      .WORD 016000
2313 017774 022000      .WORD 022000
2314 017776 026000      .WORD 026000
2315 020000 032000      .WORD 032000
2316 020002 036000      .WORD 036000
2317 020004 042000      .WORD 042000
2318 020006 046000      .WORD 046000
2319 020010 052000      .WORD 052000
2320 020012 056000      .WORD 056000
2321 020014 062000      .WORD 062000
2322 020016 066000      .WORD 066000
2323 020020 072000      .WORD 072000
2324 020022 076000      .WORD 076000
2325 020024 102000      .WORD 102000
2326 020026 106000      .WORD 106000
2327 020030 111200      .WORD 111200
2328 020032 116000      .WORD 116000
2329 020034 122000      .WORD 122000
2330 020036 126000      .WORD 126000
2331 020040 132000      .WORD 132000
2332 020042 136000      .WORD 136000
2333 020044 142000      .WORD 142000
2334 020046 146000      .WORD 146000
2335 020050 152000      .WORD 152000
2336 020052 156000      .WORD 156000
2337 020054 162000      .WORD 162000
2338 020056 166000      .WORD 166000
2339 020060 172000      .WORD 172000
2340                                     END13A = .
2341
2342
2343                                     ;PHYSICAL ADDRESSES FOR TEST 20
2344
2345 020062 125252      ADR21:      .WORD 125252      ; DEFAULT PHYSICAL ADDRESS
2346 020064 125252      .WORD 125252
2347 020066 125252      .WORD 125252
2348
2349 020070 052524      ADR21C:    .WORD 52524      ; COMPLEMENTED PHYSICAL ADDRESS
2350 020072 052525      .WORD 52525
2351 020074 052525      .WORD 52525
2352
2353                                     ;MULTICAST ADDRESS LIST FOR TEST 21
2354
2355 020076 125253      MULTL:     .WORD 125253      ; MULTICAST ADDRESS LIST
2356 020100 125252      .WORD 125252
2357 020102 125252      .WORD 125252
2358 020104 125253      .WORD 125253
2359 020106 052525      .WORD 052525
2360 020110 125252      .WORD 125252
2361 020112 125253      .WORD 125253
2362 020114 125252      .WORD 125252
2363 020116 052525      .WORD 052525
2364 020120 125253      .WORD 125253

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2365	020122	177777	.WORD	177777
2366	020124	052525	.WORD	052525
2367	020126	125253	.WORD	125253
2368	020130	000000	.WORD	000000
2369	020132	125252	.WORD	125252
2370	020134	177777	.WORD	177777
2371	020136	000000	.WORD	000000
2372	020140	177777	.WORD	177777
2373	020142	177777	.WORD	177777
2374	020144	052525	.WORD	052525
2375	020146	125252	.WORD	125252
2376	020150	177777	.WORD	177777
2377	020152	125252	.WORD	125252
2378	020154	052525	.WORD	052525
2379	020156	177777	.WORD	177777
2380	020160	000000	.WORD	000000
2381	020162	052525	.WORD	052525
2382	020164	177777	.WORD	177777
2383	020166	177777	.WORD	177777
2384	020170	125252	.WORD	125252

2385					
2386	020172	052525	.WORD	052525	; COMPLIMENTED ADDRESS LIST
2387	020174	052525	.WORD	052525	
2388	020176	052525	.WORD	052525	
2389	020200	052525	.WORD	052525	
2390	020202	125252	.WORD	125252	
2391	020204	052525	.WORD	052525	
2392	020206	052525	.WORD	052525	
2393	020210	052525	.WORD	052525	
2394	020212	125252	.WORD	125252	
2395	020214	052525	.WORD	052525	
2396	020216	000000	.WORD	000000	
2397	020220	125252	.WORD	125252	
2398	020222	052525	.WORD	052525	
2399	020224	177777	.WORD	177777	
2400	020226	052525	.WORD	052525	
2401	020230	000001	.WORD	000001	
2402	020232	000000	.WORD	000000	
2403	020234	000000	.WORD	000000	
2404	020236	000001	.WORD	000001	
2405	020240	125252	.WORD	125252	
2406	020242	052525	.WORD	052525	
2407	020244	000001	.WORD	000001	
2408	020246	052525	.WORD	052525	
2409	020250	125252	.WORD	125252	
2410	020252	000001	.WORD	000001	
2411	020254	177777	.WORD	177777	
2412	020256	125252	.WORD	125252	
2413	020260	000001	.WORD	000001	
2414	020262	000000	.WORD	000000	
2415	020264	052525	.WORD	052525	

MULTLC:

;DEFAULT EXPECTED DATA

2416					
2417					
2418					
2419	020266	000032	.WORD	26.	; EXPECTED TDRB FOR
2420	020270	004440	.WORD	TBUF	; TEST13,17,20-23,25,26
2421	020272	021400	.WORD	021400	; MTCH,STP,ENP

GLOBAL DATA SECTION

2422	020274	000000	.WORD	0	;
2423	020276	000040	TDR15A:	.WORD	32. ; EXPECTED TDRB FOR
2424	020300	004440		.WORD	TBUF ; TESTS 14,15
2425	020302	021400		.WORD	021400 ; MTCH,STP,ENP
2426	020304	000000		.WORD	0
2427	020306	000016	TDR18A:	.WORD	14. ; FIRST TDRB FOR TEST18
2428	020310	004440		.WORD	TBUF ;
2429	020312	041400		.WORD	041400 ; ERR,STP,ENP
2430	020314	100000		.WORD	100000 ; BUFL ERROR
2431	020316	000022	TDR18B:	.WORD	18. ; SECOND TDRB FOR TEST18
2432	020320	004440		.WORD	TBUF ;
2433	020322	041400		.WORD	041400 ; ERR,STP,ENP
2434	020324	100000		.WORD	100000 ; BUFL ERROR
2435	020326	000016	TDR20A:	.WORD	14. ; FIRST TDRB FOR TEST19
2436	020330	004440		.WORD	TBUF ;
2437	020332	001000		.WORD	001000 ; STP
2438	020334	000000		.WORD	0
2439	020336	000016	TDR20B:	.WORD	14. ; SECOND TDRB FOR TEST19
2440	020340	004440		.WORD	TBUF ;
2441	020342	020400		.WORD	20400 ; MTCH,ENP
2442	020344	000000		.WORD	0
2443	020346	000032	TDR21X:	.WORD	26. ; EXPECTED TDRB FOR
2444	020350	004440		.WORD	TBUF ; TESTS 20,21
2445	020352	001400		.WORD	001400 ; STP,ENP
2446	020354	000000		.WORD	0
2447	020356	000042	TDR24A:	.WORD	34. ; EXPECTED TDRB FOR
2448	020360	004440		.WORD	TBUF ; TEST 24, 1ST PASS
2449	020362	041400		.WORD	041400 ; BUFL,STP,ENP
2450	020364	100000		.WORD	100000 ;
2451	020366	000050	TDR24B:	.WORD	40. ; EXPECTED TDRB FOR
2452	020370	004440		.WORD	TBUF ; TEST 24, 2ND PASS
2453	020372	041400		.WORD	041400 ; BUFL,STP,ENP
2454	020374	100000		.WORD	100000 ;
2455					
2456	020376	000040	RDR14B:	.WORD	32. ; EXPECTED RDRB
2457	020400	010442		.WORD	RBUF ; FOR TEST 14
2458	020402	001400		.WORD	001400 ; STP,ENP
2459	020404	000040		.WORD	32. ;
2460	020406	000040	RDR15A:	.WORD	32. ; EXPECTED RDRB FOR
2461	020410	010442		.WORD	RBUF ; TESTS 15
2462	020412	065400		.WORD	065400 ; ERRS,CRC,FRM,STP,ENP
2463	020414	000040		.WORD	32. ;
2464	020416	000040	RDR17A:	.WORD	32. ; FIRST RDRB FOR TEST17
2465	020420	010442		.WORD	RBUF ;
2466	020422	001400		.WORD	001400 ; ERRS,STP,ENP
2467	020424	020036		.WORD	020036 ; NCHN
2468	020426	000040	RDR17B:	.WORD	32. ; SECOND RDRB FOR TEST17
2469	020430	010442		.WORD	RBUF ;
2470	020432	100000		.WORD	100000 ; OWN = DELUA
2471	020434	000000		.WORD	0
2472	020436	000020	RDR20A:	.WORD	16. ; FIRST RDRB FOR TEST19
2473	020440	010442		.WORD	RBUF ;
2474	020442	001000		.WORD	001000 ; STP
2475	020444	000000		.WORD	0
2476	020446	000026	RDR20B:	.WORD	22. ; SECOND RDRB FOR TEST19
2477	020450	011042		.WORD	RBUF2 ;
2478	020452	000400		.WORD	000400 ; ENP

GLOBAL DATA SECTION

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2479 020454 000040
2480 020456 000040      RDR20C:      .WORD 32.      ; TEST13,20-23,25-26
2481 020460 010442      .WORD RBUF
2482 020462 001400      .WORD 1400   ; STP, ENP
2483 020464 000036      .WORD 30.
2484
2485
2486
2487 020466 100114      MODE15: .WORD 100114 ; MODE = PROM,DTCR,INTL
2488 020470 120104      MODE17: .WORD 120104 ; MODE = PROM,DRDC,INTL
2489 020472 100000      MODE20: .WORD 100000 ; MODE = PROM
2490 020474 000104      MODE21: .WORD 104   ; INTL LOOPBACK ONLY
2491 020476 040104      MODE24: .WORD 040104 ; MODE = ENAL,INTL
2492 020500 110104      MODE25: .WORD 110104 ; MODE = PROM,TPAD,INTL
2493 020502 000002      UDB28A: .WORD 2     ; UDBB FOR TEST26
2494 020504 000000      .WORD 0
2495 020506 000000      .WORD 0
2496 020510 000000      .WORD 0
2497 020512 000000      .WORD 0
2498 020514 021040      SWADDR: .WORD 21040 ; SWITCH PACK ADDRESS
2499      ;GLOBAL DATA AND FLAGS
2500      ;
2501 020516 000000      EPCSR0: .WORD 0     ; PCSRO AT TIME OF ERROR
2502 020520 000000      EPCSR1: .WORD 0     ; PCSR1 AT TIME OF ERROR
2503 020522 000000      ERDRB0: .WORD 0     ; RDRB+0 AT TIME OF ERROR
2504 020524 000000      ERDRB2: .WORD 0     ; RDRB+2 AT TIME OF ERROR
2505 020526 000000      ERDRB4: .WORD 0     ; RDRB+4 AT TIME OF ERROR
2506 020530 000000      ERDRB6: .WORD 0     ; RDRB+6 AT TIME OF ERROR
2507 020532 000000      XRDRB0: .WORD 0     ; EXPECTED RDRB+0 AT TIME OF ERROR
2508 020534 000000      XRDRB2: .WORD 0     ; EXPECTED RDRB+2 AT TIME OF ERROR
2509 020536 000000      XRDRB4: .WORD 0     ; EXPECTED RDRB+4 AT TIME OF ERROR
2510 020540 000000      XRDRB6: .WORD 0     ; EXPECTED RDRB+6 AT TIME OF ERROR
2511 020542 000000      ETDRB0: .WORD 0     ; TDRB+0 AT TIME OF ERROR
2512 020544 000000      ETDRB2: .WORD 0     ; TDRB+2 AT TIME OF ERROR
2513 020546 000000      ETDRB4: .WORD 0     ; TDRB+4 AT TIME OF ERROR
2514 020550 000000      ETDRB6: .WORD 0     ; TDRB+6 AT TIME OF ERROR
2515 020552 000000      XTDRB0: .WORD 0     ; EXPECTED TDRB+0 AT TIME OF ERROR
2516 020554 000000      XTDRB2: .WORD 0     ; EXPECTED TDRB+2 AT TIME OF ERROR
2517 020556 000000      XTDRB4: .WORD 0     ; EXPECTED TDRB+4 AT TIME OF ERROR
2518 020560 000000      XTDRB6: .WORD 0     ; EXPECTED TDRB+6 AT TIME OF ERROR
2519
2520 020562 000000      BYTCNT: .WORD 0     ; NUMBER OF BYTES/PACKET
2521 020564 000000      DOCRC:  .WORD 0     ; CRC REQUIREMENT FOR SUBROUTINES
2522      ;          0 = NO CRC
2523      ;          1 = APPEND CRC
2524
2525 020566 000000      EDAT:      .WORD 0     ; ACTUAL DATA AT TIME OF ERROR
2526 020570 000000      XDAT:      .WORD 0     ; EXPECTED DATA AT TIME OF ERROR
2527 020572 000000      ECRC:      .WORD 0     ; ACTUAL CRC VALUE AT TIME OF ERROR
2528 020574 000000      ECRCB:     .WORD 0
2529 020576 000000      XCRC:      .WORD 0     ; EXPECTED CRC VALUE AT TIME OF ERROR
2530 020600 000000      XCRCB:     .WORD 0
2531      ;
2532 020602 000000      ECODE:     .WORD 0     ; SELF TEST ERROR CODE SHIFTED RIGHT
2533      ;
2534 020604 000000      METER:     .WORD 0     ; CLOCK TICKS
2535 020606 000000      NEXMEM:    .WORD 0     ; NXM TIMEOUT FLAG

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2536	020610	000000	EAFLAG:	.WORD	0	; EXT ADDRESS BITS FLAG
2537	020612	000000	DNIFLG:	.WORD	0	; DNI INTERRUPT FLAG
2538	020614	000000	FRSTIM:	.WORD	0	; FIRST TIME FLAG
2539	020616	166670	POLYH:	.WORD	166670	; HIGH WORD OF PACKET CRC
2540	020620	101440	POLYL:	.WORD	101440	; LOW WORD OF PACKET CRC
2541	020622	000000	PRNTIT:	.WORD	0	; PRINT ENABLED FLAG
2542	020624		REPLY:	.BLKW	2	; DEFAULT STORAGE FOR REPLY TO
2543						; MANUAL INTERVENTION REQUEST
2544						
2545	020630	177777	PATRN1:	.WORD	177777	; SA0_SA1 TEST PATTERN
2546	020632	000000		.WORD	0	
2547	020634	052525		.WORD	52525	
2548	020636	125252		.WORD	125252	
2549	020640	155463		.WORD	155463	
2550	020642	036334		.WORD	36334	
2551	020644	141616		.WORD	141616	
2552	020646	052525		.WORD	52525	
2553	020650	125252		.WORD	125252	
2554						
2555	020652		ERRTBL			
	020652					L\$ERRTBL::
	020652	000000	ERRTYP::	.WORD	0	
	020654	000000	ERRNBR::	.WORD	0	
	020656	000000	ERRMSG::	.WORD	0	
	020660	000000	ERRBLK::	.WORD	0	

GLOBAL TEXT SECTION

.SBTTL GLOBAL TEXT SECTION

2557
2558
2559
2560
2561
2562
2563
2564
2565
2566
2567
2568

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

; NAMES OF DEVICES SUPPORTED BY PROGRAM

DEV TYP <DELUA>

L\$DVTYP::
.ASCIZ *DELUA*
.EVEN

020662
020662 104 105 114
020662 125 101 000
020655

2569
2570
2571
2572
2573

; TEST DESCRIPTION

DESCRIP <DELUA - PDP11 FUNCTIONAL DIAGNOSTIC dtd 28-MAR-86>

L\$DESC::
.ASCIZ /DELUA - PDP11 FUNCTI

020670
ONAL DIAGNOSTIC 104 105 114
dtd 28-MAR-86/
020673 125 101 040
020676 055 040 120
020701 104 120 061
020704 061 040 106
020707 125 116 103
020712 124 111 117
020715 116 101 114
020720 040 104 111
020723 101 107 116
020726 117 123 124
020731 111 103 040
020734 040 144 164
020737 144 040 062
020742 070 055 115
020745 101 122 055
020750 070 066 000

.EVEN

2574
2575

.EVEN

2577
2578
2579
2580
2581
2582

:
: FORMAT STATEMENTS USED IN PRINT CALLS
:

020754 045 116 045
020757 101 120 103
020762 123 122 045
020765 104 061 045
020770 101 040 104
020773 117 105 123
020776 040 116 117
021001 124 040 105
021004 130 111 123
021007 124 000

FRM001: .ASCIZ /%N%APCSR%D1%A DOES NOT EXIST/

2583

021011 045 116 045
021014 101 040 105
021017 130 120 105
021022 103 124 105
021025 104 040 104
021030 101 124 101
021033 040 075 040
021036 045 117 066
021041 045 116 045
021044 101 040 101
021047 103 124 125
021052 101 114 040
021055 104 101 124
021060 101 040 075
021063 040 040 040
021066 045 117 066
021071 000

FRM002: .ASCIZ /%N%A EXPECTED DATA = %06%N%A ACTUAL DATA = %06/

2584

021072 045 116 045
021075 101 040 120
021100 103 123 122
021103 060 040 075
021106 040 045 117
021111 066 045 116
021114 045 101 040
021117 120 103 123
021122 122 061 040
021125 075 040 045
021130 117 066 000

FRM003: .ASCIZ /%N%A PCSRO = %06%N%A PCSR1 = %06/

2585

021133 045 116 045
021136 101 040 123
021141 105 114 106
021144 040 124 105
021147 123 124 040
021152 105 122 122
021155 117 122 040
021160 103 117 104
021163 105 040 075
021166 040 045 117
021171 062 000

FRM004: .ASCIZ /%N%A SELF TEST ERROR CODE = %02/

2586

021173 045 116 045
021176 101 040 105
021201 130 120 105

FRM005: .ASCIZ /%N%A EXPECTED TDRB+0 = %06%N%A ACTUAL TDRB+0 = %06/

	021204	103	124	105	
	021207	104	040	124	
	021212	104	122	102	
	021215	053	060	040	
	021220	075	040	045	
	021223	117	066	045	
	021226	116	045	101	
	021231	040	101	103	
	021234	124	125	101	
	021237	114	040	124	
	021242	104	122	102	
	021245	053	060	040	
	021250	075	040	040	
	021253	040	045	117	
2587	021256	066	000		
	021260	045	116	045	FRM006: .ASCIZ /%N% A EXPECTED TDRB+2 = %06%N% A ACTUAL TDRB+2 = %06/
	021263	101	040	105	
	021266	130	120	105	
	021271	103	124	105	
	021274	104	040	124	
	021277	104	122	102	
	021302	053	062	040	
	021305	075	040	045	
	021310	117	066	045	
	021313	116	045	101	
	021316	040	101	103	
	021321	124	125	101	
	021324	114	040	124	
	021327	104	122	102	
	021332	053	062	040	
	021335	075	040	040	
	021340	040	045	117	
2588	021343	066	000		
	021345	045	116	045	FRM007: .ASCIZ /%N% A EXPECTED TDRB+4 = %06%N% A ACTUAL TDRB+4 = %06/
	021350	101	040	105	
	021353	130	120	105	
	021356	103	124	105	
	021361	104	040	124	
	021364	104	122	102	
	021367	053	064	040	
	021372	075	040	045	
	021375	117	066	045	
	021400	116	045	101	
	021403	040	101	103	
	021406	124	125	101	
	021411	114	040	124	
	021414	104	122	102	
	021417	053	064	040	
	021422	075	040	040	
	021425	040	045	117	
2589	021430	066	000		
	021432	045	116	045	FRM008: .ASCIZ /%N% A EXPECTED TDRB+6 = %06%N% A ACTUAL TDRB+6 = %06/
	021435	101	040	105	
	021440	130	120	105	
	021443	103	124	105	
	021446	104	040	124	
	021451	104	122	102	

D5

	021454	053	066	040	
	021457	075	040	045	
	021462	117	066	045	
	021465	116	045	101	
	021470	040	101	103	
	021473	124	125	101	
	021476	114	040	124	
	021501	104	122	102	
	021504	053	066	040	
	021507	075	040	040	
	021512	040	045	117	
	021515	066	000		
2590	021517	045	116	045	FRM009: .ASCIZ /NNA EXPECTED RDRB+0 = %06%NNA ACTUAL RDRB+0 = %06/
	021522	101	040	105	
	021525	130	120	105	
	021530	103	124	105	
	021533	104	040	122	
	021536	104	122	102	
	021541	053	060	040	
	021544	075	040	045	
	021547	117	066	045	
	021552	116	045	101	
	021555	040	101	103	
	021560	124	125	101	
	021563	114	040	122	
	021566	104	122	102	
	021571	053	060	040	
	021574	075	040	040	
	021577	040	045	117	
	021602	066	000		
2591	021604	045	116	045	FRM010: .ASCIZ /NNA EXPECTED RDRB+2 = %06%NNA ACTUAL RDRB+2 = %06/
	021607	101	040	105	
	021612	130	120	105	
	021615	103	124	105	
	021620	104	040	122	
	021623	104	122	102	
	021626	053	062	040	
	021631	075	040	045	
	021634	117	066	045	
	021637	116	045	101	
	021642	040	101	103	
	021645	124	125	101	
	021650	114	040	122	
	021653	104	122	102	
	021656	053	062	040	
	021661	075	040	040	
	021664	040	045	117	
	021667	066	000		
2592	021671	045	116	045	FRM011: .ASCIZ /NNA EXPECTED RDRB+4 = %06%NNA ACTUAL RDRB+4 = %06/
	021674	101	040	105	
	021677	130	120	105	
	021702	103	124	105	
	021705	104	040	122	
	021710	104	122	102	
	021713	053	064	040	
	021716	075	040	045	
	021721	117	066	045	

E5

	021724	116	045	101	
	021727	040	101	103	
	021732	124	125	101	
	021735	114	040	122	
	021740	104	122	102	
	021743	053	064	040	
	021746	075	040	040	
	021751	040	045	117	
2593	021754	066	000		
	021756	045	116	045	FRM012: .ASCIZ /%N%A EXPECTED RDRB+6 = %06%N%A ACTUAL RDRB+6 = %06/
	021761	101	040	105	
	021764	130	120	105	
	021767	103	124	105	
	021772	104	040	122	
	021775	104	122	102	
	022000	053	066	040	
	022003	075	040	045	
	022006	117	066	045	
	022011	116	045	101	
	022014	040	101	103	
	022017	124	125	101	
	022022	114	040	122	
	022025	104	122	102	
	022030	053	066	040	
	022033	075	040	040	
	022036	040	045	117	
2594	022041	066	000		
	022043	045	116	045	FRM013: .ASCIZ /%N%A EXPECTED CRC = %06%N%A %06/
	022046	101	040	105	
	022051	130	120	105	
	022054	103	124	105	
	022057	104	040	103	
	022062	122	103	040	
	022065	075	040	045	
	022070	117	066	045	
	022073	116	045	101	
	022076	040	040	040	
	022101	040	040	040	
	022104	040	040	040	
	022107	040	040	040	
	022112	040	040	040	
	022115	040	045	117	
2595	022120	066	000		
	022122	045	116	045	FRM014: .ASCIZ /%N%A ACTUAL CRC = %06%N%A %06/
	022125	101	040	101	
	022130	103	124	125	
	022133	101	114	040	
	022136	103	122	103	
	022141	040	040	040	
	022144	075	040	045	
	022147	117	066	045	
	022152	116	045	101	
	022155	040	040	040	
	022160	040	040	040	
	022163	040	040	040	
	022166	040	040	040	
	022171	040	040	040	

F5

	022174	040	045	117	
	022177	066	000		
2596	022201	045	116	045	FRM015: .ASCIZ /#N#T/
	022204	124	000		
2597	022206	045	116	045	FRM016: .ASCIZ /#N#AROM MICROCODE VERSION (DECIMAL): #D2/
	022211	101	122	117	
	022214	115	040	115	
	022217	111	103	122	
	022222	117	103	117	
	022225	104	105	040	
	022230	126	105	122	
	022233	123	111	117	
	022236	116	040	050	
	022241	104	105	103	
	022244	111	115	101	
	022247	114	051	072	
	022252	040	045	104	
	022255	062	000		
2598	022257	045	116	045	FRM017: .ASCIZ /#N#ASWITCH PACK = #06/
	022262	101	123	127	
	022265	111	124	103	
	022270	110	040	120	
	022273	101	103	113	
	022276	040	075	040	
	022301	045	117	066	
	022304	000			
2599	022305	045	116	045	FRM018: .ASCIZ /#N#APORT STATUS WORD 1: #06/
	022310	101	120	117	
	022313	122	124	040	
	022316	123	124	101	
	022321	124	125	123	
	022324	040	127	117	
	022327	122	104	040	
	022332	061	072	040	
	022335	045	117	066	
	022340	000			
2600	022341	045	116	045	FRM019: .ASCIZ /#N#A WORD 2: #06/
	022344	101	040	040	
	022347	040	040	040	
	022352	040	040	040	
	022355	040	040	040	
	022360	040	127	117	
	022363	122	104	040	
	022366	062	072	040	
	022371	045	117	066	
	022374	000			
2601	022375	045	116	045	FRM020: .ASCIZ /#N#A WORD 3: #06/
	022400	101	040	040	
	022403	040	040	040	
	022406	040	040	040	
	022411	040	040	040	
	022414	040	127	117	
	022417	122	104	040	
	022422	063	072	040	
	022425	045	117	066	
	022430	000			
2602	022431	045	116	045	FRM021: .ASCIZ /#N#A WORD 4: #06/

	022434	101	040	040	
	022437	040	040	040	
	022442	040	040	040	
	022445	040	040	040	
	022450	040	127	117	
	022453	122	104	040	
	022456	064	072	040	
	022461	045	117	066	
	022464	000			
2603	022465	045	116	045	FRM022: .ASCIZ /N/A EXPECTED UDBB+4 = > 0 N/A ACTUAL UDBB+4 = #06/
	022470	101	040	105	
	022473	130	120	105	
	022476	103	124	105	
	022501	104	040	125	
	022504	104	102	102	
	022507	053	064	040	
	022512	075	040	075	
	022515	040	060	040	
	022520	045	116	045	
	022523	101	040	101	
	022526	103	124	125	
	022531	101	114	040	
	022534	125	104	102	
	022537	102	053	064	
	022542	040	075	040	
	022545	045	117	066	
	022550	000			
2604	022551	045	116	045	FRM023: .ASCIZ /N/A PCSRO = #06/
	022554	101	040	120	
	022557	103	123	122	
	022562	060	040	075	
	022565	040	045	117	
	022570	066	000		
2605					
2606	022572	115	125	123	MSG1: .ASCIZ /MUST INSTALL H4080 OR EQUIV. EXT. LOOPBACK TO AVOID FAULTS./
	022575	124	040	111	
	022600	116	123	124	
	022603	101	114	114	
	022606	040	110	064	
	022611	060	070	060	
	022614	040	117	122	
	022617	040	105	121	
	022622	125	111	126	
	022625	056	040	105	
	022630	130	124	056	
	022633	040	114	117	
	022636	117	120	102	
	022641	101	103	113	
	022644	040	124	117	
	022647	040	101	126	
	022652	117	111	104	
	022655	040	106	101	
	022660	125	114	124	
	022663	123	056	000	
2607	022666	111	106	040	MSG2: .ASCIZ /IF YES, THEN MUST INSTALL H4080 OR EQUIV. EXT LOOPBACK TO AVOID FAULTS/
	022671	131	105	123	
	022674	054	124	110	

	022677	105	116	040	
	022702	115	125	123	
	022705	124	040	111	
	022710	116	123	124	
	022713	101	114	114	
	022716	040	110	064	
	022721	060	070	060	
	022724	040	117	122	
	022727	040	105	121	
	022732	125	111	126	
	022735	056	040	105	
	022740	130	124	040	
	022743	114	117	117	
	022746	120	102	101	
	022751	103	113	040	
	022754	124	117	040	
	022757	101	126	117	
	022762	111	104	040	
	022765	106	101	125	
	022770	114	124	123	
	022773	000			
2608	022774	111	123	040	MMMSG1: .ASCIZ /IS H4080 OR EQUIV. LOOPBACK CONNECTOR INSTALLED? Y<CR> ONLY/
	022777	110	064	060	
	023002	070	060	040	
	023005	117	122	040	
	023010	105	121	125	
	023013	111	126	056	
	023016	040	114	117	
	023021	117	120	102	
	023024	101	103	113	
	023027	040	103	117	
	023032	116	116	105	
	023035	103	124	117	
	023040	122	040	111	
	023043	116	123	124	
	023046	101	114	114	
	023051	105	104	077	
	023054	040	131	074	
	023057	103	122	076	
	023062	040	117	116	
	023065	114	131	000	
2609	023070	105	130	124	SKIP: .ASCIZ /EXT.LOOPBACK TEST- EXT MODE NOT SELECTED - SKIP /
	023073	056	114	117	
	023076	117	120	102	
	023101	101	103	113	
	023104	040	124	105	
	023107	123	124	055	
	023112	040	105	130	
	023115	124	040	115	
	023120	117	104	105	
	023123	040	116	117	
	023126	124	040	123	
	023131	105	114	105	
	023134	103	124	105	
	023137	104	040	055	
	023142	040	123	113	
	023145	111	120	040	

2610	023150	000			
	023151	105	130	124	SKIP26: .ASCIZ /EXT.LOOPBACK TEST - MUST BE ATTENDED MODE - SKIP /
	023154	056	114	117	
	023157	117	120	102	
	023162	101	103	113	
	023165	040	124	105	
	023170	123	124	040	
	023173	055	040	115	
	023176	125	123	124	
	023201	040	102	105	
	023204	040	101	124	
	023207	124	105	116	
	023212	104	105	104	
	023215	040	115	117	
	023220	104	105	040	
	023223	055	040	123	
	023226	113	111	120	
	023231	040	000		
2611					
2612					.EVEN

```

2614 ;*****
2615 ; MESSAGES USED ONLY IN THE INITIALIZE ROUTINE.
2616 ;*****
2617
2618 023234 103 101 116 NOCLK: .ASCIZ/CANNOT CONTINUE - NEED LINE CLOCK/
      023237 116 117 124
      023242 040 103 117
      023245 116 124 111
      023250 116 125 105
      023253 040 055 040
      023256 116 105 105
      023261 104 040 114
      023264 111 116 105
      023267 040 103 114
      023272 117 103 113
      023275 000

2619
2620 023276 103 101 116 M68FLD: .ASCII/CANNOT CONTINUE - NO DNI AFTER RESET/
      023301 116 117 124
      023304 040 103 117
      023307 116 124 111
      023312 116 125 105
      023315 040 055 040
      023320 116 117 040
      023323 104 116 111
      023326 040 101 106
      023331 124 105 122
      023334 040 122 105
      023337 123 105 124
2621 023342 040 040 040 .ASCIZ/ MICROPROCESSOR SUBSYSTEM FAULT/
      023345 115 111 103
      023350 122 117 120
      023353 122 117 103
      023356 105 123 123
      023361 117 122 040
      023364 123 125 102
      023367 123 131 123
      023372 124 105 115
      023375 040 106 101
      023400 125 114 124
      023403 000

2622
2623 023404 103 101 116 DEVUNI: .ASCII/CANNOT CONTINUE - NO DNI AFTER RESET/
      023407 116 117 124
      023412 040 103 117
      023415 116 124 111
      023420 116 125 105
      023423 040 055 040
      023426 116 117 040
      023431 104 116 111
      023434 040 101 106
      023437 124 105 122
      023442 040 122 105
      023445 123 105 124
2624 023450 040 040 040 .ASCIZ/ DEVICE OR UNIBUS ERROR/
      023453 104 105 126
      023456 111 103 105

```

	023461	040	117	122	
	023464	040	125	116	
	023467	111	102	125	
	023472	123	040	105	
	023475	122	122	117	
	023500	122	000		
2625					
2626	023502	103	101	116	NIUNIB: .ASCII/CANNOT CONTINUE - NO DNI AFTER RESET/
	023505	116	117	124	
	023510	040	103	117	
	023513	116	124	111	
	023516	116	125	105	
	023521	040	055	040	
	023524	116	117	040	
	023527	104	116	111	
	023532	040	101	106	
	023535	124	105	122	
	023540	040	122	105	
	023543	123	105	124	
2627	023546	040	040	040	.ASCIZ/ NI OR UNIBUS HALTED/
	023551	116	111	040	
	023554	117	122	040	
	023557	125	116	111	
	023562	102	125	123	
	023565	040	110	101	
	023570	114	124	105	
	023573	104	000		
2628					
2629	023575	103	101	116	UNDFND: .ASCII/CANNOT CONTINUE - DNI, FATAL, AND USCI BITS/
	023600	116	117	124	
	023603	040	103	117	
	023606	116	124	111	
	023611	116	125	105	
	023614	040	055	040	
	023617	104	116	111	
	023622	054	040	106	
	023625	101	124	101	
	023630	114	054	040	
	023633	101	116	104	
	023636	040	125	123	
	023641	103	111	040	
	023644	102	111	124	
	023647	123			
2630	023650	111	116	040	.ASCIZ/IN ILLEGAL STATE/
	023653	111	114	114	
	023656	105	107	101	
	023661	114	040	123	
	023664	124	101	124	
	023667	105	000		
2631					
2632	023671	103	101	116	DNICLR: .ASCIZ/CANNOT CONTINUE - DNI WOULD NOT CLEAR FOLLOWING RESET/
	023674	116	117	124	
	023677	040	103	117	
	023702	116	124	111	
	023705	116	125	105	
	023710	040	055	040	
	023713	104	116	111	

L5

023716	040	127	117
023721	125	114	104
023724	040	116	117
023727	124	040	103
023732	114	105	101
023735	122	040	106
023740	117	114	114
023743	117	127	111
023746	116	107	040
023751	122	105	123
023754	105	124	000

2633
2634

.EVEN


```

2636
2637
2638
2639
2640
2641
2642
2643
2644
2645
2646 023760
      023760
2647 023760
      023760 010246
      023762 012746 020754
      023766 012746 000002
      023772 010600
      023774 104414
      023776 062706 000006
2648 024002
      024002
      024002 104423
2649
2650 024004
      024004
2651 024004
      024004 010446
      024006 010346
      024010 012746 021011
      024014 012746 000003
      024020 010600
      024022 104414
      024024 062706 000010
2652 024030
      024030
      024030 104423
2653
2654 024032
      024032
2655 024032
      024032 013746 020520
      024036 013746 020516
      024042 012746 021072
      024046 012746 000003
      024052 010600
      024054 104414
      024056 062706 000010
2656 024062
      024062
      024062 104423
2657
2658 024064
      024064
2659 024064
      024064 013746 020602
      024070 012746 021133
      024074 012746 000002
    
```

.SBTTL GLOBAL ERROR REPORT SECTION

```

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

```

BGNMSG MSG001
      PRINTB #FRM001,R2
    
```

```

MSG001::
      MOV R2,-(SP)
      MOV #FRM001,-(SP)
      MOV #2,-(SP)
      MOV SP,R0
      TRAP C$PNTB
      ADD #6,SP
    
```

ENDMSG

```

L10002: TRAP C$MSG
    
```

```

;
BGNMSG MSG002
      PRINTB #FRM002,R3,R4
    
```

```

MSG002::
      MOV R4,-(SP)
      MOV R3,-(SP)
      MOV #FRM002,-(SP)
      MOV #3,-(SP)
      MOV SP,R0
      TRAP C$PNTB
      ADD #10,SP
    
```

ENDMSG

```

L10003: TRAP C$MSG
    
```

```

;
BGNMSG MSG003
      PRINTB #FRM003,EPCSR0,EPCSR1
    
```

```

MSG003::
      MOV EPCSR1,-(SP)
      MOV EPCSR0,-(SP)
      MOV #FRM003,-(SP)
      MOV #3,-(SP)
      MOV SP,R0
      TRAP C$PNTB
      ADD #10,SP
    
```

ENDMSG

```

L10004: TRAP C$MSG
    
```

```

;
BGNMSG MSG004
      PRINTB #FRM004,ECODE
    
```

```

MSG004::
      MOV ECODE,(SP)
      MOV #FRM004,-(SP)
      MOV #2,-(SP)
    
```

```

024100 010600
024102 104414
024104 062706 000006
2660 024110
024110 013746 040602
024114 012746 022201
024120 012746 000002
024124 010600
024126 104414
024130 062706 000006
2661 024134
024134
024134 104423
2662
2663 024136
024136
2664 024136
024136 013746 020542
024142 013746 020552
024146 012746 021173
024152 012746 000003
024156 010600
024160 104414
024162 062706 000010
2665 024166
024166 013746 020544
024172 013746 020554
024176 012746 021260
024202 012746 000003
024206 010600
024210 104414
024212 062706 000010
2666 024216
024216 013746 020546
024222 013746 020556
024226 012746 021345
024232 012746 000003
024236 010600
024240 104414
024242 062706 000010
2667 024246
024246 013746 020550
024252 013746 020560
024256 012746 021432
024262 012746 000003
024266 010600
024270 104414
024272 062706 000010
2668 024276
024276
024276 104423
2669
2670 024300
024300
2671 024300
024300 013746 020522
024304 013746 020532

```

```

PRINTB #FRM015,STMSG
ENDMSG
BGNMSG MSG005
PRINTB #FRM005,XTDRB0,ETDRB0
PRINTB #FRM006,XTDRB2,ETDRB2
PRINTB #FRM007,XTDRB4,ETDRB4
PRINTB #FRM008,XTDRB6,ETDRB6
ENDMSG
BGNMSG MSG006
PRINTB #FRM009,XRDRB0,ERDRB0

```

```

MOV SP,RO
TRAP C#PNTB
ADD #6,SP
MOV STMSG,-(SP)
MOV #FRM015,-(SP)
MOV #2,-(SP)
MOV SP,RO
TRAP C#PNTB
ADD #6,SP
L10005: TRAP C#MSG
MSG005::
MOV ETDRB0,-(SP)
MOV XTDRB0,-(SP)
MOV #FRM005,-(SP)
MOV #3,-(SP)
MOV SP,RO
TRAP C#PNTB
ADD #10,SP
MOV ETDRB2,-(SP)
MOV XTDRB2,-(SP)
MOV #FRM006,-(SP)
MOV #3,-(SP)
MOV SP,RO
TRAP C#PNTB
ADD #10,SP
MOV ETDRB4,-(SP)
MOV XTDRB4,-(SP)
MOV #FRM007,-(SP)
MOV #3,-(SP)
MOV SP,RO
TRAP C#PNTB
ADD #10,SP
MOV ETDRB6,(SP)
MOV XTDRB6,-(SP)
MOV #FRM008,-(SP)
MOV #3,-(SP)
MOV SP,RO
TRAP C#PNTB
ADD #10,SP
L10006: TRAP C#MSG
MSG006::
MOV ERDRB0,-(SP)
MOV XRDRB0,-(SP)

```

	024310	012746	021517			MOV	#FRM009,-(SP)
	024314	012746	000003			MOV	#3,-(SP)
	024320	010600				MOV	SP,RO
	024322	104414				TRAP	C#PNTB
	024324	062706	000010			ADD	#10,SP
2672	024330			PRINTB	#FRM010,XRDRB2,ERDRB2		
	024330	013746	020524			MOV	ERDRB2,-(SP)
	024334	013746	020534			MOV	XRDRB2,-(SP)
	024340	012746	021604			MOV	#FRM010,-(SP)
	024344	012746	000003			MOV	#3,-(SP)
	024350	010600				MOV	SP,RO
	024352	104414				TRAP	C#PNTB
	024354	062706	000010			ADD	#10,SP
2673	024360			PRINTB	#FRM011,XRDRB4,ERDRB4		
	024360	013746	020526			MOV	ERDRB4,-(SP)
	024364	013746	020536			MOV	XRDRB4,-(SP)
	024370	012746	021671			MOV	#FRM011,-(SP)
	024374	012746	000003			MOV	#3,-(SP)
	024400	010600				MOV	SP,RO
	024402	104414				TRAP	C#PNTB
	024404	062706	000010			ADD	#10,SP
2674	024410			PRINTB	#FRM012,XRDRB6,ERDRB6		
	024410	013746	020530			MOV	ERDRB6,-(SP)
	024414	013746	020540			MOV	XRDRB6,-(SP)
	024420	012746	021756			MOV	#FRM012,-(SP)
	024424	012746	000003			MOV	#3,-(SP)
	024430	010600				MOV	SP,RO
	024432	104414				TRAP	C#PNTB
	024434	062706	000010			ADD	#10,SP
2675	024440			ENDMSG			
	024440						
	024440	104423				L10007:	TRAP C#MSG
2676				:			
2677	024442			BGNMSG	MSG007		
	024442					MSG007::	
2678	024442			PRINTB	#FRM002,XDAT,EDAT		
	024442	013746	020566			MOV	EDAT,-(SP)
	024446	013746	020570			MOV	XDAT,-(SP)
	024452	012746	021011			MOV	#FRM002,-(SP)
	024456	012746	000003			MOV	#3,-(SP)
	024462	010600				MOV	SP,RO
	024464	104414				TRAP	C#PNTB
	024466	062706	000010			ADD	#10,SP
2679	024472			ENDMSG			
	024472						
	024472	104423				L10010:	TRAP C#MSG
2680				:			
2681	024474			BGNMSG	MSG008		
	024474					MSG008::	
2682	024474			PRINTB	#FRM013,XCRC,XCRCB		
	024474	013746	020600			MOV	XCRCB,-(SP)
	024500	013746	020576			MOV	XCRC,-(SP)
	024504	012746	022043			MOV	#FRM013,-(SP)
	024510	012746	000003			MOV	#3,-(SP)
	024514	010600				MOV	SP,RO
	024516	104414				TRAP	C#PNTB
	024520	062706	000010			ADD	#10,SP

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2683	024524			PRINTB	#FRM014,ECRC,ECRCB				
	024524	013746	020574				MOV	ECRCB,-(SP)	
	024530	013746	020572				MOV	ECRC,-(SP)	
	024534	012746	022122				MOV	#FRM014,-(SP)	
	024540	012746	000003				MOV	#3,-(SP)	
	024544	010600					MOV	SP,RO	
	024546	104414					TRAP	C\$PNTB	
	024550	062706	000010				ADD	#10,SP	
2684	024554			ENDMSG					
	024554					L10011:			
	024554	104423					TRAP	C\$MSG	
2685				:					
2686	024556			BGNMSG	MSG009				
	024556					MSG009::			
2687	024556			PRINTB	#FRM018,PCBB				
	024556	013746	002302				MOV	PCBB,-(SP)	
	024562	012746	022305				MOV	#FRM018,-(SP)	
	024566	012746	000002				MOV	#2,-(SP)	
	024572	010600					MOV	SP,RO	
	024574	104414					TRAP	C\$PNTB	
	024576	062706	000006				ADD	#6,SP	
2688	024602			PRINTB	#FRM019,PCBB+2				
	024602	013746	002304				MOV	PCBB+2,-(SP)	
	024606	012746	022341				MOV	#FRM019,-(SP)	
	024612	012746	000002				MOV	#2,-(SP)	
	024616	010600					MOV	SP,RO	
	024620	104414					TRAP	C\$PNTB	
	024622	062706	000006				ADD	#6,SP	
2689	024626			PRINTB	#FRM020,PCBB+4				
	024626	013746	002306				MOV	PCBB+4,-(SP)	
	024632	012746	022375				MOV	#FRM020,-(SP)	
	024636	012746	000002				MOV	#2,-(SP)	
	024642	010600					MOV	SP,RO	
	024644	104414					TRAP	C\$PNTB	
	024646	062706	000006				ADD	#6,SP	
2690	024652			PRINTB	#FRM021,PCBB+6				
	024652	013746	002310				MOV	PCBB+6,-(SP)	
	024656	012746	022431				MOV	#FRM021,-(SP)	
	024662	012746	000002				MOV	#2,-(SP)	
	024666	010600					MOV	SP,RO	
	024670	104414					TRAP	C\$PNTB	
	024672	062706	000006				ADD	#6,SP	
2691	024676			ENDMSG					
	024676					L10012:			
	024676	104423					TRAP	C\$MSG	
2692				:					
2693	024700			BGNMSG	MSG010				
	024700					MSG010::			
2694	024700			PRINTB	#FRM022,UDBB+4				
	024700	013746	002316				MOV	UDBB+4,-(SP)	
	024704	012746	022465				MOV	#FRM022,-(SP)	
	024710	012746	000002				MOV	#2,-(SP)	
	024714	010600					MOV	SP,RO	
	024716	104414					TRAP	C\$PNTB	
	024720	062706	000006				ADD	#6,SP	
2695	024724			ENDMSG					
	024724					L10013:			

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	024724	104423					TRAP	C\$MSG
2696								
2697	024726				BGNMSG	MSG011		
	024726						MSG011::	
2698	024726					PRINTB #FRM023,EPCSR0		
	024726	013746	020516				MOV	EPCSR0, -(SP)
	024732	012746	022551				MOV	#FRM023, (SP)
	024736	012746	000002				MOV	#2, -(SP)
	024742	010600					MOV	SP, RO
	024744	104414					TRAP	C\$PNTB
	024746	062706	000006				ADD	#6, SP
2699	024752				ENDMSG			
	024752						L10014:	
	024752	104423					TRAP	C\$MSG
2700								
2701					.EVEN			
2702								
2703	024754	015	012	122	ERR001:	.ASCIZ <15><12>/REGISTER ACCESS ERROR/		
	024757	105	107	111				
	024762	123	124	105				
	024765	122	040	101				
	024770	103	103	105				
	024773	123	123	040				
	024776	105	122	122				
	025001	117	122	000				
2704	025004	015	012	104	ERR002:	.ASCIZ <15><12>/DATA COMPARE ERROR IN PCSR2/		
	025007	101	124	101				
	025012	040	103	117				
	025015	115	120	101				
	025020	122	105	040				
	025023	105	122	122				
	025026	117	122	040				
	025031	111	116	040				
	025034	120	103	123				
	025037	122	062	000				
2705	025042	015	012	104	ERR003:	.ASCIZ <15><12>/DATA COMPARE ERROR IN PCSR3/		
	025045	101	124	101				
	025050	040	103	117				
	025053	115	120	101				
	025056	122	105	040				
	025061	105	122	122				
	025064	117	122	040				
	025067	111	116	040				
	025072	120	103	123				
	025075	122	063	000				
2706	025100	015	012	123	ERR005:	.ASCIZ <15><12>/SELF TEST FAILURE/		
	025103	105	114	106				
	025106	040	124	105				
	025111	123	124	040				
	025114	106	101	111				
	025117	114	125	122				
	025122	105	000					
2707	025124	015	012	127	ERR006:	.ASCIZ <15><12>/WRITING ONE TO CLEAR DNI BIT FAILED/		
	025127	122	111	124				
	025132	111	116	107				
	025135	040	117	116				
	025140	105	040	124				

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	025143	117	040	103	
	025146	114	105	101	
	025151	122	040	104	
	025154	116	111	040	
	025157	102	111	124	
	025162	040	106	101	
	025165	111	114	105	
	025170	104	000		
2708	025172	015	012	116	ERR007: .ASCII <15><12>/NO DNI INTERRUPT OCCURRED /
	025175	117	040	104	
	025200	116	111	040	
	025203	111	116	124	
	025206	105	122	122	
	025211	125	120	124	
	025214	040	117	103	
	025217	103	125	122	
	025222	122	105	104	
	025225	040			
2709	025226	101	106	124	.ASCIZ /AFTER GET PCBB PORT COMMAND/
	025231	105	122	040	
	025234	107	105	124	
	025237	040	120	103	
	025242	102	102	040	
	025245	120	117	122	
	025250	124	040	103	
	025253	117	115	115	
	025256	101	116	104	
	025261	000			
2710	025262	015	012	104	ERR008: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	025265	116	111	040	
	025270	102	111	124	
	025273	040	106	101	
	025276	111	114	105	
	025301	104	040	124	
	025304	117	040	123	
	025307	105	124	040	
	025312	101	106	124	
	025315	105	122	040	
2711	025320	116	117	120	.ASCIZ /NOP PORT COMMAND/
	025323	040	120	117	
	025326	122	124	040	
	025331	103	117	115	
	025334	115	101	116	
	025337	104	000		
2712	025341	015	012	104	ERR009: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	025344	116	111	040	
	025347	102	111	124	
	025352	040	106	101	
	025355	111	114	105	
	025360	104	040	124	
	025363	117	040	123	
	025366	105	124	040	
	025371	101	106	124	
	025374	105	122	040	
2713	025377	107	105	124	.ASCIZ /GET PCBB PORT COMMAND/
	025402	040	120	103	
	025405	102	102	040	

	025410	120	117	122	
	025413	124	040	103	
	025416	117	115	115	
	025421	101	116	104	
	025424	000			
2714	025425	015	012	104	ERR010: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	025430	116	111	040	
	025433	102	111	124	
	025436	040	106	101	
	025441	111	114	105	
	025444	104	040	124	
	025447	117	040	123	
	025452	105	124	040	
	025455	101	106	124	
	025460	105	122	040	
2715	025463	107	105	124	.ASCIZ /GET CMD PORT COMMAND/
	025466	040	103	115	
	025471	104	040	120	
	025474	117	122	124	
	025477	040	103	117	
	025502	115	115	101	
	025505	116	104	000	
2716					
2717	025510	015	012	115	ERR011: .ASCIZ <15><12>/M68000 SUBSYSTEM FAILURE/
	025513	066	070	060	
	025516	060	060	040	
	025521	123	125	102	
	025524	123	131	123	
	025527	124	105	115	
	025532	040	106	101	
	025535	111	114	125	
	025540	122	105	000	
2718					
2719	025543	015	012	104	ERR012: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	025546	116	111	040	
	025551	102	111	124	
	025554	040	106	101	
	025557	111	114	105	
	025562	104	040	124	
	025565	117	040	123	
	025570	105	124	040	
	025573	101	106	124	
	025576	105	122	040	
2720	025601	123	124	101	.ASCIZ /START PORT COMMAND/
	025604	122	124	040	
	025607	120	117	122	
	025612	124	040	103	
	025615	117	115	115	
	025620	101	116	104	
	025623	000			
2721	025624	015	012	124	ERR013: .ASCIZ <15><12>/TXI BIT FAILED TO SET /
	025627	130	111	040	
	025632	102	111	124	
	025635	040	106	101	
	025640	111	114	105	
	025643	104	040	124	
	025646	117	040	123	

	025651	105	124	040	
	025654	000			
2722	025655	015	012	127	ERR014: .ASCIZ <15><12>/WRITING ONE TO CLEAR TXI BIT FAILED/
	025660	122	111	124	
	025663	111	116	107	
	025666	040	117	116	
	025671	105	040	124	
	025674	117	040	103	
	025677	114	105	101	
	025702	122	040	124	
	025705	130	111	040	
	025710	102	111	124	
	025713	040	106	101	
	025716	111	114	105	
	025721	104	000		
2723	025723	015	012	122	ERR015: .ASCIZ <15><12>/RXI BIT FAILED TO SET /
	025726	130	111	040	
	025731	102	111	124	
	025734	040	106	101	
	025737	111	114	105	
	025742	104	040	124	
	025745	117	040	123	
	025750	105	124	040	
	025753	000			
2724	025754	015	012	127	ERR016: .ASCIZ <15><12>/WRITING ONE TO CLEAR RXI BIT FAILED/
	025757	122	111	124	
	025762	111	116	107	
	025765	040	117	116	
	025770	105	040	124	
	025773	117	040	103	
	025776	114	105	101	
	026001	122	040	122	
	026004	130	111	040	
	026007	102	111	124	
	026012	040	106	101	
	026015	111	114	105	
	026020	104	000		
2725	026022	015	012	124	ERR017: .ASCII <15><12>/TIMEOUT ERROR - DELUA FAILED TO /
	026025	111	115	105	
	026030	117	125	124	
	026033	040	105	122	
	026036	122	117	122	
	026041	040	055	040	
	026044	104	105	114	
	026047	125	101	040	
	026052	106	101	111	
	026055	114	105	104	
	026060	040	124	117	
	026063	040			
2726	026064	122	105	114	.ASCIZ /RELINQUISH OWNERSHIP OF RDRB /
	026067	111	116	121	
	026072	125	111	123	
	026075	110	040	117	
	026100	127	116	105	
	026103	122	123	110	
	026106	111	120	040	
	026111	117	106	040	

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	026114	122	104	122	
	026117	102	040	000	
2727	026122	015	012	124	ERR018: .ASCII <15><12>/TIMEOUT ERROR - DELUA FAILED TO /
	026125	111	115	105	
	026130	117	125	124	
	026133	040	105	122	
	026136	122	117	122	
	026141	040	055	040	
	026144	104	105	114	
	026147	125	101	040	
	026152	106	101	111	
	026155	114	105	104	
	026160	040	124	117	
	026163	040			
2728	026164	122	105	114	.ASCIZ /RELINQUISH OWNERSHIP OF TDRB /
	026167	111	116	121	
	026172	125	111	123	
	026175	110	040	117	
	026200	127	116	105	
	026203	122	123	110	
	026206	111	120	040	
	026211	117	106	040	
	026214	124	104	122	
	026217	102	040	000	
2729	026222	015	012	104	ERR019: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	026225	116	111	040	
	026230	102	111	124	
	026233	040	106	101	
	026236	111	114	105	
	026241	104	040	124	
	026244	117	040	123	
	026247	105	124	040	
	026252	101	106	124	
	026255	105	122	040	
2730	026260	123	124	117	.ASCIZ /STOP PORT COMMAND/
	026263	120	040	120	
	026266	117	122	124	
	026271	040	103	117	
	026274	115	115	101	
	026277	116	104	000	
2731	026302	015	012	104	ERR020: .ASCII <15><12>/DATA COMPARE ERROR IN /
	026305	101	124	101	
	026310	040	103	117	
	026313	115	120	101	
	026316	122	105	040	
	026321	105	122	122	
	026324	117	122	040	
	026327	111	116	040	
2732	026332	124	122	101	.ASCIZ /TRANSMIT DESCRIPTOR RING/
	026335	116	123	115	
	026340	111	124	040	
	026343	104	105	123	
	026346	103	122	111	
	026351	120	124	117	
	026354	122	040	122	
	026357	111	116	107	
	026362	000			

2733	026363	015	012	104	ERR021: .ASCII <15><12>/DATA COMPARE ERROR IN /
	026366	101	124	101	
	026371	040	103	117	
	026374	115	120	101	
	026377	122	105	040	
	026402	105	122	122	
	026405	117	122	040	
	026410	111	116	040	
	026413	040			
2734	026414	122	105	103	.ASCIZ /RECEIVE DESCRIPTOR RING/
	026417	105	111	126	
	026422	105	040	104	
	026425	105	123	103	
	026430	122	111	120	
	026433	124	117	122	
	026436	040	122	111	
	026441	116	107	000	
2735	026444	015	012	124	ERR022: .ASCIZ <15><12>/TRANSMIT-RECEIVE DATA COMPARE ERROR /
	026447	122	101	116	
	026452	123	115	111	
	026455	124	055	122	
	026460	105	103	105	
	026463	111	126	105	
	026466	040	104	101	
	026471	124	101	040	
	026474	103	117	115	
	026477	120	101	122	
	026502	105	040	105	
	026505	122	122	117	
	026510	122	040	000	
2736	026513	015	012	103	ERR023: .ASCIZ <15><12>/CRC COMPARE ERROR /
	026516	122	103	040	
	026521	103	117	115	
	026524	120	101	122	
	026527	105	040	105	
	026532	122	122	117	
	026535	122	040	000	
2737	026540	015	012	111	ERR024: .ASCIZ <15><12>/INTERNAL ROM CRC COMPARE ERROR /
	026543	116	124	105	
	026546	122	116	101	
	026551	114	040	122	
	026554	117	115	040	
	026557	103	122	103	
	026562	040	103	117	
	026565	115	120	101	
	026570	122	105	040	
	026573	105	122	122	
	026576	117	122	040	
	026601	000			
2738	026602	015	012	122	ERR025: .ASCIZ <15><12>/RCBI BIT FAILED TO SET /
	026605	103	102	111	
	026610	040	102	111	
	026613	124	040	106	
	026616	101	111	114	
	026621	105	104	040	
	026624	124	117	040	
	026627	123	105	124	

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	026632	040	000	
2739				
2740	026634			ERR026:
2741				
2742	026634	015	012	124
	026637	111	115	105
	026642	117	125	124
	026645	040	105	122
	026650	122	117	122
	026653	040	055	040
	026656	104	105	114
	026661	125	101	040
	026664	106	101	111
	026667	114	105	104
	026672	040	124	117
	026675	040	122	105
	026700	114	111	116
	026703	121	125	111
	026706	123	110	
2743	026710	040	117	127
	026713	116	105	122
	026716	123	110	111
	026721	120	040	117
	026724	106	040	106
	026727	111	122	123
	026732	124	040	124
	026735	104	122	102
	026740	000		
2744	026741	015	012	124
	026744	111	115	105
	026747	117	125	124
	026752	040	105	122
	026755	122	117	122
	026760	040	055	040
	026763	104	105	114
	026766	125	101	040
	026771	106	101	111
	026774	114	105	104
	026777	040	124	117
	027002	040	122	105
	027005	114	111	116
	027010	121	125	111
	027013	123	110	
2745	027015	040	117	127
	027020	116	105	122
	027023	123	110	111
	027026	120	040	117
	027031	106	040	123
	027034	105	103	117
	027037	116	104	040
	027042	124	104	122
	027045	102	000	
2746				
2747	027047			ERR029:
2748				
2749	027047	015	012	124
	027052	111	115	105

ERR027: .ASCII <15><12>/TIMEOUT ERROR - DELUA FAILED TO RELINQUISH/
 .ASCIZ / OWNERSHIP OF FIRST TDRB/
 ERR028: .ASCII <15><12>/TIMEOUT ERROR - DELUA FAILED TO RELINQUISH/
 .ASCIZ / OWNERSHIP OF SECOND TDRB/
 ERR030: .ASCII <15><12>/TIMEOUT ERROR - DELUA FAILED TO RELINQUISH/

	027055	117	125	124	
	027060	040	105	122	
	027063	122	117	122	
	027066	040	055	040	
	027071	104	105	114	
	027074	125	101	040	
	027077	106	101	111	
	027102	114	105	104	
	027105	040	124	117	
	027110	040	122	105	
	027113	114	111	116	
	027116	121	125	111	
	027121	123	110		
2750	027123	040	117	127	.ASCIZ / OWNERSHIP OF FIRST RDRB/
	027126	116	105	122	
	027131	123	110	111	
	027134	120	040	117	
	027137	106	040	106	
	027142	111	122	123	
	027145	124	040	122	
	027150	104	122	102	
	027153	000			
2751	027154	015	012	124	ERR031: .ASCII <15><12>/TIMEOUT ERROR - DELUA FAILED TO RELINQUISH/
	027157	111	115	105	
	027162	117	125	124	
	027165	040	105	122	
	027170	122	117	122	
	027173	040	055	040	
	027176	104	105	114	
	027201	125	101	040	
	027204	106	101	111	
	027207	114	105	104	
	027212	040	124	117	
	027215	040	122	105	
	027220	114	111	116	
	027223	121	125	111	
	027226	123	110		
2752	027230	040	117	127	.ASCIZ / OWNERSHIP OF SECOND RDRB/
	027233	116	105	122	
	027236	123	110	111	
	027241	120	040	117	
	027244	106	040	123	
	027247	105	103	117	
	027252	116	104	040	
	027255	122	104	122	
	027260	102	000		
2753					
2754	027262				ERR032:
2755					
2756	027262	015	012	104	ERR033: .ASCII <15><12>/DATA COMPARE ERROR IN /
	027265	101	124	101	
	027270	040	103	117	
	027273	115	120	101	
	027276	122	105	040	
	027301	105	122	122	
	027304	117	122	040	
	027307	111	116	040	

2757	027312	106	111	122	.ASCIZ /FIRST TRANSMIT DESCRIPTOR RING/
	027315	123	124	040	
	027320	124	122	101	
	027323	116	123	115	
	027326	111	124	040	
	027331	104	105	123	
	027334	103	122	111	
	027337	120	124	117	
	027342	122	040	122	
	027345	111	116	107	
	027350	000			
2758	027351	015	012	104	ERR034: .ASCII <15><12>/DATA COMPARE ERROR IN /
	027354	101	124	101	
	027357	040	103	117	
	027362	115	120	101	
	027365	122	105	040	
	027370	105	122	122	
	027373	117	122	040	
	027376	111	116	040	
2759	027401	123	105	103	.ASCIZ /SECOND TRANSMIT DESCRIPTOR RING/
	027404	117	116	104	
	027407	040	124	122	
	027412	101	116	123	
	027415	115	111	124	
	027420	040	104	105	
	027423	123	103	122	
	027426	111	120	124	
	027431	117	122	040	
	027434	122	111	116	
	027437	107	000		
2760					
2761	027441				ERR035:
2762					
2763	027441	015	012	104	ERR036: .ASCII <15><12>/DATA COMPARE ERROR IN /
	027444	101	124	101	
	027447	040	103	117	
	027452	115	120	101	
	027455	122	105	040	
	027460	105	122	122	
	027463	117	122	040	
	027466	111	116	040	
2764	027471	106	111	122	.ASCIZ /FIRST RECEIVE DESCRIPTOR RING/
	027474	123	124	040	
	027477	122	105	103	
	027502	105	111	126	
	027505	105	040	104	
	027510	105	123	103	
	027513	122	111	120	
	027516	124	117	122	
	027521	040	122	111	
	027524	116	107	000	
2765	027527	015	012	104	ERR037: .ASCII <15><12>/DATA COMPARE ERROR IN /
	027532	101	124	101	
	027535	040	103	117	
	027540	115	120	101	
	027543	122	105	040	
	027546	105	122	122	

	027551	117	122	040	
	027554	111	116	040	
2766	027557	123	105	103	.ASCIZ /SECOND RECEIVE DESCRIPTOR RING/
	027562	117	116	104	
	027565	040	122	105	
	027570	103	105	111	
	027573	126	105	040	
	027576	104	105	123	
	027601	103	122	111	
	027604	120	124	117	
	027607	122	040	122	
	027612	111	116	107	
	027615	000			
2767	027616	015	012	104	ERR038: .ASCIZ <15><12>/DNI BIT NOT SET AFTER PORT HALT COMMAND /
	027621	116	111	040	
	027624	102	111	124	
	027627	040	116	117	
	027632	124	040	123	
	027635	105	124	040	
	027640	101	106	124	
	027643	105	122	040	
	027646	120	117	122	
	027651	124	040	110	
	027654	101	114	124	
	027657	040	103	117	
	027662	115	115	101	
	027665	116	104	040	
	027670	000			
2768	027671	015	012	105	ERR039: .ASCII <15><12>/ERROR - LOOPBACK SUCCESSFUL WITH/
	027674	122	122	117	
	027677	122	040	055	
	027702	040	114	117	
	027705	117	120	102	
	027710	101	103	113	
	027713	040	123	125	
	027716	103	103	105	
	027721	123	123	106	
	027724	125	114	040	
	027727	127	111	124	
	027732	110			
2769	027733	015	012	111	.ASCIZ <15><12>/INVALID DESTINATION ADDRESS /
	027736	116	126	101	
	027741	114	111	104	
	027744	040	104	105	
	027747	123	124	111	
	027752	116	101	124	
	027755	111	117	116	
	027760	040	101	104	
	027763	104	122	105	
	027766	123	123	040	
	027771	000			
2770	027772	015	012	106	ERR040: .ASCIZ <15><12>/FATAL ERROR - DELUA ID BIT NOT SET/
	027775	101	124	101	
	030000	114	040	105	
	030003	122	122	117	
	030006	122	040	055	
	030011	040	104	105	

	030014	114	125	101	
	030017	040	111	104	
	030022	040	102	111	
	030025	124	040	116	
	030030	117	124	040	
	030033	123	105	124	
	030036	000			
2771					
2772	030037	015	012	111	ERR041: .ASCIZ <15><12>/INTERNAL MEMORY DATA COMPARE ERROR /
	030042	116	124	105	
	030045	122	116	101	
	030050	114	040	115	
	030053	105	115	117	
	030056	122	131	040	
	030061	104	101	124	
	030064	101	040	103	
	030067	117	115	120	
	030072	101	122	105	
	030075	040	105	122	
	030100	122	117	122	
	030103	040	000		
2773					
2774	030105	015	012	104	ERR042: .ASCIZ <15><12>/DNI BIT FAILED TO SET AFTER DELUA RESET/
	030110	116	111	040	
	030113	102	111	124	
	030116	040	106	101	
	030121	111	114	105	
	030124	104	040	124	
	030127	117	040	123	
	030132	105	124	040	
	030135	101	106	124	
	030140	105	122	040	
	030143	104	105	114	
	030146	125	101	040	
	030151	122	105	123	
	030154	105	124	000	
2775					
2776	030157	015	012	047	ERR043: .ASCII <15><12>/'BUFL',IN TDRB+6 NOT SET ON XMIT BUFF /
	030162	102	125	106	
	030165	114	047	054	
	030170	111	116	040	
	030173	124	104	122	
	030176	102	053	066	
	030201	040	116	117	
	030204	124	040	123	
	030207	105	124	040	
	030212	117	116	040	
	030215	130	115	111	
	030220	124	040	102	
	030223	125	106	106	
	030226	040			
2777	030227	117	126	105	.ASCIZ /OVERFLOW WITH <DTCR=0>/
	030232	122	106	114	
	030235	117	127	040	
	030240	127	111	124	
	030243	110	040	074	
	030246	104	124	103	

	030251	122	075	060	
	030254	076	000		
2778	030256	015	012	047	ERR044: .ASCII <15><12>/'BUFL' IN TDRB+6 NOT SET ON XMIT BUFF /
	030261	102	125	106	
	030264	114	047	040	
	030267	111	116	040	
	030272	124	104	122	
	030275	102	053	066	
	030300	040	116	117	
	030303	124	040	123	
	030306	105	124	040	
	030311	117	116	040	
	030314	130	115	111	
	030317	124	040	102	
	030322	125	106	106	
	030325	040			
2779	030326	117	126	105	.ASCIZ /OVERFLOW WITH <DTCR=1>/
	030331	122	106	114	
	030334	117	127	040	
	030337	127	111	124	
	030342	110	040	074	
	030345	104	124	103	
	030350	122	075	061	
	030353	076	000		
2780					
2781	030355	015	012	120	ERR045: .ASCIZ <15><12>/PCSR0 INTERRUPT BIT CLEAR ERROR /
	030360	103	123	122	
	030363	060	040	111	
	030366	116	124	105	
	030371	122	122	125	
	030374	120	124	040	
	030377	102	111	124	
	030402	040	103	114	
	030405	105	101	122	
	030410	040	105	122	
	030413	122	117	122	
	030416	040	000		
2782					
2783	030420	015	012	122	ERR046: .ASCIZ <15><12>/RECEIVED PACKET COUNTER NOT GREATER THAN 0 /
	030423	105	103	105	
	030426	111	126	105	
	030431	104	040	120	
	030434	101	103	113	
	030437	105	124	040	
	030442	103	117	125	
	030445	116	124	105	
	030450	122	040	116	
	030453	117	124	040	
	030456	107	122	105	
	030461	101	124	105	
	030464	122	040	124	
	030467	110	101	116	
	030472	040	060	040	
	030475	000			
2784	030476	015	012	111	ERR047: .ASCIZ <15><12>/INTERRUPT SUMMARY BIT IN PCSRO NOT SET WITH DNI SET /
	030501	116	124	105	
	030504	122	122	125	

C7

	030511	120	124	040
	030512	123	125	115
	030515	115	101	122
	030520	131	040	102
	030523	111	124	040
	030526	111	116	040
	030531	120	103	123
	030534	122	060	040
	030537	116	117	124
	030542	040	123	105
	030545	124	040	127
	030550	111	124	110
	030553	040	104	116
	030556	111	040	123
	030561	105	124	040
	030564	000		
2785	030565	015	012	106
	030570	101	124	101
	030573	114	040	102
	030576	111	124	040
	030601	123	105	124
	030604	040	104	125
	030607	105	040	124
	030612	117	040	104
	030615	105	126	111
	030620	103	105	040
	030623	117	122	040
	030626	125	116	111
	030631	102	125	123
	030634	040	105	122
	030637	122	117	122
	030642	040	000	

ERR048: .ASCIZ <15><12>/FATAL BIT SET DUE TO DEVICE OR UNIBUS ERROR /

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.EVEN

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```
.SBTTL GLOBAL MACRO AND SUBROUTINES SECTION  
;*****  
; MACRO FTL  
; THIS MACRO CALLS SUBROUTINE 'CHKFTL'  
; CALL: FTL  
;*****  
.MACRO FTL  
.NLIST  
.LIST ME  
.LIST  
JSR PC,CHKFTL ; 'FATL' BIT SET?  
.NLIST ME  
.ENDM
```

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*****
:
:   MACRO PNTMAC
:
:   THIS MACRO WILL SETUP AND CALL SUBROUTINE 'PNTID',
:   WHICH WILL THEN DISPLAY TEST NUMBER AND NAME.
:
:   CALL:   PNTMAC tname
:
:           WHERE 'tname' IS THE POINTER TO THE
:           TEST NAME MESSAGE.
:
*****
:MACRO PNTMAC   TNAME
:
: .NLIST
: .LIST ME
: .LIST
:
:   MOV     #TNAME,R4           ;GET POINTER TO TEST NAME MESSAGE
:   JSR    PC,PNTID           ;PRINT TEST NUMBER AND NAME
:
:   END OF MACRO EXPANSION OF 'PNTMAC'
:
: .NLIST ME
: .ENDM

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2861 030644
2862 030644 010146
2863 030646 010246
2864 030650 010546
2865 030652
2866 030652 112105
2867 030654 004737 033034
2868 030660
2869 030660 077204
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2871 030662 005103
2872 030664 005104
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2874 030666 012702 020576
2875 030672 010422
2876 030674 010322
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2878 030676 012605
2879 030700 012602
2880 030702 012601
2881 030704 000207
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```

*****
SUBROUTINE - BLKCRC
THIS ROUTINE PERFORMS A CRC CALCULATION ON A BLOCK OF DATA
THIS ROUTINE USED FOR ALL CRC CALCULATIONS EXCEPT ROM.
INPUTS: R1 CONTAINS BASE ADDRESS OF DATA BLOCK
        R2 CONTAINS DATA BLOCK BYTE COUNT
        R3,R4 CONTAINS INITIAL CRC
OUTPUT: R3,R4 CONTAIN CRC CODE
CALLING SEQUENCE:      MOV    #-,R1      ;GET BASE ADDRESS
                       MOV    #-,R2      ;GET BYTE COUNT
                       JSR    PC,BLKCRC   ;CALCULATE CRC
*****

```

```

BLKCRC:
MOV    R1,-(SP)      ;SAVE R1
MOV    R2,-(SP)      ;SAVE R2
MOV    R5,-(SP)      ;SAVE R5
1$:
MOV    (R1)+,R5      ;GET NEXT BYTE
JSR    PC,GETCRC     ;CALCULATE THE CRC
2$:
SOB    R2,1$        ;LOOP TILL DONE
COM    R3            ;COMPLIMENT
COM    R4            ;RESULTS
MOV    #XCRC,R2     ;BASE ADDRESS OF SAVED CRC
MOV    R4,(R2)+     ;SAVE 1ST WORD
MOV    R3,(R2)+     ;SAVE 2ND WORD
MOV    (SP)+,R5     ;RESTORE R5
MOV    (SP)+,R2     ;RESTORE R2
MOV    (SP)+,R1     ;RESTORE R1
RTS    PC           ;RETURN TO CALLING ROUTINE

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2907 030706 010046
2908 030710 010146
2909 030712 010446
2910 030714 012737 001661 020604
2911 030722 004737 035272
2912 030726 017704 151274
2913 030732 032704 004000
2914 030736 001015
2915 030740
2916 030742 104422 020604
2917 030746 001367
2918 030750 010437 020516
2919 030754 017737 151250 020520
2920 030762 004737 035256
2921 030766 000261
2922 030770 000403
2923 030772 004737 035256
2924 030776 000241
2925 031000 012604
2926 031002 012601
2927 031004 012600
2928 031006 000207
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```
*****
SUBROUTINE - CHKDNI
THIS ROUTINE WAITS FOR DNI TO SET.
INPUTS:      NONE
OUTPUTS:     IF DNI SETS
              THEN CARRY = 0
              IF DNI FAILS TO SET
              THEN CARRY = 1
              PCSRO -> EPCSRO
              PCSR1 -> EPCSR1
CALLING SEQUENCE:
              JSR      PC,CHKDNI
*****
```

```
CHKDNI:
MOV      R0,-(SP)      ; SAVE R0
MOV      R1,-(SP)      ; SAVE R1
MOV      R4,-(SP)      ; SAVE R4
MOV      #15,*SECOND,METER ; PUT SOME TIME IN THE TIMER      ;B0
JSR      PC,TIMON      ; TURN ON THE LINE CLOCK
10$:    MOV      @PCSRO,R4 ; GET PCSRO
        BIT      @DNI,R4  ; IS DNI SET?
        BNE     30$      ; YES
        BREAK    ; NO, VISIT DRS FOR A MOMENT TRAP      C$BRK
        TST     METER    ; HAS TIMER EXPIRED?
        BNE     10$      ; NOT YET
MOV      R4,EPCSRO    ; PCSRO -> EPCSRO
MOV      @PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
JSR      PC,TIMOFF    ; TURN OFF THE TIMER
SEC      ; SET CARRY
BR       40$
30$:    JSR      PC,TIMOFF ; TURN OFF THE TIMER
        CLC      ; DNI SET SO CLEAR CARRY
40$:    MOV      (SP)+,R4 ; RESTORE R4
        MOV      (SP)+,R1 ; RESTORE R1
        MOV      (SP)+,R0 ; RESTORE R0
        RTS     PC      ; AND RETURN
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031010 010046
031012 017700 151210
031016 032700 001000
031022 001410
031024 012746 031064
031030 012746 000001
031034 010600
031036 104417
031040 062706 000004
031044 017737 151156 020516
031052 017737 151152 020520
031060 012600
031062 000207
031064 045 116 045
031067 101 047 106
031072 101 124 114
031075 047 040 102
031100 111 124 040
031103 123 105 124
031106 040 055 040
031111 104 101 124
031114 101 040 111
031117 116 040 120
031122 103 123 122
031125 061 040 116
031130 117 124 040
031133 126 101 114
031136 111 104 040
031141 106 117 122
031144 040 124 110
031147 111 123 040
031152 105 122 122
031155 117 122 056
031160 000

```
*****  
: SUBROUTINE - CHKFTL  
: THIS SUBROUTINE WILL CHECK FOR FATAL ERROR BIT SET  
: IF SET, WILL ISSUE MESSAGE TO IGNORE CONTENTS OF PCSR1  
: INPUTS: NONE  
: OUTPUTS: IF 'FATL' SET, MESSAGE PRINTED  
: CALL: JSR PC,CHKFTL  
:*****
```

```
CHKFTL: MOV RO,-(SP) ;SAVE RO  
MOV @PCSR0,RO ;GET CONTENTS OF CSRO  
BIT #FATL,RO ;CONTENTS OF PCSR1 VALID?  
BEQ 1$ ;YES, EXIT  
PRINTF #FTLSET  
MOV #FTLSET,-(SP)  
MOV #1,-(SP)  
MOV SP,RO  
TRAP C:PNTF  
ADD #4,SP  
1$: MOV @PCSR0,EPCSR0 ;SAVE CONTENTS OF PCSRO  
MOV @PCSR1,EPCSR1 ;SAVE CONTENTS OF PCSR1  
MOV (SP)+,RO ;RESTORE RO  
RTS PC ;RETURN TO CALLING ROUTINE
```

FTLSET: .asciz/NO 'FATL' BIT SET - DATA IN PCSR1 NOT VALID FOR THIS ERROR./

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 2977 031162 010046
 2978 031164 010446
 2979 031166 012704 000010
 2980 031172 004737 035272
 2981 031176 016500 000004
 2982 031202 032700 100000
 2983 031206 001406
 2984 031210
 031210 104422
 2985 031212 005737 020604
 2986 031216 001367
 2987 031220 000261
 2988 031222 000401
 2989
 2990 031224 000241
 2991 031226
 2992 031226 004737 035256
 2993 031232 012604
 2994 031234 012600
 2995 031236 000207

```

*****
:
:      SUBROUTINE - CHKOWN
:
:      THIS ROUTINE CHECKS FOR THE OWNERSHIP BIT IN
:      BOTH TRANSMIT AND RECEIVE DESCRIPTOR RINGS.
:
:      INPUTS:          R5 = ADDRESS OF DESCRIPTOR RING
:
:      OUTPUTS:        IF OWN BIT = 0 (PORT DRIVER)
:                      THEN CARRY = 0
:
:                      IF OWN BIT = 1 (UNA)
:                      THEN CARRY = 1
:
*****
    
```

```

CHKOWN:
      MOV     R0,-(SP)      ; SAVE R0
      MOV     R4,-(SP)      ; SAVE R4
      MOV     #10,R4       ; DELAY VALUE
      JSR     PC,TIMON      ; TURN ON CLOCK
1$:    MOV     4(R5),R0     ; GET TRDB+4
      BIT     #OWN,R0      ; BIT15, OWNERSHIP SET?
      BEQ    10$          ; NO, EXIT ROUTINE
      BREAK   ; VISIT DRS WHILE WAITING
                                TRAP    C$BRK
      TST     METER        ; TIME UP?
      BNE    1$           ; NO, LOOP AGAIN
      SEC
      BR     20$          ; YES, SET CARRY = 1
                                ; GET OUT
10$:   CLC                ; CLEAR CARRY
20$:   JSR     PC,TIMOFF    ; TURN OFF TIMER
      MOV     (SP)+,R4     ; RESTORE R4
      MOV     (SP)+,R0     ; RESTORE R0
      RTS     PC           ; AND RETURN
    
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3020 031240 010046
3021 031242 010146
3022 031244 012737 000473 020604
3023 031252 004737 035272
3024 031256 017737 150744 002240
3025 031264 032737 002000 002240
3026 031272 001016
3027 031274 031274 104422
3028 031276 005737 020604
3029 031302 001365
3030 031304 013737 002240 020516
3031 031312 017737 150712 020520
3032 031320 004737 035256
3033 031324 000261
3034 031326 000403
3035 031330 004737 035256
3036 031334 000241
3037 031336
3038 031336 012601
3039 031340 012600
3040 031342 000207

```
*****
:
: SUBROUTINE - CHKRCE
:
: THIS ROUTINE WAITS FOR RCBI TO SET.
:
: INPUTS: NONE
:
: OUTPUTS: IF RCBI SETS
:          THEN CARRY = 0
:
:          IF RCBI FAILS TO SET
:            THEN CARRY = 1
:            PCSRO -> EPSCRO
:            PCSR1 -> EPCSR1
:
: CALLING SEQUENCE:
: JSR PC,CHKRCE
:
:*****
```

```
CHKRCE:
MOV R0,-(SP) ; SAVE R0
MOV R1,-(SP) ; SAVE R1
MOV #5*SECOND,METER ; PUT SOME TIME IN THE TIMER
JSR PC,TIMON ; TURN ON THE LINE CLOCK
10$: MOV @PCSRO,PCSROC ; GET PCSRO
BIT #RCBI,PCSROC ; IS RCBI SET?
BNE 30$ ; YES
BREAK ; NO, VISIT DRS FOR A MOMENT
; TRAP C$BRK

TST METER ; HAS TIMER EXPIRED?
BNE 10$ ; NOT YET
MOV PCSROC,EPCSR0 ; PCSRO -> EPCSR0
MOV @PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
JSR PC,TIMOFF ; TURN OFF THE TIMER
SEC ; SET CARRY
BR 40$

30$: JSR PC,TIMOFF ; TURN OFF THE TIMER
CLC ; RCBI SET SO CLEAR CARRY

40$: MOV (SP)+,R1 ; RESTORE R1
MOV (SP)+,R0 ; RESTORE R0
RTS PC ; AND RETURN
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3074 031344 010046
3075 031346 010146
3076 031350 010346
3077 031352 010446
3078 031354 012700 000004
3079 031360 012703 020532
3080 031364 010504
3081 031366
3082 031366 022324
3083 031370 001012
3084 031372 005300
3085 031374 001374
3086
3087 031376 011400
3088 031400 042700 007777
3089 031404 011301
3090 031406 042701 007777
3091 031412 020001
3092 031414 001411
3093 031416
3094 031416 012703 020522
3095 031422 010504
3096 031424 012423
3097 031426 012423
3098 031430 012423

```

*****
SUBROUTINE - CHKRDR
THIS SUBROUTINE COMPARES A RECEIVE DESCRIPTOR RING ENTRY
WITH EXPECTED DATA.
INPUTS:          R5 = ADDRESS OF RDRB TO BE COMPARED.
INPLICIT INPUTS: XRDRB0 = TABLE WITH EXPECTED DATA
OUTPUTS:         IF COMPARE IS SUCCESSFUL
                  THEN CARRY = 0
                  IF COMPARE IS UNSUCCESSFUL
                  THEN CARRY = 1
                  EXPECTED RDRB+0 = XRDRB0
                  EXPECTED RDRB+2 = XRDRB2
                  EXPECTED RDRB+4 = XRDRB4
                  EXPECTED RDRB+6 = XRDRB6
                  ACTUAL RDRB+0  -> ERDRB0
                  ACTUAL RDRB+2  -> ERDRB2
                  ACTUAL RDRB+4  -> ERDRB4
                  ACTUAL RDRB+6  -> ERDRB6
CALLING SEQUENCE:
                  JSR      PC,CHKRDR
*****

```

```

CHKRDR:
MOV      R0,-(SP)      ; SAVE R0
MOV      R1,-(SP)      ; SAVE R1
MOV      R3,-(SP)      ; SAVE R3
MOV      R4,-(SP)      ; SAVE R4
MOV      #4,R0          ; DO FOUR COMPARES
MOV      #XRDRB0,R3     ; R3 POINTS TO EXPECTED DATA
MOV      R5,R4          ; R4 POINTS TO ACTUAL RDRB
10$:
CMP      (R3)+,(R4)+   ; ERROR IN ACTUAL TABLE DATA?
BNE      20$           ; YES
DEC      R0             ; REDUCE LOOP COUNT
BNE      10$           ; IF NOT FINISHED, LOOP AGAIN
MOV      (R4),R0        ; RDRB+6 -> R0
BIC      #TDRMSK,R0     ; MASK OUT TDR VALUE
MOV      (R3),R1        ; GET EXPECTED
BIC      #TDRMSK,R1     ; MASK OUT TDR VALUE
CMP      R0,R1          ; COMPARE ERROR ?
BEQ      30$           ; YES
20$:
MOV      #ERDRB0,R3    ; R3 POINTS TO ACTUAL TABLE
MOV      R5,R4          ; R4 POINTS TO ACTUAL RDRB
MOV      (R4)+,(R3)+   ; LOAD ACTUAL TABLE
MOV      (R4)+,(R3)+
MOV      (R4)+,(R3)+

```

L7

3099	031432	012423	MOV	(R4)+,(R3)+	
3100	031434	000261	SEC		; SET CARRY
3101	031436	000401	BR	40\$	
3102	031440	000241	30\$: CLC		; CLEAR CARRY
3103	031442	012604	40\$: MOV	(SP)+,R4	; RESTORE R4
3104	031444	012603	MOV	(SP)+,R3	; RESTORE R3
3105	031446	012601	MOV	(SP)+,R1	; RESTORE R1
3106	031450	012600	MOV	(SP)+,R0	; RESTORE R0
3107	031452	000207	RTS	PC	; AND RETURN

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3131 031454
3132 031454 010046
3133 031456 010146
3134 031460 010446
3135 031462 012737 000176 020604
3136 031470 004737 035272
3137 031474 017704 150526
3138 031500 032704 020000
3139 031504 001015
3140 031506 104422
3141 031510 005737 020604
3142 031514 001367
3143 031516 010437 020516
3144 031522 017737 150502 020520
3145 031530 004737 035256
3146 031534 000261
3147 031536 000403
3148 031540 004737 035256
3149 031544 000241
3150 031546 012604
3151 031550 012601
3152 031552 012600
3153 031554 000207

```
*****
:
: SUBROUTINE - CHKRXI
:
: THIS ROUTINE WAITS FOR RXI TO SET.
:
: INPUTS:      NONE
:
: OUTPUTS:     IF RXI SETS
:                THEN CARRY = 0
:
:                IF RXI FAILS TO SET
:                THEN CARRY = 1
:                PCSRO -> EPSCRO
:                PCSR1 -> EPCSR1
:
: CALLING SEQUENCE:
:                JSR      PC,CHKRXI
:
:*****
```

```
CHKRXI:
MOV      R0,-(SP)      ; SAVE R0
MOV      R1,-(SP)      ; SAVE R1
MOV      R4,-(SP)      ; SAVE R4
MOV      #2*SECOND,METER ; PUT SOME TIME IN THE TIMER
JSR      PC,TIMON      ; TURN ON THE LINE CLOCK
10$: MOV      @PCSRO,R4  ; GET PCSRO
BIT      #RXI,R4      ; IS RXI SET?
BNE      30$          ; YES
BREAK    ; NO, VISIT DRS FOR A MOMENT
                                TRAP    C$BRK
3141: TST      METER      ; HAS TIMER EXPIRED?
BNE      10$          ; NOT YET
MOV      R4,EPCSR0    ; PCSRO -> EPCSR0
MOV      @PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
JSR      PC,TIMOFF    ; TURN OFF THE TIMER
SEC      ; SET CARRY
BR      40$
3148: JSR      PC,TIMOFF ; TURN OFF THE TIMER
CLC      ; RXI SET SO CLEAR CARRY
40$: MOV      (SP)+,R4  ; RESTORE R4
MOV      (SP)+,R1      ; RESTORE R1
MOV      (SP)+,R0      ; RESTORE R0
RTS      PC            ; AND RETURN
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3177 031556 010046
3178 031560 010446
3179 031562 017704 150442
3180 031566 042704 140377
3181 031572 022704 000000
3182 031576 001413
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3185 031600 042704 140377
3186 031604 012700 000010
3187 031610 006204
3188 031612 005300
3189 031614 001375
3190 031616 010437 020602
3191 031622 000261
3192 031624 000401
3193 031626 000241
3194 031630 012604
3195 031632 012600
3196 031634 000207

```
*****
:
: SUBROUTINE - CHKSTR
:
: THIS TEST CHECKS THE SELF TEST RESULTS.
:
: INPUTS:      NONE
:
: OUTPUTS:     IF SELF TEST SUCCESSFUL
:              THEN CARRY = 0
:
:              IF SELF TEST FAILED
:              THEN CARRY = 1
:              SELF TEST CODE SHIFTED RIGHT -> ECODE
:
: CALLING SEQUENCE:
:              JSR      PC,CHKSTR
:
:*****
```

```
CHKSTR:
      MOV      R0,-(SP)      ; SAVE R0
      MOV      R4,-(SP)      ; SAVE R4
      MOV      @PCSR1,R4     ; PCSR1 -> R4
      BIC      #STMASK,R4    ; MASK SELF TEST CODE BITS
      CMP      #GOODST,R4    ; SELF TEST SUCCESSFUL ?
      BEQ      10$          ; YES
:
:                          ; SELF TEST FAILED
      BIC      #STMASK,R4
      MOV      #8.,R0        ; SHIFT CODE RIGHT
5$:   ASR      R4
      DEC      R0
      BNE      5$
      MOV      R4,ECODE     ; SHIFTED CODE -> ECODE
      SEC                      ; SET CARRY
:
10$:  CLC                      ; SELF TEST PASSED CLEAR C RRY
20$:  MOV      (SP)+,R4      ; RESTORE R4
      MOV      (SP)+,R0      ; RESTORE R0
      RTS      PC           ; AND RETURN
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3228 031636
3229 031636 010046
3230 031640 010346
3231 031642 010446
3232 031644 012700 000004
3233 031650 012703 020552
3234 031654 010504
3235 031656
3236 031656 022324
3237 031660 001003
3238 031662 005300
3239 031664 001374
3240 031666 000411
3241 031670 012703 020542
3242 031674 010504
3243 031676 012423
3244 031700 012423
3245 031702 012423
3246 031704 012423
3247 031706 000261
3248 031710 000401
3249 031712 000241
3250 031714 012604
3251 031716 012603
3252 031720 012600
3253 031722 000207

```

*****
SUBROUTINE - CHKTDR

THIS SUBROUTINE COMPARES A TRANSMIT DESCRIPTOR RING ENTRY
WITH EXPECTED DATA.

INPUTS:          R5 = ADDRESS OF TDRB TO BE COMPARED

IMPLICIT INPUTS: XTDRB0 = TABLE WITH EXPECTED DATA

OUTPUTS:         IF COMPARE IS SUCCESSFUL
                  THEN CARRY = 0

                  IF COMPARE IS UNSUCCESSFUL
                  THEN CARRY = 1
                  EXPECTED TDRB+0 = XTDRB0
                  EXPECTED TDRB+2 = XTDRB2
                  EXPECTED TDRB+4 = XTDRB4
                  EXPECTED TDRB+6 = XTDRB6
                  ACTUAL TDRB+0 -> ETDRB0
                  ACTUAL TDRB+2 -> ETDRB2
                  ACTUAL TDRB+4 -> ETDRB4
                  ACTUAL TDRB+6 -> ETDRB6

CALLING SEQUENCE:
JSR    PC,CHKTDR
*****

```

```

CHKTDR:
MOV    R0,-(SP)      ; SAVE R0
MOV    R3,-(SP)      ; SAVE R3
MOV    R4,-(SP)      ; SAVE R4
MOV    #4,R0         ; DO FOUR COMPARES
MOV    #XTDRB0,R3    ; R3 POINTS TO EXPECTED DATA
MOV    R5,R4         ; R4 POINTS TO ACTUAL TDRB

10$:
CMP    (R3)+,(R4)+  ; ERROR IN ACTUAL TABLE DATA?
BNE    20$           ; YES
DEC    R0            ; REDUCE LOOP COUNT
BNE    10$           ; IF NOT FINISHED, LOOP AGAIN
BR     30$           ;

20$:
MOV    #ETDRB0,R3   ; R3 POINTS TO ACTUAL TABLE
MOV    R5,R4         ; R4 POINTS TO ACTUAL TDRB
MOV    (R4)+,(R3)+  ; LOAD ACTUAL TABLE
MOV    (R4)+,(R3)+
MOV    (R4)+,(R3)+
MOV    (R4)+,(R3)+

; SET CARRY
SEC

30$:
BR     40$

40$:
CLC    ; CLEAR CARRY
MOV    (SP)+,R4     ; RESTORE R4
MOV    (SP)+,R3     ; RESTORE R3
MOV    (SP)+,R0     ; RESTORE R0
RTS    PC           ; AND RETURN

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3278 031724 010046
3279 031726 010146
3280 031730 010446
3281 031732 012737 000176 020604
3282 031740 004737 035272
3283 031744 017737 150256 002240
3284 031752 032737 010000 002240
3285 031760 001016
3286 031762
031762 104422
3287 031764 005737 020604
3288 031770 001365
3289 031772 013737 002240 020516
3290 032000 017737 150224 020520
3291 032006 004737 035256
3292 032012 000261
3293 032014 000403
3294 032016 004737 035256
3295 032022 000241
3296 032024 012604
3297 032026 012601
3298 032030 012600
3299 032032 000207

```
*****
:
: SUBROUTINE - CHKTXI
:
: THIS ROUTINE WAITS FOR TXI TO SET.
:
: INPUTS: NONE
:
: OUTPUTS: IF TXI SETS
:           THEN CARRY = 0
:
:           IF TXI FAILS TO SET
:             THEN CARRY = 1
:             PCSRO -> EPSCRO
:             PCSR1 -> EPCSR1
:
: CALLING SEQUENCE:
: JSR PC,CHKTXI
:
:*****
```

```
CHKTXI:
MOV R0,-(SP) ; SAVE R0
MOV R1,-(SP) ; SAVE R1
MOV R4,-(SP) ; SAVE R4
MOV #2*SECOND,METER ; PUT SOME TIME IN THE TIMER
JSR PC,TIMON ; TURN ON THE LINE CLOCK
10$: MOV @PCSRO,PCSROC ; GET PCSRO
BIT #TXI,PCSROC ; IS TXI SET?
BNE 30$ ; YES
BREAK ; NO, VISIT DRS FOR A MOMENT TRAP C$BRK

TST METER ; HAS TIMER EXPIRED?
BNE 10$ ; NOT YET
MOV PCSROC,EPCSRO ; PCSRO -> EPCSRO
MOV @PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
JSR PC,TIMOFF ; TURN OFF THE TIMER
SEC ; SET CARRY
BR 40$

30$: JSR PC,TIMOFF ; TURN OFF THE TIMER
CLC ; TXI SET SO CLEAR CARRY
40$: MOV (SP)+,R4 ; RESTORE R4
MOV (SP)+,R1 ; RESTORE R1
MOV (SP)+,R0 ; RESTORE R0
RTS PC ; AND RETURN
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3327 032034
3328 032034 010046
3329 032036 010146
3330 032040 010446
3331 032042 012737 001661 020604
3332 032050 004737 035272
3333 032054
3334 032054 017704 150146
3335 032060 032704 004000
3336 032064 001025
3337 032066
3338 032070 005737 020604
3339 032074 001367
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3343 032076 004737 035256
3344 032102
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3346 032122 010437 020516
3347 032126 017737 150076 020520
3348 032134 000261
3349 032136 000403
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3351 032140

```

*****
SUBROUTINE - CKDNI

THIS SUBROUTINE WAITS FOR DONE INTERRUPT (DNI) TO SET.
IF A DNI IS RECEIVED BEFORE TIMER EXPIRES, PROCEED OK. IF
TIMER EXPIRES PRIOR TO AN INTERRUPT, OR THE INTERRUPT WAS
NOT CAUSED BY A DNI, THEN THE APPROPRIATE ERROR MESSAGE IS
ISSUED.

INPUTS:          NONE

OUTPUTS:         IF DNI SETS PRIOR TO TIMER TIME OUT
                  THEN CARRY BIT = 0

                  ELSE
                  CARRY BIT = 1
                  PCSRO -> EPSCRO
                  PCSR1 -> EPSCR1

CALLING SEQUENCE:
JSR      PC,CKDNI
*****

```

```

CKDNI:
MOV      R0,-(SP)      ; SAVE R0
MOV      R1,-(SP)      ; SAVE R1
MOV      R4,-(SP)      ; SAVE R4
MOV      #15,*SECOND,METER ; PUT ENOUGH TIME ON TIMER
JSR      PC,TIMON      ; TURN ON THE LINE CLOCK

10$:
MOV      @PCSRO,R4     ; READ AND SAVE CONTENTS OF PCSRO
BIT      #DNI,R4       ; DID WE GET A DNI INTERRUPT?
BNE      20$           ; YES EXIT DELAY LOOP
BREAK    ; NO, VISIT DRS FOR A MOMENT
TRAP     C$BRK

TST      METER         ; HAS TIMER EXPIRED?
BNE      10$           ; NOT YET

;TIMER EXPIRED BEFORE DNI SET

JSR      PC,TIMOFF     ; TURN OFF THE TIMER
PRINTF   #INTMG1       ; PRINT TIMED OUT MESSAGE

MOV      #INTMG1,-(SP)
MOV      #1,-(SP)
MOV      SP,R0
TRAP     C$PNTF
ADD      #4,SP

MOV      R4,EPCSRO    ; PCSRO -> EPCSRO
MOV      @PCSR1,EPCSR1 ; PCSR1 -> EPCSR1
SEC      ; SET CARRY BIT
BR       40$          ; GO EXIT

20$:

```

E8

```

3352 032140 004737 035256          JSR      PC,TIMOFF          ; TURN OFF THE TIMER
3353 032144 000241                   CLC                          ; DNI SET, SO CLEAR C BIT
3354 032146                   40$:
3355 032146 012604                   MOV      (SP)+,R4           ; RESTORE R4
3356 032150 012601                   MOV      (SP)+,R1           ; RESTORE R1
3357 032152 012600                   MOV      (SP)+,R0           ; RESTORE R0
3358 032154 000207                   RTS      PC                  ; AND RETURN
3359
3360 032156 045 116 045 INTMG1:.ASCIZ/*N/A DNI DID NOT SET PRIOR TO SOFTWARE TIMER TIME OUT./
      032161 101 040 104
      032164 116 111 040
      032167 104 111 104
      032172 040 116 117
      032175 124 040 123
      032200 105 124 040
      032203 120 122 111
      032206 117 122 040
      032211 124 117 040
      032214 123 117 106
      032217 124 127 101
      032222 122 105 040
      032225 124 111 115
      032230 105 122 040
      032233 124 111 115
      032236 105 040 117
      032241 125 124 056
      032244 000
3361 .even
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3384 032246
3385 032246 004737 032272
3386 032252 004737 032550
3387 032256 000207
3388

```

*****
SUBROUTINE - CLRBUF

THIS SUBROUTINE WILL CLEAR BOTH THE SOFTWARE BUFFERS NAMED
RECEIVE BUFFER (RBUF) AND TRANSMIT BUFFER (TBUF), BY CALLING
IN SEQUENCE, SUBROUTINES 'CLRCV' AND 'CLRXT'.

INPUT: NONE

OUTPUT: NONE

SUBSIDIARY ROUTINES: SUBROUTINES 'CLRCV' AND 'CLRXT'

PARAMTERS MODIFIED: ON EXIT BOTH RBUF AND TBUF WILL BE CLEARED

CALL: JSR PC,CLRBUF
*****

```

```

CLRBUF: JSR PC,CLRCV ;CLEAR RECEIVE BUFFERS
        JSR PC,CLRXT ;CLEAR TRANSMIT BUFFERS
        RTS PC

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3408 032260
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3410 032260
3411 032260 005304
3412 032262 002402
3413 032264 105023
3414 032266 000774
3415 032270
3416 032270 000207
3417

```
*****
SUBROUTINE - CLBYTE
THIS ROUTINE WILL CLEAR A NUMBER OF BYTES (NUMBER PASSED IN R4),
STARTING AT ADDRESS POINTED TO BY R3.
INPUT - R3 POINTS TO STARTING ADDRESS OF BYTES
        R4 CONTAINS NUMBER OF BYTES TO BE CLEARED
OUTPUT: - NONE
CALL:  MOV    #X,R3      ;STARTING ADDRESS OF BYTES
        MOV    #Y,R4      ;NUMBER OF BYTES TO BE CLEARED
        JSR    PC,CLBYTE  ;CLEAR THE BYTES
*****
```

```
CLBYTE:
1$:    DEC    R4
        BLT   2$
        CLRB  (R3)+
        BR   1$
2$:    RTS   PC
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3436 032272
3437 032272 010346
3438 032274 010446
3439 032276 012703 010442
3440 032302 013704 010440
3441 032306 004737 032260
3442 032312 012604
3443 032314 012603
3444 032316 000207

```
*****  
: SUBROUTINE - CLRCV  
: THIS SUBROUTINE WILL CLEAR ALL LOCATIONS IN SOFTWARE BUFFER  
: 'RBUF'.  
: INPUT: NONE  
: OUTPUT: NONE  
: SUBSIDIARY ROUTINES: SUBROUTINE 'CLBYTE'  
: CALL: JSR PC,CLRCV  
*****
```

```
CLRCV: MOV R3,-(SP)  
MOV R4,-(SP)  
MOV #RBUF,R3  
MOV RBUF-2,R4  
JSR PC,CLBYTE  
MOV (SP)+,R4  
MOV (SP)+,R3  
RTS PC
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3469 032320
3470 032320 010446
3471 032322 017737 147700 002240
3472 032330 042737 173400 002240
3473 032336 113777 002241 147672
3474 032344 017704 147656
3475 032350 032704 004000
3476 032354 001407
3477 032356 010437 020516
3478 032362 017737 147642 020520
3479 032370 000261
3480 032372 000401
3481 032374 000241
3482 032376 012604
3483 032400 000207

```

*****
SUBROUTINE - CLR DNI
THIS SUBROUTINE PERFORMS A WRITE ONE TO CLEAR OPERATION ON
THE DNI BIT AND VERIFIES ITS SUCCESS.

INPUTS: NONE

OUTPUTS:      IF SUCCESSFUL ( DNI = 0 )
                THEN CARRY = 0

                IF UNSUCCESSFUL ( DNI = 1 )
                THEN CARRY = 1
                PCSRO -> EPCSRO
                PCSR1 -> EPCSR1

CALLING SEQUENCE:
                JSR      PC,CLR DNI
*****

```

```

CLR DNI:
MOV      R4, -(SP)           ; SAVE R4
MOV      @PCSRO, PCSROC     ; READ AND SAVE PCSRO DATA
BIC      #173400, PCSROC    ; MASK ALL UPPER BYTE EXCEPT DNI
MOVB     PCSROC+1, @PCSROUB ; CLEAR DNI
MOV      @PCSRO, R4         ; PCSRO -> R4
BIT      #DNI, R4           ; DNI = 0 ?
BEQ      10$,               ; YES
MOV      R4, EPCSRO        ; NO, PCSRO -> EPCSRO
MOV      @PCSR1, EPCSR1    ; PCSR1 -> EPCSR1
SEC      ; SET CARRY
BR       20$,
10$:    CLC                 ; CLEAR CARRY
20$:    MOV      (SP)+, R4   ; RESTORE R4
RTS     PC                 ; AND RETURN

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032402
032402 112777 000400 147616
032410 112777 000000 147610
032416 017737 147604 002240
032424 113777 002241 147604
000207

```
*****
SUBROUTINE - CLINTR
THIS SUBROUTINE CLEARS LOWER BYTE OF PCSRO (DISABLE INTERRUPTS),
THEN SAVES PCSRO DATA. IT THEN WRITES UPPER BYTE OF SAVED DATA
TO THE UPPER BYTE OF PCSRO IN ORDER TO CLEAR ANY INTERRUPT BITS
(WRITE 1 TO CLEAR), THAT HAVE BEEN PREVIOUSLY SET.

INPUTS: NONE

OUTPUTS: NONE

CALLING SEQUENCE:      JSR      PC,CLINTR
*****
```

```
CLINTR:
MOVW  #USCI,@PCSRO ;CLEAR LOWER BYTE
MOVW  #ZERO,@PCSRO ;MAY REQUIRE TWO WRITES
MOV   @PCSRO,PCSROC ;SAVE PCSRO DATA
MOVW  PCSROC+1,@PCSROUB ;CLEAR STATUS BITS IN PCSRO UPPER BYTE
RTS   PC
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032434
032434 010446
032436 112777 000040 147572
032444 017704 147556
032450 032704 020000
032454 001407
032456 010437 020516
032462 017737 147542 020520
032470 000261
032472 000401
032474 000241
032476 012604
032500 000207

```
*****
SUBROUTINE - CLRRXI
THIS SUBROUTINE PERFORMS A WRITE ONE TO CLEAR OPERATION ON
THE RXI BIT AND VERIFIES ITS SUCCESS.
INPUTS: NONE
OUTPUTS:      IF SUCCESSFUL ( RXI = 0 )
                THEN CARRY = 0
                IF UNSUCCESSFUL ( RXI = 1 )
                THEN CARRY = 1
                PCSRO -> EPCSRO
                PCSR1 -> EPCSR1
CALLING SEQUENCE:
JSR      PC,CLRRXI
*****
```

```
CLRRXI:
MOV      R4,-(SP)          ; SAVE R4
MOVB    #RXIB,@PCSROUB   ; WRITE ONE TO CLEAR RXI BIT
MOV     @PCSRO,R4        ; PCSRO -> R4
BIT     #RXI,R4          ; RXI = 0 ?
BEQ     10$              ; YES
MOV     R4,EPCSRO        ; NO, PCSRO -> EPCSRO
MOV     @PCSR1,EPCSR1    ; PCSR1 -> EPCSR1
SEC                    ; SET CARRY
BR      20$
10$:    CLC                ; CLEAR CARRY
20$:    MOV     (SP)+,R4   ; RESTORE R4
RTS     PC                ; AND RETURN
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3571 032502
3572 032502 010446
3573 032504 112777 000020 147524
3574 032512 017704 147510
3575 032516 032704 010000
3576 032522 001407
3577 032524 010437 020516
3578 032530 017737 147474 020520
3579 032536 000261
3580 032540 000401
3581 032542 000241
3582 032544 012604
3583 032546 000207

```

*****
SUBROUTINE CLRTXI

THIS SUBROUTINE PERFORMS A WRITE ONE TO CLEAR OPERATION ON
THE TXI BIT AND VERIFIES ITS SUCCESS.

INPUTS: NONE

OUTPUTS:      IF SUCCESSFUL ( TXI = 0 )
                THEN CARRY = 0

                IF UNSUCCESSFUL ( TXI = 1 )
                THEN CARRY = 1
                PCSRO -> EPCSRO
                PCSR1 -> EPCSR1

CALLING SEQUENCE:
                JSR      PC,CLRTXI
*****

```

```

CLRTXI:
MOV      R4, -(SP)           ; SAVE R4
MOVB    #TXIB,@PCSROUB     ; WRITE ONE TO CLEAR TXI BIT
MOV     @PCSRO,R4           ; PCSRO -> R4
BIT     #TXI,R4             ; TXI = 0 ?
BEQ     10$                 ; YES
MOV     R4,EPCSRO           ; NO, PCSRO -> EPCSRO
MOV     @PCSR1,EPCSR1      ; PCSR1 -> EPCSR1
SEC                                           ; SET CARRY
BR      20$

10$:    CLC                 ; CLEAR CARRY
20$:    MOV     (SP)+,R4    ; RESTORE R4
RTS     PC                 ; AND RETURN

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032550
032550 010346
032552 010446
032554 012703 004440
032560 013704 004436
032564 004737 032260
032570 012604
032572 012603
032574 000207

```
*****
SUBROUTINE - CLRXMT
THIS SUBROUTINE WILL CLEAR ALL LOCATIONS IN SOFTWARE BUFFER
'TBUF'.
INPUT: NONE
OUTPUT: NONE
SUBSIDIARY ROUTINES: SUBROUTINE CLBYTE
CALL: JSR PC,CLRXMT
*****
```

```
CLRXMT:
MOV R3,-(SP)
MOV R4,-(SP)
MOV #TBUF,R3
MOV TBUF-2,R4
JSR PC,CLBYTE
MOV (SP)+,R4
MOV (SP)+,R3
RTS PC
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```

*****
SUBROUTINE - CMPCRC
THIS SUBROUTINE COMPARES A CRC VALUE WITH
AN EXPECTED CRC VALUE.
INPUTS:      R5 = ADDRESS OF ACTUAL CRC VALUE RECEIVED.
INPLICIT INPUTS:
              XCRC = EXPECTED CRC VALUE
OUTPUTS:     IF SUCCESSFUL CRC COMPARE
              THEN CARRY = 0
              IF UNSUCCESSFUL CRC COMPARE
              THEN CARRY = 1
              EXPECTED CRC = XCRC
              ACTUAL CRC  -> ECRC
CALLING SEQUENCE:
              JSR    PC,CMPCRC
*****

```

```

3640 032576
3641 032576 010346
3642 032600 010446
3643 032602 012703 020576
3644 032606 010504
3645 032610 022324
3646 032612 001004
3647 032614 022324
3648 032616 001002
3649 032620 000241
3650 032622 000406
3651 032624 012703 020572
3652 032630 010504
3653 032632 012423
3654 032634 012423
3655 032636 000261
3656 032640 012604
3657 032642 012603
3658 032644 000207

```

```

CMPCRC:
MOV    R3,-(SP)      ; SAVE R3
MOV    R4,-(SP)      ; SAVE R4
MOV    #XCRC,R3      ; R3 POINTS TO EXPECTED CRC
MOV    R5,R4         ; R4 POINTS TO ACTUAL CRC
CMP    (R3)+,(R4)+   ; FIRST CRC WORD COMPARE ?
BNE    10$           ; NO
CMP    (R3)+,(R4)+   ; SECOND CRC WORD COMPARE ?
BNE    10$           ; NO
CLC                    ; YES, CLEAR CARRY
BR     20$
10$:  MOV    #ECRC,R3  ; POINT TO ERROR TABLE
      MOV    R5,R4     ; POINT TO ACTUAL DATA
      MOV    (R4)+,(R3)+ ; LOAD ECRC TABLE
      MOV    (R4)+,(R3)+
      SEC                    ; AND SET CARRY
20$:  MOV    (SP)+,R4   ; RESTORE R4
      MOV    (SP)+,R3   ; RESTORE R3
      RTS    PC        ; AND RETURN

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032646 010046
032650 010346
032652 010446
032654 010500
032656 012703 004456
032662 012704 010460
032666 022324
032670 001003
032672 005300
032674 001374
032676 000406
032700 014337 020570
032704 014437 020566
032710 000261
032712 000401
032714 000241
032716 012604
032720 012603
032722 012600
032724 000207

```
*****
SUBROUTINE - CMPDAT
THIS SUBROUTINE COMPARES THE RECEIVE BUFFER (RBUF) DATA FIELD
WITH THE TRANSMIT BUFFER (TBUF) DATA FIELD.
INPUTS:      R5 = NUMBER OF WORDS TO COMPARE
OUTPUTS:     IF SUCCESSFUL DATA COMPARE
              THEN CARRY = 0
              IF UNSUCCESSFUL DATA COMPARE
              THEN CARRY = 1
              EXPECTED DATA -> XDAT
              ACTUAL DATA  -> EDAT
CALLING SEQUENCE:
              JSR      PC,CMPDAT
*****
```

```
CMPDAT:
MOV      R0,-(SP)      ; SAVE R0
MOV      R3,-(SP)      ; SAVE R3
MOV      R4,-(SP)      ; SAVE R4
MOV      R5,R0         ; R0 = NUMBER OF WORDS TO COMPARE
MOV      #TBUF+14.,R3  ; R3 POINTS TO EXPECTED DATA
MOV      #RBUF+14.,R4  ; R4 POINTS TO ACTUAL DATA
10$:    CMP      (R3)+,(R4)+ ; DATA COMPARE ?
        BNE      20$      ; NO
        DEC      R0        ; YES, DONE ?
        BNE      10$      ; NO
        BR       30$      ; YES
20$:    MOV      -(R3),XDAT ; SAVE EXPECTED DATA
        MOV      -(R4),EDAT ; SAVE ACTUAL ERROR DATA
        SEC                ; SET CARRY
        BR       40$
30$:    CLC                ; CLEAR CARRY
40$:    MOV      (SP)+,R4   ; RESTORE R4
        MOV      (SP)+,R3   ; RESTORE R3
        MOV      (SP)+,R0   ; RESTORE R0
        RTS      PC        ; AND RETURN
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3729 032726 010046
3730 032730 010346
3731 032732 010446
3732 032734 010500
3733 032736 012703 004440
3734 032742 012704 010442
3735 032746 022324
3736 032750 001003
3737 032752 005300
3738 032754 001374
3739 032756 000406
3740 032760 014337 020570
3741 032764 014437 020566
3742 032770 000261
3743 032772 000401
3744 032774 000241
3745 032776 012604
3746 033000 012603
3747 033002 012600
3748 033004 000207
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```

*****
SUBROUTINE - CMPMEM

THIS SUBROUTINE COMPARES THE READ MEMORY BUFFER (RBUF)
WITH THE WRITE MEMORY BUFFER (TSUF).

INPUTS:      R5 = NUMBER OF WORDS TO COMPARE

OUTPUTS:     IF SUCCESSFUL DATA COMPARE
              THEN CARRY = 0

              IF UNSUCCESSFUL DATA COMPARE
              THEN CARRY = 1
              EXPECTED DATA -> XDAT
              ACTUAL DATA  -> EDAT

CALLING SEQUENCE:
JSR      PC,CMPMEM
*****

```

```

CMPMEM:
MOV      R0,-(SP)      ; SAVE R0
MOV      R3,-(SP)      ; SAVE R3
MOV      R4,-(SP)      ; SAVE R4
MOV      R5,R0         ; R0 = NUMBER OF WORDS TO COMPARE
MOV      #TBUF,R3      ; R3 POINTS TO EXPECTED DATA
MOV      #RBUF,R4      ; R4 POINTS TO ACTUAL DATA
10$:    CMP      (R3)+,(R4)+ ; DATA COMPARE ?
        BNE      20$      ; NO
        DEC      R0        ; YES, DONE ?
        BNE      10$      ; NO
        BR       30$      ; YES
20$:    MOV      -(R3),XDAT ; SAVE EXPECTED DATA
        MOV      -(R4),EDAT ; SAVE ACTUAL ERROR DATA
        SEC                ; SET CARRY
        BR       40$
30$:    CLC                ; CLEAR CARRY
40$:    MOV      (SP)+,R4   ; RESTORE R4
        MOV      (SP)+,R3   ; RESTORE R3
        MOV      (SP)+,R0   ; RESTORE R0
        RTS      PC        ; AND RETURN

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033006
033006 010437 020604
033012 004737 035272
033016 104422
033020 005737 020604
033024 001374
033026 004737 035256
033032 000207

```
*****
SUBROUTINE - DELAY
THIS SUBROUTINE WILL USE THE SYTEM CLOCK TO ENABLE A WAITING
PERIOD DETERMINED BY THE VALUE PASSED IN R4.
INPUT: R4 CONTAINS DELAY VALUE
OUTPUT: NONE
CALL:  MOV    #DELAY_VALUE,R4
      JSR    PC,DELAY
*****
```

```
DELAY:  MOV    R4,METER          ;GET DELAY VALUE
      JSR    PC,TIMON          ;START DELAY
1$:     BREAK                 ;VISIT DRS WHILE WAITING
      TST    METER              ;FINISHED?
      BNE    1$                 ;CONTINUE WAIT
      JSR    PC,TIMOFF         ;TURN OFF SYSTEM CLOCK
      RTS    PC                 ;RETURN TO CALLING ROUTINE
      TRAP   C$BRK
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033034 010146
033036 010246
033040 010546
033042 042705 177400
033046 074504
033050 013701 020616
033054 013702 020620
033060 012705 000010
033064
033064 000241
033066 006003
033070 006004
033072 103002
033074 074103
033076 074204
033100
033100 077507
033102 012605
033104 012602
033106 012601
033110 000207

```
*****
:
: SUBROUTINE - GETCRC
:
: THIS SUBROUTINE IS A BYTE WISE 32-BIT CRC CALCULATOR
:
: INPUTS: R5 CONTAINS NEW BYTE TO ADD TO CRC
:         R3,R4 CONTAIN CURRENT PARTIAL CRC CODE
:
: IMPLICIT INPUTS: POLYH = CRC FUNCTION POLYNOMIAL HIGH WORD
:                 POLYL = CRC FUNCTION POLYNOMIAL LOW WORD
:
: OUTPUTS: R3,R4 CONTAIN UPDATED CRC
:
: CALLING SEQUENCE:  MOVB (R1)+,R5 ;GET NEXT BYTE
:                   JSR PC,GETCRC ;CALCULATE CRC
:
:*****
```

```
GETCRC:
MOV R1,-(SP) ;SAVE R1
MOV R2,-(SP) ;SAVE R2
MOV R5,-(SP) ;SAVE R5
BIC #+C377,R5 ;CLEAR HIGH BYTE
XOR R5,R4 ;MERGE NEW BYTE WITH OLD CRC
MOV POLYH,R1 ;GET CRC POLYNOMIAL HIGH WORD
MOV POLYL,R2 ;GET CRC POLYNOMIAL LOW WORD
MOV #8.,R5 ;LOOP COUNT

1$:
CLC ;CLEAR THE CARRY
ROR R3 ;SHIFT RIGHT THE CRC
ROR R4 ;32 BITS WORTH
BCC 2$ ;SKIP IF BIT 0 NOT SET
XOR R1,R3 ;EXCLUSIVE OR IN THE POLY
XOR R2,R4 ;BOTH HIGH AND LOW WORDS

2$:
SOB R5,1$ ;AND LOOP ON ALL 8 BITS
MOV (SP)+,R5 ;RESTORE R5
MOV (SP)+,R2 ;RESTORE R2
MOV (SP)+,R1 ;RESTORE R1
RTS PC ;RETURN TO CALLING PROGRAM
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3844 033112 010046
3845 033114 010346
3846 033116 010546
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3848 033120 012700 000006
3849 033124 012703 103643
3850 033130 012705 103560
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3852 033134 112537 103576
3853 033140 004737 033174
3854 033144 113723 103577
3855 033150 004737 033232
3856 033154 113723 103577
3857 033160 105723
3858 033162 077014
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3860 033164 012605
3861 033166 012603
3862 033170 012600
3863 033172 000207

```
*****
:
: SUBROUTINE - HEXDPA
:
: THIS SUBROUTINE LOADS DEFADR WITH THE ASCII HEX VALUE
: FOR THE DEFAULT PHYSICAL ADDRESS DPA.
:
: INPUTS:          NONE
:
: IMPLICIT
: INPUTS:          DPA = DEFAULT PHYSICAL ADDRESS
:
: OUTPUTS:         DEFADR = ASCII HEX VALUE FOR DPA
:
: CALLING SEQUENCE:
:                JSR    PC,HEXDPA
*****
```

```
HEXDPA:
: MOV    R0,-(SP)      ; SAVE R0
: MOV    R3,-(SP)      ; SAVE R3
: MOV    R5,-(SP)      ; SAVE R5
:
: MOV    #6,R0         ; DO LOOP = 6 BYTES
: MOV    #DEFADR,R3    ; POINT TO ASCII MESSAGE
: MOV    #DPA,R5       ; POINT TO DEFAULT PHYSICAL ADDR
:
:10$:  MOVB  (R5)+,HEXDAT ; LOAD BYTE FOR CONVERSION
:      JSR  PC,HEXH     ; CONVERT HIGH NIBBLE
:      MOVB HEXVAL,(R3)+ ; LOAD INTO ASCII MESSAGE
:      JSR  PC,HEXL     ; CONVERT LOW NIBBLE
:      MOVB HEXVAL,(R3)+ ; LOAD INTO ASCII MESSAGE
:      TSTB (R3)+       ; SKIP OVER HYPHEN IN MESSAGE
:      SOB  R0,10$     ; LOOP TILL ALL 6 BYTES ARE DONE
:
: MOV    (SP)+,R5      ; RESTORE R5
: MOV    (SP)+,R3      ; RESTORE R3
: MOV    (SP)+,R0      ; RESTORE R0
: RTS    PC            ; AND RETURN
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3885 033174
3886 033174 010146
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3888 033176 013701 103576
3889 033202 042701 177417
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3891 033206 006201
3892 033210 006201
3893 033212 006201
3894 033214 006201
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3896 033216 062701 103667
3897 033222 111137 103577
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3899 033226 012601
3900 033230 000207

```
*****
:
: SUBROUTINE - HEXH
:
: THIS SUBROUTINE LOADS HEXVAL WITH THE ASCII HEX VALUE
: FOR THE HIGH NIBBLE IN HEXDAT
:
: INPUTS:          NONE
:
: IMPLICIT
: INPUTS:          HEXDAT = BYTE TO BE CONVERTED
:
: OUTPUTS:         HEXVAL = ASCII HEX VALUE FOR THE HIGH NIBBLE
:
: CALLING SEQUENCE:
:                   JSR      PC,HEXH
:
: *****
```

```
HEXH:
: MOV      R1,-(SP)          ; SAVE R1
:
: MOV      HEXDAT,R1        ; LOAD DATA FOR CONVERSION
: BIC      #177417,R1       ; MASK HIGH NIBBLE
:
: ASR      R1                ; SHIFT RIGHT
: ASR      R1
: ASR      R1
: ASR      R1
:
: ADD      #HEXTBL,R1        ; GET INDEX INTO HEXTBL
: MOV8     (R1),HEXVAL       ; AND LOAD HEXVAL
:
: MOV      (SP)+,R1         ; RESTORE R1
: RTS      PC                ; AND RETURN
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033232
033232 010146
033234 013701 103576
033240 042701 177760
033244 062701 103667
033250 111137 103577
033254 012601
033256 000207

```
*****
SUBROUTINE - HEXL
THIS SUBROUTINE LOADS HEXVAL WITH THE ASCII HEX VALUE
FOR THE LOW NIBBLE IN HEXDAT
INPUTS:          NONE
IMPLICIT
INPUTS:          HEXDAT = BYTE TO BE CONVERTED
OUTPUTS:         HEXVAL = ASCII HEX VALUE FOR THE LOW NIBBLE
CALLING SEQUENCE:
                  JSR      PC,HEXL
*****
```

```
HEXL:  MOV      R1,-(SP)          ; SAVE R1
;
;      MOV      HEXDAT,R1       ; LOAD DATA FOR CONVERSION
;      BIC      #177760,R1      ; MASK LOW NIBBLE
;
;      ADD      #HEXTBL,R1      ; GET INDEX INTO HEXTBL
;      MOVB     (R1),HEXVAL     ; AND LOAD HEXVAL
;
;      MOV      (SP)+,R1        ; RESTORE R1
;      RTS      PC              ; AND RETURN
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:*****
:
: SUBROUTINE - LDBUF
:
: THIS SUBROUTINE LOADS TBUF WITH AN ADDRESS DATA PATTERN
: STARTING WITH THE ADDRESS POINTED TO BY R5
:
: INPUTS:          R5 = ADDRESS OF SPECIFIED DATA ADDRESS
:
: OUTPUTS:         TBUF = ADDRESS DATA PATTERN
:
: CALLING SEQUENCE:
: JSR      PC,LDBUF
:*****

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033260 010146
033262 010346
033264 010446
033266 012701 002000
033272 011504
033274 012703 004440
033300 010423
033302 062704 000002
033306 005301
033310 001373
033312 012604
033314 012603
033316 012601
033320 000207

```

```

LDBUF:
MOV      R1,-(SP)      ; SAVE R1
MOV      R3,-(SP)      ; SAVE R3
MOV      R4,-(SP)      ; SAVE R4
MOV      #1024.,R1     ; DO 1024. WORDS
MOV      (R5),R4       ; R4 = STARTING DATA ADDRESS
MOV      #TBUF,R3      ; R3 POINTS TO TBUF
10$:    MOV      R4,(R3)+ ; LOAD TBUF
ADD      #2,R4         ; ADD 2 TO DATA
DEC      R1            ; DONE 1K BLOCK ?
BNE      10$          ; NO
MOV      (SP)+,R4      ; RESTORE R4
MOV      (SP)+,R3      ; RESTORE R3
MOV      (SP)+,R1      ; RESTORE R1
RTS      PC           ; AND RETURN

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3986 033324 010246
3987 033326 010346
3988 033330 010446
3989 033332 012701 002000
3990 033336 011504
3991 033340 012703 004440
3992 033344 010402
3993 033346 005102
3994 033350 010223
3995 033352 062704 000002
3996 033356 005301
3997 033360 001371
3998 033362 012604
3999 033364 012603
4000 033366 012602
4001 033370 012601
4002 033372 000207

```
*****
:
: SUBROUTINE - LDBUFC
:
: THIS SUBROUTINE LOADS TBUF WITH THE COMPLIMENT OF AN
: ADDRESS DATA PATTERN STARTING WITH THE ADDRESS SPECIFIED BY R5
:
: INPUTS: R5 = ADDRESS OF SPECIFIED DATA ADDRESS
:
: OUTPUTS: TBUF = COMPLIMENTED ADDRESS DATA PATTERN
:
: CALLING SEQUENCE:
: JSR PC,LDBUFC
:
*****
```

```
LDBUFC:
MOV R1,-(SP) ; SAVE R1
MOV R2,-(SP) ; SAVE R2
MOV R3,-(SP) ; SAVE R3
MOV R4,-(SP) ; SAVE R4
MOV #1024,R1 ; DO 1024. WORDS
MOV (R5),R4 ; R4 = STARTING DATA ADDRESS
MOV #TBUF,R3 ; R3 POINTS TO TBUF
10$: MOV R4,R2
COM R2 ; COMPLIMENT DATA
MOV R2,(R3)+ ; LOAD TBUF
ADD #2,R4 ; ADD 2 TO DATA
DEC R1 ; DONE 1K BLOCK?
BNE 10$ ; NO
MOV (SP)+,R4 ; RESTORE R4
MOV (SP)+,R3 ; RESTORE R3
MOV (SP)+,R2 ; RESTORE R2
MOV (SP)+,R1 ; RESTORE R1
RTS PC ; AND RETURN
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4038 033374
4039 033374 010046
4040 033376 010146
4041 033400 010246
4042 033402 010346
4043 033404 010446
4044 033406 010546
4045
4046
4047
4048
4049 033410 012705 002260
4050 033414 012701 004440
4051 033420 012521
4052 033422 012521
4053 033424 011521
4054
4055
4056
4057 033426 012705 002266
4058 033432 012521
4059 033434 012521
4060 033436 011521

```

*****
SUBROUTINE - LDBUFR    (USED IN ADDRESS TESTS)

THIS ROUTINE SETS UP THE TRANSMIT AND RECEIVE BUFFERS. THE
NUMBER OF BYTES IN A PACKET IS DETERMINED BY THE CONTENTS
PASSED IN 'BYTCNT'. IN ANY CASE, A PACKET LENGTH WILL BE NO
MORE THAN 32 BYTES, OR 36 INCLUDING CRC IF 'DOCRC' SET.

A. LOAD TRANSMIT BUFFER TBUF (DEST. ADDR, SOURCE ADDR, TYPE, DATA)
B. APPEND CRC IF 'DOCRC' FLAG SET

INPUTS:      DOCRC = 0 THEN NO CRC
              1 THEN CALCULATE CRC AND APPEND
              BYTCNT = # OF DATA BYTES IN PACKET

IMPLICIT INPUTS:
              DEST: = DESTINATION ADDRESS

OUTPUTS:
              TBUF IS SET UP FOR TRANSMIT

PARAMETERS MODIFIED: 'DOCRC' WILL ALWAYS BE CLEARED ON EXIT

CALLING SEQUENCE:
              INSURE 'DOCRC' FLAG CONTAINS CORRECT DATA

              MOV     #X,R3           ;CRC LOW WORD
              MOV     #Y,R4           ;CRC HIGH WORD
              MOV     #Z,BYTCNT       ;NUMBER OF BYTES THIS PACKET
              JSR     PC,LDBUFR
*****

```

```

LDBUFR:
MOV     R0,-(SP)           ; SAVE R0
MOV     R1,-(SP)           ; SAVE R1
MOV     R2,-(SP)           ; SAVE R2
MOV     R3,-(SP)           ; SAVE R3
MOV     R4,-(SP)           ; SAVE R4
MOV     R5,-(SP)           ; SAVE R5

;SET UP TRANSMIT BUFFER TBUF
;LOAD DESTINATION ADDRESS

MOV     #DEST,R5           ; POINT TO DESTINATION ADDRESS
MOV     #TBUF,R1           ; POINT TO TBUF
MOV     (R5)+,(R1)+       ; LOAD DESTINATION ADDRESS
MOV     (R5)+,(R1)+
MOV     (R5),(R1)+

;LOAD SOURCE ADDRESS

MOV     #SRC,R5           ; LOAD FOR LATER COMPARISON
MOV     (R5)+,(R1)+
MOV     (R5)+,(R1)+
MOV     (R5),(R1)+

```

```

4061
4062
4063
4064 033440 012721 000005
4065
4066
4067
4068 033444 013700 020562
4069 033450 012705 020630
4070 033454 012521
4071 033456 005300
4072 033460 002375
4073
4074
4075
4076 033462 010146
4077 033464 010246
4078 033466 013702 020562
4079 033472 006302
4080 033474 062702 000020
4081 033500 012701 004440
4082 033504 012703 177777
4083 033510 012704 177777
4084 033514 004737 030644
4085 033520 012602
4086 033522 012601
4087
4088
4089
4090 033524 005737 020564
4091 033530 001402
4092 033532 010421
4093 033534 010321
4094
4095
4096 033536
4097 033536 005037 020564
4098
4099 033542 012605
4100 033544 012604
4101 033546 012603
4102 033550 012602
4103 033552 012601
4104 033554 012600
4105 033556 000207
4106

```

```

;SET TYPE FIELD
MOV #5,(R1)+ ; ENTER DIAGNOSTIC ID IN TYPE FIELD
;LOAD DATA FIELD (LENGTH DEPENDENT ON CONTENTS OF 'BYTCNT')
MOV BYTCNT,R0 ; BYTE COUNT
MOV #PATRN1,R5 ; POINT TO DATA PATTERN
20$: MOV (R5)+,(R1)+ ; LOAD DATA PATTERN
DEC R0 ; DONE ?
BGE 20$ ; NO
;CALCULATE CRC AND SAVE IN 'XCRC'
MOV R1,-(SP) ; SAVE R1
MOV R2,-(SP) ; SAVE R2
MOV BYTCNT,R2 ; GET DATA BYTE COUNT
ASL R2 ; ALIGN
ADD #16.,R2 ; ADD HEADER
MOV #TBUF,R1 ; BASE ADDR OF TRANSMIT BUFFER
MOV #-1,R3 ; INIT CRC
MOV #-1,R4 ; INIT CRC
JSR PC,BLKCRC ; CALCULATE AND SAVE CRC
MOV (SP)+,R2 ; RESTORE R2
MOV (SP)+,R1 ; RESTORE R1
;IF CRC FLAG SET, APPEND CRC, THEN SAVE EXPECTED CRC IN 'XCRC' TABLE
TST D0CRC ; APPEND CRC?
BEQ 30$ ; NO, SKIP APPENDING CRC
MOV R4,(R1)+ ; APPEND CRC LOW WORD
MOV R3,(R1)+ ; APPEND CRC HIGH WORD
30$: CLR D0CRC ;INSURE CRC FLAG IS CLEARED
MOV (SP)+,R5 ; RESTORE R5
MOV (SP)+,R4 ; RESTORE R4
MOV (SP)+,R3 ; RESTORE R3
MOV (SP)+,R2 ; RESTORE R2
MOV (SP)+,R1 ; RESTORE R1
MOV (SP)+,R0 ; RESTORE R0
RTS PC ; AND RESTORE

```

4108
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4119
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4121
4122
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4124
4125 033560
4126 033560 010346
4127 033562 010446
4128 033564 010504
4129 033566 012703 002260
4130 033572 012423
4131 033574 012423
4132 033576 012423
4133 033600 012604
4134 033602 012603
4135 033604 000207

```
*****
:
: SUBROUTINE - LDDEST
:
: THIS SUBROUTINE LOADS A SPECIFIED DESTINATION ADDRESS
: INTO DEST: .
:
: INPUTS: R5 = ADDRESS OF SPECIFIED DESTINATION ADDRESS
:
: OUTPUTS: DEST = SPECIFIED DESTINATION ADDRESS
:
: CALLING SEQUENCE:
: JSR PC,LDDEST
*****
```

```
LDDEST: MOV R3,-(SP) ; SAVE R3
MOV R4,-(SP) ; SAVE R4
MOV R5,R4 ; R4 POINTS TO DESTINATION ADDRESS
MOV #DEST,R3 ; R3 POINTS TO DEST:
MOV (R4)+,(R3)+ ; LOAD DEST:
MOV (R4)+,(R3)+
MOV (R4)+,(R3)+
MOV (SP)+,R4 ; RESTORE R4
MOV (SP)+,R3 ; RESTORE R3
RTS PC ; AND RETURN
```

4137
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4157 033606
4158 033606 010046
4159 033610 010146
4160 033612 010446
4161 033614 010546
4162
4163 033616 012700 002274
4164 033622 012704 002266
4165 033626 012705 002260
4166 033632 012701 000003
4167 033636
4168 033636 011024
4169 033640 012025
4170 033642 077103
4171
4172 033644 012605
4173 033646 012604
4174 033650 012601
4175 033652 012600
4176
4177 033654 000207
4178

```
*****
:
: SUBROUTINE - LDDFLT
:
: THIS SUBROUTINE WILL LOAD THE DEFAULT PHYSICAL ADDRESS
: (TABLE 'DFAULT') INTO BOTH TABLES 'SRC' AND 'DEST'.
:
: INPUTS - NONE
:
: IMPLICIT INPUTS - TABLE 'DFAULT' CONTAINS DEFAULT PHYSICAL ADDR.
:
: OUTPUTS - NONE
:
: PARAMETERS MODIFIED - TABLES 'SRC' AND 'DEST' WILL BE MODIFIED
:
: CALLING SEQUENCE - JSR PC,LDDFLT ;GET DEFAULT ADDRESS DATA
:
:*****
```

```
LDDFLT:
      MOV     R0,-(SP)           ; SAVE R0
      MOV     R1,-(SP)           ; SAVE R1
      MOV     R4,-(SP)           ; SAVE R4
      MOV     R5,-(SP)           ; SAVE R5
      MOV     #DFAULT,R0        ; BASE ADDRESS OF DEFAULT ADDRESS
      MOV     #SRC,R4           ; BASE ADDRESS OF SOURCE ADDRESS
      MOV     #DEST,R5          ; BASE ADDRESS OF DEST. ADDRESS
      MOV     #3,R1             ; INIT COUNTER
1$:
      MOV     (R0),(R4)+        ; LOAD ADDRESS
      MOV     (R0)+,(R5)+      ; IN EACH TABLE
      SOB     R1,1$            ; UNTIL DONE
      MOV     (SP)+,R5          ; RESTORE R5
      MOV     (SP)+,R4          ; RESTORE R4
      MOV     (SP)+,R1          ; RESTORE R1
      MOV     (SP)+,R0          ; RESTORE R0
      RTS     PC
```

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4196 033656
4197 033656 010346
4198 033660 010446
4199 033662 012703 002302
4200 033666 010504
4201 033670 012423
4202 033672 012423
4203 033674 012423
4204 033676 012423
4205 033700 012604
4206 033702 012603
4207 033704 000207

```
*****
:
: SUBROUTINE - LDPCBB
:
: THIS SUBROUTINE MOVES A SELECTED DEFAULT
: PORT CONTROL FUNCTION INTO PCBB.
:
: INPUTS:          R5 = ADDRESS OF DEFAULT PORT CONTROL FUNCTION
:
: OUTPUTS:         PCBB = SELECTED DEFAULT PORT FUNCTION
:
: CALLING SEQUENCE:
:                   JSR      PC,LDPCBB
:
: *****
```

```
LDPCBB:
MOV      R3,-(SP)          ; SAVE R3
MOV      R4,-(SP)          ; SAVE R4
MOV      #PCBB,R3         ; ADDRESS OF PCBB -> R3
MOV      R5,R4            ; R4 = ADDRESS OF DEFAULT FUNCTION
MOV      (R4)+,(R3)+      ; LOAD PCBB+0
MOV      (R4)+,(R3)+      ; LOAD PCBB+2
MOV      (R4)+,(R3)+      ; LOAD PCBB+4
MOV      (R4)+,(R3)+      ; LOAD PCBB+6
MOV      (SP)+,R4         ; RESTORE R4
MOV      (SP)+,R3         ; RESTORE R3
RTS      PC                ; AND RETURN
```

4209
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4225

```

*****
:
: SUBROUTINE LDPCSR
:
: THIS ROUTINE MOVES THE ADDRESS OF PCBB
: INTO PCSR2 AND PCSR3.
:
: INPUTS: NONE
:
: OUTPUTS: PCSR2 AND PCSR3 = ADDRESS OF PCBB
:
: CALLING SEQUENCE:
: JSR PC,LDPCSR
*****

```

```

4226 033706
4227 033706 012777 002302 146316
4228 033714 012777 000000 146312
4229 033722 000207

```

```

LDPCSR:
MOV #PCBB,@PCSR2 ; ADDRESS OF PCBB -> PCSR2
MOV #ZERO,@PCSR3 ; CLEAR PCSR3
RTS PC ; AND RETURN

```


4231
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4255
4256
4257
4258
4259
4260

033724
033724 010046
033726 012700 014504
033732 012520
033734 012520
033736 012520
033740 012600
033742 000207

```
*****  
: SUBROUTINE - LDPHYA  
: THIS SUBROUTINE WILL MODIFY THE DEFAULT PHYSICAL ADDRESS  
: TABLE AS DETERMINED BY THE DATA IN THE TABLE WHOSE BASE  
: ADDRESS IS PASSED TO THIS ROUTINE.  
: INPUT - R5 - CONTAINS BASE ADDRESS OF TABLE OF NEW ADDRESSES  
: OUTPUT - NONE  
: PARAMETERS MODIFIED - TABLE 'WTPHYA' MAY BE MODIFIED  
: SUBROUTINE CALL - MOV #PC,R5 ;GET BASE ADDR. OF NEW ADDR.TABLE  
: JSR PC,LDPHYA ;MODIFY TABLE 'WTPHYA'  
*****
```

```
LDPHYA: MOV R0,-(SP) ;SAVE R0  
MOV #WTPHYA+2,R0 ;POINT TO 2ND ENTRY IN TABLE  
MOV (R5)+,(R0)+ ;LOAD  
MOV (R5)+,(R0)+ ; NEW  
MOV (R5)+,(R0)+ ; ADDRESS  
MOV (SP)+,R0 ;RESTORE R0  
RTS PC
```

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4264
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4278 033744
4279 033744 010046
4280 033746 010346
4281 033750 010446
4282 033752 012700 000020
4283 033756 012703 002662
4284 033762 010504
4285 033764 012423
4286 033766 005300
4287 033770 001375
4288 033772 012604
4289 033774 012603
4290 033776 012600
4291 034000 000207
4292

```
*****  
: SUBROUTINE - LDRDRB  
: THIS SUBROUTINE MOVES A SELECTED DEFAULT  
: RECEIVE DESCRIPTOR RING INTO RDRB.  
: INPUTS: R5 = ADDRESS OF DATA TO BE MOVED INTO RDRB  
: OUTPUTS: RDRB = SELECTED DEFAULT RECEIVE DESCRIPTOR RING  
: CALLING SEQUENCE:  
: JSR PC,LDRDRB  
*****
```

```
LDRDRB: MOV R0,-(SP) ; SAVE R0  
MOV R3,-(SP) ; SAVE R3  
MOV R4,-(SP) ; SAVE R4  
MOV #16,R0 ; LOAD 16 WORDS  
MOV #RDRB,R3 ; ADDRESS OF RDRB -> R3  
MOV R5,R4 ; R4 = ADDRESS OF DEFAULT RDRB  
10$: MOV (R4)+,(R3)+ ; LOAD WORD INTO RDRB  
DEC R0 ; DONE ?  
BNE 10$ ; NO, KEEP ON LOADING RDRB  
MOV (SP)+,R4 ; YES, RESTORE R4  
MOV (SP)+,R3 ; RESTORE R3  
MOV (SP)+,R0 ; RESTORE R0  
RTS PC ; AND RETURN
```

4294
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4300
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4308
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4310 034002
4311 034002 010046
4312 034004 010346
4313 034006 010446
4314 034010 012700 000304
4315 034014 012703 003626
4316 034020 010504
4317 034022
4318 034022 012423
4319 034024 005300
4320 034026 001375
4321 034030 012604
4322 034032 012603
4323 034034 012600
4324 034036 000207
4325

```
*****
:
: SUBROUTINE - LDRDRX
:
: THIS SUBROUTINE MOVES A SELECTED DEFAULT RECEIVE
: DESCRIPTOR RING INTO RDRBX.
:
: INPUTS: R5 = ADDRESS OF DATA TO BE MOVED INTO RDRBX
:
: OUTPUTS: DRRBX = SELECTED DEFAULT RECEIVE DESCR. RING
:
: CALLING SEQUENCE:
: JSR PC,LDRDRX
:
*****
```

```
LDRDRX:
MOV R0,-(SP) ; SAVE R0
MOV R3,-(SP) ; SAVE R3
MOV R4,-(SP) ; SAVE R4
MOV #196,R0 ; LOAD 196 WORDS (49 ENTRIES)
MOV #RDRX,R3 ; BASE ADDRESS OF RDRBX --> R3
MOV R5,R4 ; BASE ADDRESS OF DATA --> R4

10$:
MOV (R4)+,(R3)+ ; LOAD WORD INTO RDRBX
DEC R0 ; DONE?
BNE 10$ ; NO, KEEP ON LOADING
MOV (SP)+,R4 ; YES, RESTORE R4
MOV (SP)+,R3 ; RESTORE R3
MOV (SP)+,R0 ; RESTORE R0
RTS PC ; AND RETURN
```

4327
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4343 034040
4344 034040 010046
4345 034042 010346
4346 034044 010446
4347 034046 012700 000020
4348 034052 012703 002622
4349 034056 010504
4350 034060 012423
4351 034062 005300
4352 034064 001375
4353 034066 012604
4354 034070 012603
4355 034072 012600
4356 034074 000207

```
*****
:
:      SUBROUTINE - LDTDRB
:
:      THIS SUBROUTINE MOVES A SELECTED DEFAULT
:      TRANSMIT DESCRIPTOR RING INTO TDRB.
:
:      INPUTS:          R5 = ADDRESS OF DATA TO BE MOVED INTO TDRB
:
:      OUTPUTS:        TDRB = SELECTED DEFAULT TRANSMIT DESCRIPTOR RING
:
:      CALLING SEQUENCE:
:                      JSR      PC,LDTDRB
:
:*****
```

```
LDTDRB:
      MOV      R0,-(SP)          ; SAVE R0
      MOV      R3,-(SP)          ; SAVE R3
      MOV      R4,-(SP)          ; SAVE R4
      MOV      #16,R0            ; LOAD 16 WORDS
      MOV      #TDRB,R3         ; ADDRESS OF TDRB -> R3
      MOV      R5,R4            ; R4 = ADDRESS OF DEFAULT TDRB
10$:   MOV      (R4)+,(R3)+      ; LOAD WORD INTO TDRB
      DEC      R0                ; DONE ?
      BNE     10$                ; NO, KEEP ON LOADING TDRB
      MOV      (SP)+,R4          ; YES, RESTORE R4
      MOV      (SP)+,R3          ; RESTORE R3
      MOV      (SP)+,R0          ; RESTORE R0
      RTS      PC                ; AND RETURN
```

4358
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4360
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4374

```

*****
:
: SUBROUTINE - LDTDRX
:
: THIS SUBROUTINE MOVES A SELECTED DEFAULT
: TRANSMIT DESCRIPTOR RING INTO TDRX.
:
: INPUTS: R5 = ADDRESS OF DATA TO BE MOVED INTO TDRX
:
: OUTPUTS: TDRX = SELECTED DEFAULT TRANSMIT DESCRIPTOR RING
:
: CALLING SEQUENCE:
: JSR PC,LDTDRX
*****

```

```

4375 034076
4376 034076 010046
4377 034100 010346
4378 034102 010446
4379 034104 012700 000304
4380 034110 012703 003016
4381 034114 010504
4382 034116 012423
4383 034120 005300
4384 034122 001375
4385 034124 012604
4386 034126 012603
4387 034130 012600
4388 034132 000207

```

```

LDTDRX:
MOV R0,-(SP) ; SAVE R0
MOV R3,-(SP) ; SAVE R3
MOV R4,-(SP) ; SAVE R4
MOV #196,R0 ; LOAD 196 WORDS (49 ENTRIES)
MOV #TDRX,R3 ; ADDRESS OF TDRX -> R3
MOV R5,R4 ; R4 = ADDRESS OF DEFAULT TDRB
10$: MOV (R4)+,(R3)+ ; LOAD WORD INTO TDRB
DEC R0 ; DONE ?
BNE 10$ ; NO, KEEP ON LOADING TDRB
MOV (SP)+,R4 ; YES, RESTORE R4
MOV (SP)+,R3 ; RESTORE R3
MOV (SP)+,R0 ; RESTORE R0
RTS PC ; AND RETURN

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4406
4407

4408 034134
4409 034134 010146
4410 034136 010346
4411 034140 010446
4412 034142 010001
4413 034144 012703 002312
4414 034150 010504
4415 034152 012423
4416 034154 005301
4417 034156 001375
4418 034160 012604
4419 034162 012603
4420 034164 012601
4421 034166 000207

```
*****
:
: SUBROUTINE - LDUDBB
:
: THIS ROUTINE MOVES A SELECTED DEFAULT
: DATA STRUCTURE INTO UDBB.
:
: INPUTS:          R5 = ADDRESS OF DATA TO BE MOVED INTO UDBB
:                  R0 = NUMBER OF WORDS TO BE MOVED
:
: OUTPUTS:         UDBB = SELECTED DEFAULT DATA STRUCTURE
:
: CALLING SEQUENCE:
:                  JSR      PC,LDUDBB
:
:*****
```

```
LDUDBB:
        MOV      R1,-(SP)          ; SAVE R1
        MOV      R3,-(SP)          ; SAVE R3
        MOV      R4,-(SP)          ; SAVE R4
        MOV      R0,R1             ; R1= NUMBER OF WORDS TO BE MOVED
        MOV      #UDBB,R3         ; ADDRESS OF UDBB -> R3
        MOV      R5,R4             ; R4= ADDRESS OF DATA TO BE MOVED
10$:    MOV      (R4)+,(R3)+       ; LOAD WORD INTO UDBB
        DEC      R1                ; DONE ?
        BNE     10$               ; NO, KEEP ON LOADING
        MOV      (SP)+,R4         ; YES, RESTORE R4
        MOV      (SP)+,R3         ; RESTORE R3
        MOV      (SP)+,R1         ; RESTORE R1
        RTS      PC               ; AND RETURN
```

4423
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4440

```

*****
:
: NOTE: MAY BE ABLE TO DELETE THIS FROM FINAL PRODUCT
:
: SUBROUTINE - LDXCRC
:
: THIS SUBROUTINE LOADS XCRC WITH EXPECTED CRC DATA.
:
: INPUTS:          R5 = ADDRESS OF EXPECTED DATA
:
: OUTPUTS:         XCRC TABLE = EXPECTED CRC DATA
:
: CALLING SEQUENCE:
:                   JSR      PC,LDXCRC
*****

```

```

4441 034170
4442 034170 010346
4443 034172 010446
4444 034174 012704 020576
4445 034200 010503
4446 034202 012324
4447 034204 012324
4448 034206 012604
4449 034210 012603
4450 034212 000207

```

```

LDXCRC:
MOV      R3,-(SP)          ; SAVE R3
MOV      R4,-(SP)          ; SAVE R4
MOV      @XCRC,R4         ; R4 POINTS TO XCRC
MOV      R5,R3            ; R3 POINTS TO DATA
MOV      (R3)+,(R4)+      ; LOAD XCRC TABLE
MOV      (R3)+,(R4)+
MOV      (SP)+,R4         ; RESTORE R4
MOV      (SP)+,R3         ; RESTORE R3
RTS      PC               ; AND RETURN

```

K10

4452
4453
4454
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4467

4468 034214
4469 034214 010346
4470 034216 010446
4471 034220 012704 020532
4472 034224 010503
4473 034226 012324
4474 034230 012324
4475 034232 012324
4476 034234 012324
4477 034236 012604
4478 034240 012603
4479 034242 000207

```
*****
:
: SUBROUTINE LDXRDR
:
: THIS SUBROUTINE LOADS XRDRBO WITH EXPECTED RDRB DATA.
:
: INPUTS: R5 = ADDRESS OF EXPECTED DATA
:
: OUTPUTS: XRDRBO TABLE = EXPECTED RDRB DATA
:
: CALLING SEQUENCE:
: JSR PC,LDXRDR
:
: *****
```

```
LDXRDR:
MOV R3,-(SP) ; SAVE R3
MOV R4,-(SP) ; SAVE R4
MOV #XRDRBO,R4 ; R4 POINTS TO XRDRBO
MOV R5,R3 ; R3 POINTS TO DATA
MOV (R3)+,(R4)+ ; LOAD XRDRBO TABLE
MOV (R3)+,(R4)+
MOV (R3)+,(R4)+
MOV (R3)+,(R4)+
MOV (SP)+,R4 ; RESTORE R4
MOV (SP)+,R3 ; RESTORE R3
RTS PC ; AND RETURN
```


L10

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4498 034244 010346
4499 034246 010446
4500 034250 012700 000004
4501 034254 012704 020552
4502 034260 010503
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4504 034262 012324
4505 034264 005300
4506 034266 001375
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4508 034270 012604
4509 034272 012603
4510 034274 000207

```
*****  
: SUBROUTINE LDXTDR  
: THIS SUBROUTINE LOADS XTDRBO WITH EXPECTED TDRB DATA.  
: INPUTS: R5 = ADDRESS OF EXPECTED DATA  
: OUTPUTS: XTDRBO TABLE = EXPECTED TDRB DATA  
: CALLING SEQUENCE:  
: JSR PC,LDXTDR  
: *****
```

```
LDXTDR: MOV R3,-(SP) ; SAVE R3  
MOV R4,-(SP) ; SAVE R4  
MOV #4,R0 ; LOOP COUNT  
MOV #XTDRBO,R4 ; R4 POINTS TO XTDRBO  
MOV R5,R3 ; R3 POINTS TO DATA  
10$: MOV (R3)+,(R4)+ ; LOAD XTDRBO TABLE  
DEC R0 ; REDUCE LOOP COUNT  
BNE 10$ ; LOOP AGAIN IF NOT COMPLETED  
MOV (SP)+,R4 ; RESTORE R4  
MOV (SP)+,R3 ; RESTORE R3  
RTS PC ; AND RETURN
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034276 010446
034300 017704 145722
034304 032704 020000
034310 001407
034312 010437 020516
034316 017737 145706 020520
034324 000261
034326 000401
034330 000241
034332 012604
034334 000207

```
*****
SUBROUTINE  NORXI
THIS SUBROUTINE VERIFIES THE RXI BIT IS NOT SET.
INPUTS:  NONE
OUTPUTS:  IF RXI NOT SET ( RXI = 0 )
           THEN CARRY = 0
           IF RXI IS SET ( RXI = 1 )
           THEN CARRY = 1
           PCSRO -> EPCSRO
           PCSR1 > EPCSR1
CALLING SEQUENCE:
JSR      PC,NORXI
*****
```

```
NORXI:
MOV      R4,-(SP)           ; SAVE R4
MOV      @PCSRO,R4         ; PCSRO -> R4
BIT      @RXI,R4           ; RXI = 0 ?
BEQ      10$               ; YES
MOV      R4,EPCSRO        ; NO, PCSRO -> EPCSRO
MOV      @PCSR1,EPCSR1    ; PCSR1 -> EPCSR1
SEC                     ; SET CARRY
BR       20$
10$:    CLC                 ; CLEAR CARRY
20$:    MOV      (SP)+,R4   ; RESTORE R4
RTS     PC                 ; AND RETURN
```

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 4567 034336
 4568 034336 010046
 4569 034340 010146
 4570 034342 010246
 4571 034344 010546
 4572
 4573 034346 012701 010442
 4574 034352 013702 020562
 4575 034356 012700 020576
 4576 034362 012003
 4577 034364 011004
 4578 034366
 4579 034366 112105
 4580 034370 004737 033034
 4581 034374 077204
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 4583 034376 012700 020576
 4584 034402 010320
 4585 034404 010410
 4586
 4587 034406 012605
 4588 034410 012602
 4589 034412 012601
 4590 034414 012600
 4591
 4592 034416 000207
 4593
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```

*****
SUBROUTINE - ROMCRC (Used specifically in Read Int.ROM Test)

This subroutine calculates a 16 bit CRC on a block of data.
Used explicitly for ROM CRC calculation.

IMPLICIT
INPUTS:      RBUF = BASE ADDRESS OF DATA BLOCK
             BYTCNT = DATA BLOCK BYTE COUNT

OUTPUTS:    R4,R3 = CRC
             XCRC = BASE ADDRESS OF CRC STORAGE TABLE,
                 CONTAINING UPDATED DATA FROM R4,R3

CALLING SEQUENCE:
             JSR      PC,ROMCRC      ;GO CALCULATE CRC
*****
    
```

```

ROMCRC:
MOV     R0,-(SP)      ; SAVE R0
MOV     R1,-(SP)      ; SAVE R1
MOV     R2,-(SP)      ; SAVE R2
MOV     R5,-(SP)      ; SAVE R5

MOV     #RBUF,R1      ; GET BASE ADDRESS OF DATA BLOCK
MOV     BYTCNT,R2     ; GET DATA BLOCK BYTE COUNT
MOV     #XCRC,R0      ; GET BASE ADDRESS OF INITIAL CRC
MOV     (R0)+,R3      ; LOAD INITIAL
MOV     (R0),R4       ; CRC

1$:
MOVB   (R1)+,R5      ; GET NEXT CHARACTER
JSR    PC,GETCRC     ; CALCULATE CRC
SOB    R2,1$        ; DO NEXT CHARACTER IF NOT FINISHED

MOV     #XCRC,R0      ; POINT TO BASE STORAGE ADDRESS
MOV     R3,(R0)+     ; UPDATE 1ST WORD
MOV     R4,(R0)      ; UPDATE 2ND WORD

MOV     (SP)+,R5      ; RESTORE R5
MOV     (SP)+,R2      ; RESTORE R2
MOV     (SP)+,R1      ; RESTORE R1
MOV     (SP)+,R0      ; RESTORE R0

RTS    PC
    
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4634 034420 010046
4635 034422 010146
4636 034424 010346
4637 034426 010446
4638 034430 010546
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4642 034432 012703 010442
4643 034436 012700 000036
4644 034442 005023
4645 034444 005300
4646 034446 001375
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4651 034450 012705 002266
4652 034454 012703 004440

```

*****
SUBROUTINE - SETBF (Used specifically in Int. Loopback Length Err Tst)

THIS ROUTINE SETS UP THE TRANSMIT AND RECEIVE BUFFERS
FOR A DATA BYTE LENGTH DETERMINED BY VALUE PASSED IN
R2. CRC WILL ALSO BE CALCULATED, SAVED, AND IF REQUIRED,
APPENDED TO END OF DATA IF PARAMETER 'DOCRC' SO INDICATES.

A. CLEAR RECEIVE BUFFER RBUF
B. LOAD TRANSMIT BUFFER TBUF (DEST. ADDRESS, SOURCE ADDRESS, DATA)
C. CALCULATE CRC IF CRC FLAG SET

INPUTS:          DOCRC = 0 THEN NO CRC CALCULATION
                  1 THEN CALCULATE CRC, SAVE, AND APPEND
                  -1 THEN CALCULATE CRC, SAVE, DO NOT APPEND

                  R2 = number of data bytes

IMPLICIT INPUTS:
                  DEST: = DESTINATION ADDRESS

OUTPUTS:         RBUF IS CLEARED
                  TBUF IS SET UP FOR TRANSMIT
                  R3,R4 AND ALSO 'XCRC' CONTAIN
                  CRC IF 'DOCRC' WAS SET.

PARAMETERS MODIFIED: 'DOCRC' WILL ALWAYS BE CLEARED ON EXIT
                     R3,R4 MODIFIED IF 'DOCRC' SET.

CALLING SEQUENCE:
                  INSURE 'DOCRC' FLAG CONTAINS CORRECT DATA

                  JSR    PC,SETBF
*****

```

```

SETBF:
      MOV     R0, -(SP)          ;SAVE R0
      MOV     R1, -(SP)          ;SAVE R1
      MOV     R3, -(SP)          ;SAVE R3
      MOV     R4, -(SP)          ;SAVE R4
      MOV     R5, -(SP)          ;SAVE R5

;CLEAR 'RBUF' 30. WORDS

      MOV     #RBUF, R3          ;POINT TO RBUF
      MOV     #30., R0           ;COUNT = 60 BYTES
10$:  CLR     (R3)+               ;CLEAR BUFFER
      DEC     R0                 ;DONE?
      BNE    10$                ;NO

;SET UP TRANSMIT BUFFER 'TBUF'
;LOAD DESTINATION ADDRESS

      MOV     #SRC, R5           ;POINT TO DESTINATION ADDRESS
      MOV     #TBUF, R3          ;POINT TO TBUF

```

```

4653 034460 012523          MOV      (R5)+,(R3)+      ;LOAD DESTINATION ADDRESS
4654 034462 012523          MOV      (R5)+,(R3)+      ;
4655 034464 012523          MOV      (R5)+,(R3)+      ;
4656
4657          ;LOAD SOURCE ADDRESS
4658
4659 034466 012705 002266    MOV      #SRC,R5          ;LOAD FOR LATER COMPARISON
4660 034472 012523          MOV      (R5)+,(R3)+      ;
4661 034474 012523          MOV      (R5)+,(R3)+      ;
4662 034476 012523          MOV      (R5)+,(R3)+      ;
4663
4664          ;SET TYPE FIELD
4665
4666 034500 012723 002540    MOV      #2540,(R3)+     ;TYPE FIELD = DIAGNOSTICS
4667
4668          ;LOAD DATA FIELD
4669
4670 034504 010200          MOV      R2,R0           ;NUMBER OF WORDS
4671 034506 012705 020630    MOV      #PATRN1,R5      ;POINT TO DATA PATTERN
4672 034512 012523          20$: MOV      (R5)+,(R3)+   ;LOAD DATA PATTERN
4673 034514 005300          DEC      R0              ;DONE?
4674 034516 001375          BNE     20$              ;NO
4675
4676          ;CALCULATE CRC AND SAVE IN 'XCRC'
4677
4678 034520 010146          MOV      R1,-(SP)        ;SAVE R1
4679 034522 010246          MOV      R2,-(SP)        ;SAVE R2
4680 034524 010346          MOV      R3,-(SP)        ;SAVE R3
4681 034526 006302          ASL     R2               ;MULTIPLY BY 2 FOR BYTES
4682 034530 062702 000020    ADD     #16.,R2          ;ADD HEADER
4683 034534 012701 004440    MOV      #TBUF,R1        ;BASE ADDR OF TRANSMIT BUFFER
4684 034540 012703 177777    MOV      #-1,R3          ;INIT CRC
4685 034544 012704 177777    MOV      #-1,R4          ;INIT CRC
4686 034550 004737 030644    JSR     PC,BLKCRC        ;CALCULATE AND SAVE CRC
4687 034554 012603          MOV      (SP)+,R3        ;RESTORE R3
4688 034556 012602          MOV      (SP)+,R2        ;RESTORE R2
4689 034560 012601          MOV      (SP)+,R1        ;RESTORE R1
4690
4691          ;IF CRC FLAG SET, APPEND CRC
4692
4693 034562 005737 020564    TST     D0CRC            ;GENERATE CRC?
4694 034566 001402          BEQ     30$              ;NO, SKIP CRC GENERATION
4695 034570 010423          MOV      R4,(R3)+        ;APPEND CRC LOW WORD
4696 034572 010313          MOV      R3,(R3)         ;APPEND CRC HIGH WORD
4697 034574
4698 034574 012605          30$: MOV      (SP)+,R5        ;RESTORE R5
4699 034576 012604          MOV      (SP)+,R4        ;RESTORE R4
4700 034600 012603          MOV      (SP)+,R3        ;RESTORE R3
4701 034602 012601          MOV      (SP)+,R1        ;RESTORE R1
4702 034604 012600          MOV      (SP)+,R0        ;RESTORE R0
4703 034606 000207          RTS     PC               ;RETURN TO CALLING ROUTINE
4704

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005737 020622
001412
010400

010046
012746 034644
012746 000002
010600
104417
062706 000006

000207

045 123 045
124 045 101
040 124 105
123 124 040
040 000

```
*****
SUBROUTINE PNTID
PRINTS THE NAME OF EACH TEST THAT IS RUN, IF PRINT FLAG
SET, AND IS 1ST LOOP THROUGH TEST.
INPUTS: R4 = POINTER TO TEST NAME MESSAGE
OUTPUT: IF PRINT FLAG SET, TEST NAME WILL BE PRINTED
CALL:  MOV    #MSGNO,R4    ;GET ADDRESS OF MESSAGE
      JSR    PC,PNTID     ;PRINT TEST NAME
*****

PNTID:  TST    PRNTIT      ;PRINT THE TEST NAME?
      BEQ    10$         ;NO
      MOV    R4,R0       ;SETUP FOR PRINT
      PRINTF #TSTFMT,R0  ;PRINT TEST NAME

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

10$:   RTS    PC          ;RETURN TO CALLING PROGRAM

TSTFMT:.ASCIZ '#S#T#A TEST '

.EVEN
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4770 034662
4771 034662 010046
4772 034664 010146
4773 034666 010246
4774 034670 010346
4775 034672 010446
4776 034674 010546
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4781 034676 012705 002260
4782 034702 012701 004440
4783 034706 012521
4784 034710 012521
4785 034712 012521
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4789 034714 012705 002266
4790 034720 012521
4791 034722 012521
4792 034724 012521

```

*****
SUBROUTINE - SETBUF

THIS ROUTINE SETS UP THE TRANSMIT AND RECEIVE BUFFERS. THE
NUMBER OF BYTES IN A PACKET IS DETERMINED BY THE CONTENTS
PASSED IN 'BYTCNT'. IN ANY CASE, A PACKET LENGHT WILL BE NO
MORE THAN 32 BYTES, OR 36 INCLUDING CRC IF 'DOCRC' SET.

A. LOAD TRANSMIT BUFFER TBUF (DEST. ADDR,SOURCE ADDR,TYPE,DATA)
B. APPEND CRC IF 'DOCRC' FLAG SET

INPUTS:          DOCRC = 0 THEN NO CRC
                  1 THEN CALCULATE CRC AND APPEND
BYTCNT= # OF DATA BYTES IN PACKET

IMPLICIT INPUTS:
SRC: = SOURCE ADDRESS
DEST: = DESTINATION ADDRESS

OUTPUTS:
TBUF IS SET UP FOR TRANSMIT

PARAMETERS MODIFIED: 'DOCRC' WILL ALWAYS BE CLEARED ON EXIT

CALLING SEQUENCE:
INSURE 'DOCRC' FLAG CONTAINS CORRECT DATA

        MOV     #Z,BYTCNT      ;NUMBER OF BYTES THIS PACKET
        JSR     PC,SETBUF

*****

SETBUF:
        MOV     R0,-(SP)       ; SAVE R0
        MOV     R1,-(SP)       ; SAVE R1
        MOV     R2,-(SP)       ; SAVE R2
        MOV     R3,-(SP)       ; SAVE R3
        MOV     R4,-(SP)       ; SAVE R4
        MOV     R5,-(SP)       ; SAVE R5

;SET UP TRANSMIT BUFFER TBUF
;LOAD DESTINATION ADDRESS

        MOV     #DEST,R5      ; POINT TO DESTINATION ADDRESS
        MOV     #TBUF,R1      ; POINT TO TBUF
        MOV     (R5)+,(R1)+    ; LOAD DESTINATION ADDRESS
        MOV     (R5)+,(R1)+
        MOV     (R5)+,(R1)+

;LOAD SOURCE ADDRESS

        MOV     #SRC,R5       ; LOAD FOR LATER COMPARISON
        MOV     (R5)+,(R1)+
        MOV     (R5)+,(R1)+
        MOV     (R5)+,(R1)+
    
```

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4793
4794 ;SET TYPE FIELD
4795
4796 034726 012721 002540 MOV #2540,(R1)+ ; ENTER DIAGNOSTIC ID IN TYPE FIELD
4797
4798 ;LOAD DATA FIELD (LENGTH DEPENDENT ON CONTENTS OF 'BYTCNT')
4799
4800 034732 013700 020562 MOV BYTCNT,R0 ; BYTE COUNT
4801 034736 012705 020630 MOV #PATRN1,R5 ; POINT TO DATA PATTERN
4802 034742 012521 20$: MOV (R5)+,(R1)+ ; LOAD DATA PATTERN
4803 034744 005300 DEC R0 ; DONE ?
4804 034746 002375 BGE 20$ ; NO
4805
4806 ;CALCULATE CRC AND SAVE IN 'XCRC'
4807
4808 034750 010146 MOV R1,-(SP) ; SAVE R1
4809 034752 010246 MOV R2,-(SP) ; SAVE R2
4810 034754 013702 020562 MOV BYTCNT,R2 ; GET DATA BYTE COUNT
4811 034760 006302 ASL R2 ; ALIGN
4812 034762 005737 020564 TST DOCRC ; ADD CRC TO PACKET?
4813 034766 001003 BNE 22$ ; YES
4814 034770 062702 000016 ADD #14.,R2 ; NO
4815 034774 000402 BR 25$ ; SKIP NO ADD CRC DATA
4816 034776 062702 000020 22$: ADD #16.,R2 ; WILL ADD CRC TO PACKET
4817 035002 012701 004440 25$: MOV #TBUF,R1 ; BASE ADDR OF TRANSMIT BUFFER
4818 035006 012703 177777 MOV #-1,R3 ; INIT CRC
4819 035012 012704 177777 MOV #-1,R4 ; INIT CRC
4820 035016 004737 030644 JSR PC,BLKCRC ; CALCULATE AND SAVE CRC
4821 035022 012602 MOV (SP)+,R2 ; RESTORE R2
4822 035024 012601 MOV (SP)+,R1 ; RESTORE R1
4823
4824 ;IF CRC FLAG SET, APPEND CRC, THEN SAVE EXPECTED CRC IN 'XCRC' TABLE
4825
4826 035026 005737 020564 TST DOCRC ;APPEND CRC?
4827 035032 001402 BEQ 30$ ;NO, SKIP APPENDING CRC
4828 035034 010421 MOV R4,(R1)+ ;APPEND CRC LOW WORD
4829 035036 010321 MOV R3,(R1)+ ;APPEND CRC HIGH WORD
4830
4831
4832 035040 30$: CLR DOCRC ;INSURE CRC FLAG IS CLEARED
4833 035040 005037 020564
4834
4835 035044 012605 MOV (SP)+,R5 ; RESTORE R5
4836 035046 012604 MOV (SP)+,R4 ; RESTORE R4
4837 035050 012603 MOV (SP)+,R3 ; RESTORE R3
4838 035052 012602 MOV (SP)+,R2 ; RESTORE R2
4839 035054 012601 MOV (SP)+,R1 ; RESTORE R1
4840 035056 012600 MOV (SP)+,R0 ; RESTORE R0
4841 035060 000207 RTS PC ; AND RESTORE
    
```



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4843 :*****
4844 :
4845 :      SUBROUTINE  SRCDST
4846 :
4847 :      THIS SUBROUTINE WILL INDEPENDENTLY, LOAD BOTH TABLES
4848 :      'SRC' AND 'DEST' WITH PHYSICAL ADDRESSES OBTAINED FROM
4849 :      TABLE ADDRESSES PASSED TO THIS ROUTINE.
4850 :
4851 :      INPUT - R1 - CONTAINS ADDRESS OF TABLE TO LOAD INTO 'SRC'
4852 :             R2 - CONTAINS ADDRESS OF TABLE TO LOAD INTO 'DEST'
4853 :
4854 :      OUTPUT - NONE
4855 :
4856 :      PARAMETERS MODIFIED - TABLES 'SRC' AND 'DEST' MAY BE CHANGED
4857 :
4858 :      CALLING SEQUENCE - MOV  #----,R1      ; ADDR. OF TABLE TO LOAD 'SRC'
4859 :                       MOV  #----,R2      ; ADDR. OF TABLE TO LOAD 'DEST'
4860 :                       JSR  PC,SRCDST     ; LOAD ADDRESS TABLES
4861 :
4862 :*****
4863 :
4864 035062 SRCDST:
4865 035062      MOV    R0,-(SP)      ;SAVE R0
4866 035064      MOV    R1,-(SP)      ;SAVE R1
4867 035066      MOV    R2,-(SP)      ;SAVE R2
4868 035070      MOV    R4,-(SP)      ;SAVE R4
4869 035072      MOV    R5,-(SP)      ;SAVE R5
4870
4871 035074      MOV    #SRC,R4      ;GET BASE ADDR. OF TABLE 'SRC'
4872 035100      MOV    #DEST,R5     ;GET BASE ADDR. OF TABLE 'DEST'
4873 035104      MOV    #3,R0       ;INIT COUNTER
4874
4875 035110      1$:  MOV    (R1)+,(R4)+  ;LOAD BOTH
4876 035112      MOV    (R2)+,(R5)+  ; ADDRESS TABLES
4877 035114      SOB    R0,1$        ;UNTIL DONE
4878
4879 035116      MOV    (SP)+,R5     ;RESTORE R5
4880 035120      MOV    (SP)+,R4     ;RESTORE R4
4881 035122      MOV    (SP)+,R2     ;RESTORE R2
4882 035124      MOV    (SP)+,R1     ;RESTORE R1
4883 035126      MOV    (SP)+,R0     ;RESTORE R0
4884
4885 035130      RTS    PC

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4909 035132 010246
4910 035134 010502
4911 035136 004737 033656
4912 035142 012705 017676
4913 035146 012700 000005
4914 035152 004737 034134
4915 035156 022712 000021
4916 035162 001404
4917 035164 012737 010442 002314
4918 035172 000403
4919 035174 012737 004440 002314 1\$:
4920 035202 011337 002320 2\$:
4921 035206 005737 020610
4922 035212 001006
4923 035214 022713 176000
4924 035220 001006
4925 035222 005237 020610
4926 035226 000403
4927 035230 012737 000001 002322 3\$:
4928 035236 022701 000001 4\$:
4929 035242 001003
4930 035244 012737 001200 002312 5\$:
4931 035252
4932 035252 012602
4933 035254 000207
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```
*****
Subroutine - SRWRAM

THIS SUBROUTINE SETS UP FOR EITHER A LOAD OR A DUMP
OF A 1K SEGMENT OF INTERNAL RAM. LOAD OR DUMP FUNCTION
IS DETERMINED BY VALUE PASSED IN R5.

INPUTS: R5 - IF R5 = 20 THEN DUMP MEMORY
          IF R5 = 21 THEN LOAD MEMORY
          R1 - CONTAINS NUMBER OF 1K RAM BLOCKS TO ACCESS
          R3 - CONTAINS BASE ADDR OF 1K RAM TO R/W

OUTPUTS:      NONE

CALLING SEQUENCE:      MOV FUNCTION#,R5      ;GET VALUE OF FUNCTION
                       JSR      PC,SRWRAM    ;EXECUTE
*****
```

```
SRWRAM:
MOV      R2,-(SP)      ;SAVE R2
MOV      R5,R2        ;SAVE R5
JSR      PC,LDP CBB   ;LOAD FUNCTION -> PCBB (USES R5)
MOV      #UDB11A,R5   ;DEFAULT UDBB
MOV      #5,R0        ;FOUR WORDS
JSR      PC,LDUDBB    ;LOAD INTO UDBB
CMP      #21,(R2)     ;IS THIS A LOAD MEMORY?
BEQ      1$          ;YES
MOV      #RBUF,UDBB+2 ;THIS IS A READ MEMORY
BR       2$          ;SKIP SETTING FOR TBUF
MOV      #TBUF,UDBB+2 ;THIS IS A LOAD MEMORY
MOV      (R3),UDBB+6  ;LOAD LINK ADDR -> UDBB+6
TST      EAFLAG      ;NEED TO SET EXT ADDR BITS?
BNE      3$          ;YES
CMP      #176000,(R3) ;TIME TO SET 'EAFLAG'?
BNE      4$          ;NO
INC      EAFLAG      ;YES
BR       4$          ;BUT, ONLY NEXT TIME
MOV      #1,UDBB+10   ;EXT ADDRESS BIT
CMP      #1,R1        ;IS THIS LAST 1K?
BNE      5$          ;NO
MOV      #1200,UDBB   ;YES, ONLY READ 1200(8) WORDS
MOV      (SP)+,R2     ;RESTORE R3
RTS      PC           ;RETURN TO CALLING PROGRAM
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035256 005077 144766
035262
035262 012700 000340
035266 104441
035270 000207

035272
035272 012700 000240
035276 104441
035300 012777 000100 144742
035306 000207

```
*****
:
:   THIS ROUTINE TURNS THE CLOCK OFF
:
:   INPUT:  NONE
:
:   OUTPUT: NONE, ON EXIT SUBROUTINE, CLOCK IS OFF
:
:   CALL:   JSR    PC,TIMOFF
:
:*****
```

```
TIMOFF:
      CLR    @CLKCSR           ;CLEAR THE INTERRUPT ENABLE
      SETPRI #PRI07           ;UP THE PRIORITY
                                MOV    #PRI07,R0
                                TRAP   C$SPRI
      RTS    PC                 ;RETURN TO CALLING ROUTINE
```

```
*****
:
:   THIS SUBROUTINE TURNS ON THE CLOCK
:
:   INPUT:  NONE
:
:   OUTPUT: NONE,ON SUBROUTINE EXIT, CLOCK IS ON
:
:   CALL:   JSR    PC,TIMON
:
:*****
```

```
TIMON:
      SETPRI #PRI05           ;SET PROCESSOR PRIORITY TO 5
                                MOV    #PRI05,R0
                                TRAP   C$SPRI
      MOV    #IE,@CLKCSR     ;ENABLE CLOCK INTERRUPTS
      RTS    PC                 ;RETURN TO CALLING ROUTINE
```

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4993 035310
4994 035310 010446
4995 035312 017704 144710
4996 035316 004737 032402
4997 035322 032704 001400
4998
4999 035326 001401
5000 035330 000414
5001 035332
5002 035332 017704 144670
5003 035336 001011
5004 035340 017704 144664
5005 035344 042704 177770
5006 035350 022704 000002
5007 035354 001002
5008
5009 035356 000241
5010 035360 000401
5011
5012 035362 000261
5013 035364
5014 035364 012604
5015 035366 000207
5016
5017
5018

```
*****
:
: SUBROUTINE - TINIT
:
: THIS SUBROUTINE IS CALLED TO DETERMINE IF A DEVICE RESET
: IS REQUIRED BEFORE CONTINUING.
:
: INPUTS:          NONE
:
: OUTPUTS:         IF A DEVICE RESET IS NOT REQUIRED
:                  THEN CARRY = 0
:
:                  IF A DEVICE RESET IS REQUIRED
:                  THEN CARRY = 1
:
: CALLING SEQUENCE:
:                  JSR    PC,TINIT
:
:*****
```

```
TINIT:
      MOV    R4,-(SP)          ; SAVE R4
      MOV    @PCSR0,R4        ; SAVE CONTENTS OF PCSRO      ;B0
      JSR    PC,CLINTR        ; ATTEMPT TO CLEAR PCSRO
      BIT    #FATL!USCI,R4    ; NI AND/OR UNIBUS HALTED, OR HAVE
      ;                               ; ERROR                      ;B0
      BEQ    5$               ; NO                               ;B0
      BR     10$              ; YES,GO SET CARRY BIT      ;B0
5$:
      MOV    @PCSR0,R4        ; PCSRO = 0 ?
      BNE    10$              ; NO, A RESET IS REQUIRED
      MOV    @PCSR1,R4        ; PCSR1 -> R4
      BIC    #SMASK,R4        ; MASK DELUA STATE
      CMP    #READY,R4       ; STATE = READY ?
      BNE    10$              ; NO, A RESET IS REQUIRED
      CLC
      BR     20$              ; NO RESET REQUIRED, CLEAR CARRY
;
; 10$:
; SEC
; A RESET IS REQUIRED, SET CARRY
; 20$:
      MOV    (SP)+,R4         ; RESTORE R4
      RTS    PC               ; AND RETURN
```

K11

```
5031 .TITLE MISCELLANEOUS SECTIONS
5032 .SBTTL REPORT CODING SECTION
5053
5054
5055
5056 ;++
5057 ; THE REPORT CODING SECTION CONTAINS THE
5058 ; "PRINTS" CALLS THAT GENERATE STATISTICAL REPORTS.
5059 ; -
5060
5061 035370 BGNRPT
5062 035370 L$RPT::
5063
5064 035370 EXIT RPT
5065 035370 000167 .WORD J$JMP
5066 035372 000000 .WORD L10015-2 .
5067
5068 .EVEN
5069 035374 ENDRPT
5070 035374 L10015: TRAP C$RPT
5071 035374 104425
```

```
5071 .SBTTL PROTECTION TABLE
5072
5073 ;**
5074 ; THIS TABLE IS USED BY THE RUNTIME SERVICES
5075 ; TO PROTECT THE LOAD MEDIA.
5076 ;--
5077
5078 035376 BGNPROT
5079 035376 L$PROT::
5080 035376 177777 -1 ;OFFSET INTO P-TABLE FOR CSR ADDRESS
5081 035400 177777 -1 ;OFFSET INTO P-TABLE FOR MASSBUS ADDRESS
5082 035402 177777 -1 ;OFFSET INTO P-TABLE FOR DRIVE NUMBER
5083
5084 035404 ENDPROT
5085
```

```

5087          .SBTTL  INITIALIZE SECTION
5088
5089
5090          ;**
5091          ; THE INITIALIZE SECTION CONTAINS THE CODING THAT IS PERFORMED
5092          ; AT THE BEGINNING OF EACH PASS.
5093          ; -
5094          BGNINIT
5095
5096          035404 005037 020612          CLR      DNIFLG          ;INIT EXPECT DNI FLAG
5097          035410 012700 000036          READEF   #EF.CONTINUE    ;WAS A CONTINUE COMMAND ENTERED?
5098          035414 104447
5099          035416          BNCOMPLETE    1$          ;NO, CONTINUE CHECK OF FLAGS
5100          035420 000137 036140          JMP      60$          ;YES, LEAVE INIT CODE
5101          035424 012700 000034          READEF   #EF.PWR        ;WAS THERE A POWER FAILURE?
5102          035430 104447
5103          035432          BNCOMPLETE    3$          ;NO
5104          035432 103007
5105          ; DELAY A PERIOD OF TIME (APPROX 25 SECS ) FOR SELF TEST TO FINISH
5106          ;
5107          035434 012701 000150          MOV      #150,R1        ;INIT OUTER LOOP
5108          035440 005000          CLR      R0            ;INIT INNER LOOP
5109          035442 005300          2$:    DEC      R0
5110          035444 001376          BNE     2$
5111          035446 005301          DEC     R1
5112          035450 001374          BNE     2$
5113          035452 012700 000035          READEF   #EF.NEW        ;NEW PASS ?
5114          035456 104447
5115          035460          BNCOMPLETE    15$          ;NO
5116          035462 103065          READEF   #EF.START      ;START ?
5117          035466 012700 000040          BNCOMPLETE    5$          ;NO
5118          035470          BNCOMPLETE    5$          ;NO
5119          035472 103054          RESET
5120          035474 000005          INC     DNIFLG          ;CLEAR THE WORLD
5121          035500 012737 000001 020614  MOV     #1,FRSTIM       ;SET TO EXPECT RESULTING DNI
5122          035506          CLOCK    L,R1          ;SET FIRST TIME FLAG
5123          035512 104462          MOV     #L,R0          ;GET LINE CLOCK INFO
5124          035514 010001          BCS     4$
5125          035516          BCOMPLETE    4$
5126          035520          PRINTF   #NOCLK        ;ERROR MESSAGE
5127          035524 012746 023234          MOV     #NOCLK, (SP)
5128          035530 010600          MOV     #1, -(SP)
5129          035532 104417          MOV     SP,R0
5130          035534 062706 000004          TRAP   C$PNTF
5131          035540 000157 036134          JMP     50$            ;CANNOT CONTINUE

```

```

5122 035544 012137 002250      4$:  MOV      (R1)+,CLKCSR      ;LINE CLOCK CSR
5123 035550 012102              MOV      (R1)+,R2        ;SET CLOCK PRIORITY
5124 035552 072227 000005      ASH      #5,R2
5125 035556 010237 002252      MOV      R2,CLKBR
5126 035562 012137 002254      MOV      (R1)+,CLKVEC    ;VECTOR
5127 035566 012137 002256      MOV      (R1)+,CLKFRE    ;FREQUENCY
5128 035572              SETVEC  CLKVEC,#CLKSRV,CLKBR ;SETUP CLOCK INTERRUPT VECTOR
      035572 013746 002252              MOV      CLKBR,(SP)
      035576 012746 036422              MOV      #CLKSRV,-(SP)
      035602 013746 002254              MOV      CLKVEC,(SP)
      035606 012746 000003              MOV      #3,-(SP)
      035612 104437              TRAP    C$SVEC
      035614 062706 000010              ADD     #10,SP
5129 035620 000402              BR      10$
5130
5131 035622 005037 020614      5$:  CLR      FRSTIM          ;CLEAR FIRST TIME FLAG
5132 035626 012737 177777 002246 10$:  MOV      #-1,UNIT        ;YES, INITIALIZE UNIT NUMBER
5133 035634 005237 002246      15$:  INC      UNIT            ;SET UP FOR NEXT UNIT
5134 035640 023737 002246 002012  CMP     UNIT,L$UNIT      ;TESTED ALL AVAILABLE UNITS?
5135 035646 003132              BGT     50$              ;YES, LEAVE
5136 035650              GPHARD  UNIT,R1          ;GET P-TABLE POINTER FOR THIS UNIT
      035650 013700 002246              MOV      UNIT,R0
      035654 104442              TRAP    C$GPHARD
      035656 010001              MOV      R0,R1
5137 035660              BNCOMPLETE 15$          ;THIS ONE IS NOT AVAILABLE
      035660 103365              BCC     15$
5138 035662 012137 002226      MOV      (R1)+,PCSR0     ;SAVE PCSRO
5139 035666 012137 002242      MOV      (R1)+,INTVEC    ;SAVE VECTOR
5140 035672 013737 002226 002236  MOV     PCSRO,PCSR0UB    ;SET UP ADDRESS OF UPPER BYTE OF PCSRO
5141 035700 062737 000001 002236  ADD     #1,PCSR0UB
5142 035706 013737 002226 002230  MOV     PCSRO,PCSR1     ;SET UP PCSR1
5143 035714 062737 000002 002230  ADD     #2,PCSR1
5144 035722 013737 002230 002232  MOV     PCSR1,PCSR2     ;SET UP PCSR2
5145 035730 062737 000002 002232  ADD     #2,PCSR2
5146 035736 013737 002232 002234  MOV     PCSR2,PCSR3     ;SET UP PCSR3
5147 035744 062737 000002 002234  ADD     #2,PCSR3
5148
5149              ;WAIT FOR DNI FROM PREVIOUS RESET IF APPROPRIATE
5150
5151 035752 005737 020612      TST     DNIFLG          ;EXPECTING DNI TO BE SET?
5152 035756 001470              BEQ     60$              ;NO, SKIP DNI HANDLING
5153 035760 004737 030706      JSR     PC,CHKDNI        ;WAIT FOR DNI
5154 035764 103046              BCC     30$              ;DNI?
5155
5156              ;PCSRO NOT IN RESET STATE, CHECK STATUS
5157
5158 035766 017700 144234      MOV     @PCSRO,R0        ;SAVE CONTENTS OF PCSRO
5159 035772 032700 001400      BIT     #USCI!FATL,R0   ;UPROC. SUBSYSTEM FAILURE?
5160 035776 001011              BNE     22$              ;NO
5161 036000              PRINTF #M68FLD          ;YES, ISSUE ERROR MESSAGE
      036000 012746 023276              MOV     #M68FLD,-(SP)
      036004 012746 000001              MOV     #1,-(SP)
      036010 010600              MOV     SP,R0
      036012 104417              TRAP   C$PNTF
      036014 062706 000004              ADD     #4,SP
5162 036020 000445              BR      50$              ;CANNOT CONTINUE
5163 036022 032700 001000      22$:  BIT     #FATL,R0        ;DEVICE OR UNIBUS ERROR?

```



```

5164 036026 001411          BEQ      24$
5165 036030          PRINTF  #DEVUNI          ;NO
                                ;YES, REPORT ERROR
                                MOV      #DEVUNI,-(SP)
                                MOV      #1,-(SP)
                                MOV      SP,RO
                                TRAP    C$PNTF
                                ADD     #4,SP
                                036030 012746 023404
                                036034 012746 000001
                                036040 010600
                                036042 104417
                                036044 062706 000004
5166 036050          BR       50$          ;CANNOT CONTINUE
5167 036052 032700 000400 24$: BIT     #USCI,RO    ;NI OR UNIBUS HALTED?
5168 036056 001426          BEQ      50$          ;NO
5169 036060          PRINTF  #NIUNIB        ;YES, REPORT ERROR
                                MOV      #NIUNIB,-(SP)
                                MOV      #1,-(SP)
                                MOV      SP,RO
                                TRAP    C$PNTF
                                ADD     #4,SP
                                036060 012746 023502
                                036064 012746 000001
                                036070 010600
                                036072 104417
                                036074 062706 000004
5170 036100          BR       50$          ;CANNOT CONTINUE
5171
5172          ;DNI SET, SO CONTINUE
5173
5174 036102          30$:
5175 036102 004737 032320          JSR     PC,CLRDNI    ;YES, CLEAR IT
5176 036106 103011          BCC    40$          ;CONTINUE IF DNI CLEARED
5177 036110          PRINTF  #DNICLR        ; ELSE ISSUE ERROR MESSAGE
                                MOV      #DNICLR,-(SP)
                                MOV      #1,-(SP)
                                MOV      SP,RO
                                TRAP    C$PNTF
                                ADD     #4,SP
                                036110 012746 023671
                                036114 012746 000001
                                036120 010600
                                036122 104417
                                036124 062706 000004
5178 036130 000401          BR       50$          ; AND EXIT
5179 036132 000402          BR       60$          ;LEAVE
5180 036134 005037 020614 50$: CLR     FRSTIM    ;CLEAR FIRST TIME FLAG
5181
5182 036140 005037 020612 60$: CLR     DNIFLG    ;CLEAR EXPECT DNI FLAG
5183 036144 005037 020622          CLR     PRNTIT    ;CLEAR PRINT TEST ID FLAG
5184 036150          RFLAGS  RO      ;READ FLAGS
                                TRAP    C$RFLA
                                036150 104421
5185 036152 032700 001000          BIT     #PNT,RO    ;PRINT ENABLED?
5186 036156 001403          BEQ     70$          ;NO, DON'T SET PRINT TEST ID FLAG
5187 036160 012737 000001 020622 70$: MOV     #1,PRNTIT ;YES, SET FLAG
5188 036166
5189 036166          ENDINIT
                                L10017: TRAP  C$INIT
                                036166 104411
5190

```

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.SBTTL AUTODROP SECTION

;; THIS CODE IS EXECUTED IMMEDIATELY AFTER THE INITIALIZE CODE IF
; THE 'ADR' FLAG WAS SET. THE UNIT(S) UNDER TEST ARE CHECKED TO
; SEE IF THEY WILL RESPOND. THOSE THAT DON'T ARE IMMEDIATELY
; DROPPED FROM TESTING.
; -

5200
5201 036170
036170

BGNAUTO

L\$AUTO::

5202
5203

5204 036170
036170 104461
036170

ENDAUTO

L10020

TRAP

C\$AUTO

```

5206      .SBTTL  CLEANUP CODING SECTION
5207
5208      ;**
5209      ;
5210      ; DELUA IS RESET BEFORE EXITING TEST                      ;BO
5211      ;
5212      ;--
5213
5214      036172      BGNCLN
5215      036172      010246      MOV      R2,-(SP)          ;SAVE R2          L$CLEAN::
5216
5217      ;INSURE THAT UNIT IS PRESENT
5218
5219      036174      SETVEC  #4,#ISRNXM,#PRI07      ;SET UP TIMEOUT TRAP VECTOR
5219      036174      012746      000340      MOV      #PRI07,-(SP)
5219      036200      012746      036356      MOV      #ISRNXM,-(SP)
5219      036204      012746      000004      MOV      #4,-(SP)
5219      036210      012746      000003      MOV      #3,-(SP)
5219      036214      104437      TRAP    C$SVEC
5219      036216      062706      000010      ADD     #10,SP
5219      036222      005037      020606      CLR     NEXMEM      ;CLEAR NON-EXISTING MEMORY TIME
5220
5221      ; OUT LOCATION
5222      036226      005002      CLR     R2          ;R2=PCSR BEING ACCE:SED
5223      036230      012777      004000      143770      MOV     #4000,@PCSR0
5224      036236      005737      020606      TST    NEXMEM      ;DOES PCSRO
5225      036242      001031      BNE    10$         ; EXIST?
5226      036244      CLRVEC  #4          ;NO, SKIP RESET
5226      036244      012700      000004      ;CLEAR TIMEOUT TRAP VECTOR
5226      036250      104436      MOV     #4,R0
5227      036252      017704      143750      TRAP   C$CVEC
5228      036256      004737      032402      MOV     @PCSR0,R4   ;READ AND SAVE CONTENTS OF PCSRO ;BO
5229      036262      032704      001400      JSR    PC,CLINTR   ;ATTEMPT TO CLEAR PCSRO ;BO
5230
5231      036266      001006      BNE    5$          ;NI AND/OR UNIBUS HALTED OR HAVE ;BO
5232      036270      012777      000000      143730      ; AN ERROR?
5233      036276      017704      143724      MOV     #ZERO,@PCSR0 ;YES, PERFORM A RESET ;BO
5234      036302      001411      MOV     @PCSR0,R4   ;PCSR0 SHOULD NOW BE CLEARED ;BO
5235      036304      BEQ    10$        ;CHECK IT ;BO
5236      036304      012777      004400      143714      5$:    MOV     #DNI!USCI,@PCSR0 ;PRE-CONDITION INTERRUPT ENABLE ;BO
5237      036312      012777      004040      143706      MOV     #DNI!RSET,@PCSR0 ;YES, RESET DELUA ;BO
5238      036320      004737      032034      JSR    PC,CKDNI    ;WAIT FOR DONE INTERRUPT TO SET ;BO
5239      036324      000403      BR     20$        ;EXIT CLEANUP
5240      036326      10$:    CLRVEC  #4          ;CLEAR TIMEOUT TRAP VECTOR
5241      036326      012700      000004      MOV     #4,R0
5241      036332      104436      TRAP   C$CVEC
5242      036334      20$:    EXIT    CLN
5243      036334      104432      TRAP   C$EXIT
5243      036336      000002      .WORD  L10021-
5244
5245      .EVEN
5245      036340      ENDCLN
5245      036340      104412      L10021: TRAP   C$CLEAN

```

E12

```
5247          .SBTTL  DROP UNIT SECTION
5248
5249          ;**
5250          ; THE DROP-UNIT SECTION CONTAINS THE CODING THAT CAUSES A DEVICE
5251          ; TO NO LONGER BE TESTED.
5252          ;--
5253
5254 036342      BGNDU
5255          L$DU::
5256          036342
5257 036342      EXIT  DU
5258          036342 000167          .WORD  J$JMP
5259          036344 000000          .WORD  L10022-2-.
5260
5261          .EVEN
5262 036346      ENDDU
5263          036346          L10022: TRAP  C$DU
5264          036346 104453
```

F12

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.SBTTL ADD UNIT SECTION

: THE ADD-UNIT SECTION CONTAINS ANY CODE THE PROGRAMMER WISHES
: TO BE EXECUTED IN CONJUNCTION WITH THE ADDING OF A UNIT BACK
: TO THE TEST CYCLE.
:--

5272 036350
036350

BGNAU

L\$AU::

5273
5274

5275 036350
036350 000167
036352 000000

EXIT AU

.WORD J\$JMP
.WORD L10023-2-

5276
5277
5278
5279

.EVEN

5280 036354
036354
036354 104452

ENDAU

L10023:
TRAP C\$AU

5282
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5299

036356
036356 012737 000001 020606
036364
036364 000002

```

.TITLE GLOBAL INTERRUPT SERVICE ROUTINES
.SBTTL ISRNXM NON-EXISTANT MEMORY INTERRUPT SERVICE ROUTINE
;*****
;
; FUNCTIONAL DESCRIPTION:
;
; THIS ROUTINE IS ASSIGNED TO VECTOR 4 BY THE ACCESS TESTS.
; WHEN AN ACCESS IS ATTEMPTED ON NON-EXISTENT MEMORY
; THE NEXMEM FLAG IS SET.
;*****
BGNSRV ISRNXM
MOV #1,NEXMEM ;SET NXM FLAG
ENDSRV
ISRNXM::
L10024:
RTI

```

H12

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036366
036366
036366 010446
036370 005037 020612
036374 005004
036376 017704 143624
036402 032704 004000
036406 001403
036410 012737 000001 020612
036416 012604
036420
036420
036420 000002

.SBTTL ISRDN I - DNI INTERRUPT SERVICE ROUTINE

: FUNCTIONAL DESCRIPTION:
: THIS ROUTINE IS ASSIGNED TO THE DELUA'S INTERRUPT VECTOR BY
: TEST 10.
: WHEN AN INTERRUPT OCCURS THE DNIFLG FLAG IS SET IF DNI IS SET.
: *****

BGNSRV ISRDN I

ISRDN I::

MOV R4,-(SP) ; SAVE R4
CLR DNIFLG ; INSURE DNI FLAG IS CLEAR
CLR R4 ; INSURE R4 IS CLEAR
MOV @PCSR0,R4 ; PCSRO -> R4
BIT #DNI,R4 ; DNI SET?
BEQ 10\$; NO, EXIT
MOV #1,DNIFLG ; YES, SET DNIFLG FLAG
MOV (SP)+,R4 ; RESTORE R4

ENDSRV

L10025:
RTI

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5345
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5347
5348

036422
036422 005737 020604
036426 001402
036430 005337 020604
036434
036434
036434 000002

```
*****  
:FUNCTIONAL DESCRIPTION:  
:      THIS ROUTINE COUNTS A PRESET NUMBER OF CLOCK TICKS THEN IT  
:      TURNS THE CLOCK OFF  
:INPUTS: METER  
:OUTPUTS:METER  
:ROUTINES CALLED: NONE  
:*****
```

```
BGNSRV  CLKSRV  
                TST  METER      ;HAS THE METER EXPIRED?  
                BEQ  20$        ;YES, STOP COUNTING  
                DEC  METER      ;COUNT TICKS  
                20$:  
ENDSRV  
                L10026:  
                RTI
```


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5413

036436
036436

036436 012704 036560
036442 004737 034610

036446
036446 012746 000340
036452 012746 036356
036456 012746 000004
036462 012746 000003
036466 104437
036470 062706 000010
036474 005037 020606
036500 005002
036502 012777 004000 143516
036510 005737 020606
036514 001412
036516
036516 012700 000004
036522 104436
036524
036524 104455
036526 000001
036530 024754
036532 023760
036534
036534 013700 002246
036540 104451

036542
036542 012700 000004
036546 104436
036550 004737 032402

036554
036554 104432
036556 000034

```
.TITLE HARDWARE TESTS
.SBTTL TEST 1: PCSRO READ ACCESS TEST
;*****
; THIS TEST WILL VERIFY THAT A DEVICE IS PRESENT AT THE PCSRO
; UNIBUS ADDRESS SPECIFIED.
; TEST SEQUENCE:
; 1. READ PCSRO
;*****
BGNTST
;
; T1::
PNTMAC T01ID
MOV #T01ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME
;
; END OF MACRO EXPANSION OF 'PNTMAC'
SETVEC #4,#ISRNXM,#PRI07 ; SET UP TIMEOUT TRAP VECTOR
MOV #PRI07,-(SP)
MOV #ISRNXM,-(SP)
MOV #4,-(SP)
MOV #3,-(SP)
TRAP C$SVEC
ADD #10,SP
CLR NEXMEM ; CLEAR NXM TIMEOUT FLAG
CLR R2 ; R2 = WHICH PCSR IS BEING TESTED
MOV #4000,@PCSRO ; DOES PCSR EXIST?
TST NEXMEM
BEQ 10$ ; YES
CLRVEC #4
MOV #4,R0
TRAP C$CVEC
ERRDF 001,ERR001,MSG001 ; NO, PRINT DEVICE FATAL ERROR MESSAGE
TRAP C$ERDF
.WORD 1
.WORD ERR001
.WORD MSG001
DODU UNIT ; DROP UNIT
MOV UNIT,R0
TRAP C$DODU
10$: CLRVEC #4
MOV #4,R0
TRAP C$CVEC
JSR PC,CLINTR ;INSURE DELUA INTR ARE CLEAR
EXIT TST
TRAP C$EXIT
.WORD L10027-
```

K12

```
5414  
5415 ;LOCAL TEST MESSAGE  
5416  
5417 036560 104 105 114 T01ID: .ASCIZ 'DELUA PCSRO READ ACCESS '  
036563 125 101 040  
036566 120 103 123  
036571 122 060 040  
036574 122 105 101  
036577 104 040 101  
036602 103 103 105  
036605 123 123 040  
036610 000
```

```
5418 .EVEN
```

```
5419  
5420 036612 ENDTST
```

```
L10027: TRAP C4ETST
```

```
036612 104401  
5421
```

L12

```

5423 .SBTTL TEST 2: PCSR1 READ ACCESS TEST
5424
5425 ;*****
5426 ;
5427 ; THIS TEST WILL VERIFY THAT A DEVICE IS PRESENT AT THE PCSR1
5428 ; UNIBUS ADDRESS SPECIFIED.
5429 ;
5430 ; TEST SEQUENCE:
5431 ; 1. READ PCSR1
5432 ;*****
5433
5434
5435 036614 BGNTST
036614 T2::
5436
5437 036614 PNTMAC T02ID
036614 012704 036744 MOV #T02ID,R4 ;GET POINTER TO TEST NAME MESSAGE
036620 004737 034610 JSR PC,PNTID ;PRINT TEST NUMBER AND NAME
;
; END OF MACRO EXPANSION OF 'PNTMAC'
5438 036624 012777 004000 143374 MOV #4000,@PCSR0 ; INSURE DNI CLEAR
5439 036632 SETVEC #4,@ISRNXM,@PRI07 ; SET UP TIMEOUT TRAP VECTOR
036632 012746 000340 MOV #PRI07,-(SP)
036636 012746 036356 MOV #ISRNXM,(SP)
036642 012746 000004 MOV #4,-(SP)
036646 012746 000003 MOV #3,-(SP)
036652 104437 TRAP C$SVEC
036654 062706 000010 ADD #10,SP
5440 036660 005037 020606 CLR NEXMEM ; CLEAR NXM TIMEOUT FLAG
5441 036664 012702 000001 MOV #1,R2 ; R2 = WHICH PCSR IS BEING TESTED
5442 036670 017701 143334 MOV @PCSR1,R1 ; DOES PCSR EXIST?
5443 036674 005737 020606 TST NEXMEM
5444 036700 001412 BEQ 10$ ; YES
5445 036702 CLRVEC #4
036702 012700 000004 MOV #4,R0
036706 104436 TRAP C$CVEC
5446 036710 ERRDF 002,ERR001,MSG001 ; NO, PRINT DEVICE FATAL ERROR MESSAGE
036710 104455 TRAP C$ERDF
036712 000002 .WORD 2
036714 024754 .WORD ERR001
036716 023760 .WORD MSG001
5447 036720 DODU UNIT ; DROP UNIT
036720 000000 MOV UNIT,R0
036724 000001 TRAP C$DODU
5448 036726 10$: CLRVEC #4 MOV #4,R0
036726 000004 TRAP C$CVEC
036732
5449 036734 JSR PC,CLINTR ;INSURE PCSRO INTR ARE CLEARED
5450
5451
5 02 07 EXIT TST
432 TRAP C$EXIT
0034 .WORD L10030-

```

M12

```
5454 ;LOCAL TEST MESSAGE
5455
5456 036744 104 105 114 T02ID: .ASCIZ 'DELUA PCSR1 READ ACCESS '
      036747 125 101 040
      036752 120 103 123
      036755 122 061 040
      036760 122 105 101
      036763 104 040 101
      036766 103 103 105
      036771 123 123 040
      036774 000
```

```
5457 .EVEN
5458
5459 036776 ENDTST
      036776
      036776 104401
```

L10030: TRAP C\$ETST

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5480 037000
037000
5481
5482 037000

037000 012704 037176
037004 004737 034610

5483
5484 037010 012777 004100 143210
5485 037016 112777 000140 143202
5486 037024 004737 032034
5487 037030 103010
5488 037032 004737 031010
5489 037036
037036 104456
037040 000003
037042 025124
037044 024032
5490 037046
037046 104410
037050 000152

5491
5492 037052
5493 037052 017737 143150 002240
5494 037060 032737 000200 002240
5495 037066 001004
5496 037070
037070 104456
037072 000011
037074 030476
037076 000000

5497
5498 037100
5499 037100 004737 032320
5500 037104 103010

.SBTTL TEST 3: DELUA RESET TEST

```
*****
:
:   THIS TEST VERIFIES THAT THE INTR, BIT07 AND DNI, BIT11 OF      ;B0
:   PCSRO WILL SET FOLLOWING A DELUA RESET BY RSET, BIT05.        ;B0
:
:   THIS TEST ALSO VERIFIES THAT BIT 06, AND NO OTHER BITS IN
:   THE PCSR1 DEVICE ID FIELD IS SET FOLLOWING A DELUA RESET.
:
:   TEST SEQUENCE:
:     1. RESET DELUA (SET BIT05 OF PCSRO)                          ;B0
:     2. WAIT FOR DNI                                              ;B0
:     3. VERIFY THAT BOTH DNI AND INTR BITS SET                    ;B0
:     4. VERIFY THAT DELUA ID BIT NOW SET IN PCSR1
:
:*****
```

```
ECNTST
T3::
PNTMAC T03ID
MOV #T03ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME
;
END OF MACRO EXPANSION OF 'PNTMAC'
```

```
MOV #DNI+INTE,@PCSRO ;PRECONDITION INTR ENABLE
MOVB #INTE+RSET,@PCSRO ;RESET DELUA
JSR PC,CKDNI ;DNI?
BCC 5$ ;YES
JSR PC,CHKFTL ;FATAL BIT SET?
ERRHRD 003,ERR006,MSG003 ;NO, REPORT ERROR
TRAP C$ERHRD
.WORD 3
.WORD ERR006
.WORD MSG003
ESCAPE TST ; AND ABORT TEST
TRAP C$ESCAPE
.WORD L10031-
```

```
*****
5$:
MOV @PCSRO,PCSROC ;SAVE CONTENTS OF PCSRO
BIT #INTR,PCSROC ;DID INTERRUPT SUMMARY BIT SET?
BNE 10$ ;YES, SKIP ERROR REPORT
ERRHRD 009,ERR047 ;REPORT ERROR
TRAP C$ERHRD
.WORD 9
.WORD ERR047
.WORD 0
```

```
*****
10$:
JSR PC,CLRDN1 ;WRITE 1 TO CLEAR DNI
BCC 20$ ;OK TO CONTINUE
```

```

5501 037106 004737 031010      JSR    PC,CHKFTL      ;FATAL BIT SET?
5502 037112      ERRHRD 004,ERR006,MSG003 ;NO, REPORT ERROR
      037112      104456      TRAP   C$ERHRD
      037114      000004      .WORD  4
      037116      025124      .WORD  ERR006
      037120      024032      .WORD  MSG003
5503 037122      ESCAPE TST      ; AND ABORT TEST
      037122      104410      TRAP   C$ESCAPE
      037124      000076      .WORD  L10031-.
5504
5505
5506 037126      20$:
5507 037126 017701 143076      MOV    @PCSR1,R1      ;GET CONTENTS OF PCSR1
5508 037132 142701 000217      BICB  #217,R1        ;CLEAR UNWANTED BITS
5509 037136 122701 000020      CMPB  #20,R1        ;ONLY BIT4 SET?
5510 037142 001411      BEQ   30$            ;YES, SKIP ERROR REPORT
5511 037144 004737 031010      JSR    PC,CHKFTL      ;FATAL BIT SET?
5512 037150      ERRDF 005,ERR040
      037150      104455      TRAP   C$ERDF
      037152      000005      .WORD  5
      037154      027772      .WORD  ERR040
      037156      000000      .WORD  0
5513 037160      DODU  UNIT      ;ILLEGAL ID, DROP UNIT
      037160      013700 002246      MOV   UNIT,R0
      037164      104451      TRAP  C$DODU
5514
5515 037166      30$:
5516 037166 004737 032402      JSR    PC,CLINTR      ;INSURE DELUA INTR BIT CLEAR
5517
5518 037172      EXIT  TST
      037172      104432      TRAP   C$EXIT
      037174      000026      .WORD  L10031-.
5519
5520      ;LOCAL TEST MESSAGE
5521
5522 037176      104      105      114      T03ID:.ASCIZ 'DELUA PCSR1 ID BIT '
      037201      125      101      040
      037204      120      103      123
      037207      122      061      040
      037212      111      104      040
      037215      102      111      124
      037220      040      000
5523      .EVEN
5524
5525 037222      ENDTST
      037222
      037222 104401      L10031: TRAP  C$ETST
5526
  
```

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5540 037224
037224
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5542 037224

037224 012704 037354
037230 004737 034610

5543 037234 012777 004000 142764
5544 037242
037242 012746 000340
037246 012746 036356
037252 012746 000004
037256 012746 000003
037262 104437
037264 062706 000010
5545 037270 005037 020606
5546 037274 012702 000002
5547 037300 017701 142726
5548 037304 005737 020606
5549 037310 001412
5550 037312
037312 012700 000004
037316 104436
5551 037320
037320 104455
037322 000006
037324 024754
037326 023760
5552 037330
037330 013700 002246
037334 104451
5553
5554 037336
037336 012700 000004
037342 104436
5555 037344 004737 032402
5556
5557 037350
037350 104432
037352 000034

.SBTTL TEST 4: PCSR2 READ ACCESS TEST

: THIS TEST WILL VERIFY THAT A DEVICE IS PRESENT AT THE PCSR2
: UNIBUS ADDRESS SPECIFIED.
: TEST SEQUENCE:
: 1. READ PCSR2
:*****

BGNTST

T4::

PNTMAC T04ID

MOV #T04ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

END OF MACRO EXPANSION OF 'PNTMAC'

MOV #4000,@PCSR0 ; INSURE DNI CLEAR
SETVEC #4,@ISRNXM,#PRI07 ; SET UP TIMEOUT TRAP VECTOR
MOV #PRI07,-(SP)
MOV #ISRND01,-(SP)
MOV #4,-(SP)
MOV #3,-(SP)
TRAP C\$SVEC
ADD #10,SP

CLR NEXMEM ; CLEAR NDM TIMEOUT FLAG
MOV #2,R2 ; R2 = WHICH PCSR IS BEING TESTED
MOV @PCSR2,R1 ; DOES PCSR EXIST?
TST NEXMEM
BEQ 10\$; YES
CLRVEC #4

ERRDF 006,ERR001,MSG001 ; NO. PRINT DEVICE FATAL ERROR MESSAGE
TRAP C\$ERRDF
.WORD 6
.WORD ERR001
.WORD MSG001

DODU UNIT ; DROP UNIT
MOV TRAP UNIT,R0
TRAP C\$DODU

10\$: CLRVEC #4
MOV TRAP #4,R0
TRAP C\$CVEC

JSR PC,CLINTR ;INSURE DELUA INTR BITS CLEAR

EXIT TST
TRAP C\$EXIT
.WORD L10032-

D13

```
5559 ;LOCAL TEST MESSAGE
5560
5561 037354 104 105 114 T04ID:.ASCIZ 'DELUA PCSR2 READ ACCESS '
      037357 125 101 040
      037362 120 103 123
      037365 122 062 040
      037370 122 105 101
      037373 104 040 101
      037376 103 103 105
      037401 123 123 040
      037404 000
```

```
5562 .EVEN
5563
5564 037406 ENDTST
      037406
      037406 104401
```

L10032: TRAP C#ETST


```

5566 .SBTTL TEST 5: PCSR3 READ ACCESS TEST
5567
5568 ;*****
5569 ;
5570 ; THIS TEST WILL VERIFY THAT A DEVICE IS PRESENT AT THE PCSR3
5571 ; UNIBUS ADDRESS SPECIFIED.
5572 ;
5573 ; TEST SEQUENCE:
5574 ; 1. READ PCSR3
5575 ;*****
5576
5577 037410 BGNTST
5578 037410
5579 037410
;
; PNTMAC T05ID
;
; MOV #T05ID,R4 ;GET POINTER TO TEST NAME MESSAGE
; JSR PC,PNTID ;PRINT TEST NUMBER AND NAME
;
; END OF MACRO EXPANSION OF 'PNTMAC'
;
5580 037420 012777 004000 142600 MOV #4000,@PCSR0 ; INSURE DNI CLEAR
5581 037426 012746 000340 SETVEC #4,#ISRNXM,#PRI07 ; SET UP TIMEOUT TRAP VECTOR
; MOV #PRI07,-(SP)
; MOV #ISRNXM,-(SP)
; MOV #4,-(SP)
; MOV #3,-(SP)
; TRAP C$SVEC
; ADD #10,SP
5582 037454 005037 020606 CLR NEXMEM ; CLEAR NXM TIMEOUT FLAG
5583 037460 012702 000003 MOV #3,R2 ; R2 = WHICH PCSR IS BEING TESTED
5584 037464 017701 142544 MOV @PCSR3,R1 ; DOES PCSR EXIST?
5585 037470 005737 020606 TST NEXMEM
5586 037474 001412 BEQ 10$ ; YES
5587 037476 012700 000004 CLRVEC #4
; MOV #4,R0
; TRAP C$CVEC
; TRAP C$ERDF
; .WORD 7
; .WORD ERRO01
; .WORD MSG001
5588 037504 104436 ERRDF 007,ERRO01,MSG001 ; NO, PRINT DEVICE FATAL ERROR MESSAGE
; MOV #4,R0
; TRAP C$CVEC
; TRAP C$DODU
5589 037514 013700 002246 DODU UNIT ; DROP UNIT
; MOV UNIT,R0
; TRAP C$DODU
5590
5591 037522 012700 000004 10$: CLRVEC #4
; MOV #4,R0
; TRAP C$CVEC
5592 037530 004737 032402 JSR PC,CLINTR ; INSURE DELUA INTR BITS DISABLED
5593
5594 037534 104432 EXIT TST
; TRAP C$EXIT
; .WORD L10033-
037536 000034

```

F13

```
5596 ;LOCAL TEST MESSAGE
5597
5598 037540 104 105 114 TOSID:.ASCIZ 'DELUA PCSR3 READ ACCESS '
      037543 125 101 040
      037546 120 103 123
      037551 122 063 040
      037554 122 105 101
      037557 104 040 101
      037562 103 103 105
      037565 123 123 040
      037570 000
```

```
5599 .EVEN
5600
5601 037572 ENDTST
      037572
      037572 104401
```

L10033: TRAP C#ETST

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5620

.SBTTL TEST 6: PCSR2 STATIC BIT TEST

```

*****
THIS TEST WILL CHECK PCSR2 FOR ALL SA0 AND SA1 ERRORS.
THE HOST WILL WRITE PATTERNS TO PCSR2 AND READ THEM
BACK TO VERIFY.

NOTE: PCSR2 BIT00 SHOULD ALWAYS BE A ZERO.
      THIS BIT WILL BE MASKED BEFORE DOING THE COMPARE.

TEST SEQUENCE:
1. WRITE PATTERN TO PCSR2
2. COMPARE MASKED PATTERN WITH PCSR2 CONTENTS
3. REPEAT STEPS 1 AND 2 FOR ALL PATTERNS
*****

```

5621 037574
037574
5622
5623 037574

BGNTST

T6::

PNTMAC T06ID

037574 012704 037754
037600 004737 034610

MOV #T06ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

; END OF MACRO EXPANSION OF 'PNTMAC'

5624
5625 037604 004737 035310
5626 037610 103034
5627 037612 012777 004100 142406
5628 037620 112777 000140 142400
5629 037626 004737 032034
5630 037632 103010
5631 037634 004737 031010
5632 037640
037640 104456
037642 000010
037644 030105
037646 024032

```

JSR PC,TINIT ;IS A DEVICE RESET NEEDED?
BCC 25# ;NO
MOV #DNI+INTE,@PCSR0 ;PRE-CONDITION INTR ENABLE
MOV #INTE+RSET,@PCSR0 ;RESET DELUA
JSR PC,CKDNI ;DNI?
BCC 15# ;YES
JSR PC,CHKFTL ;FATAL BIT SET?
ERRHRD 008.,ERR042,MSG003 ;NO, REPORT ERROR
TRAP C$ERHRD ;80
.WORD 8
.WORD ERR042
.WORD MSG003

```

5633 037650
037650 104410
037652 000132

```

ESCAPE TST ; AND ABORT TEST
TRAP C$ESCAPE ;
.WORD L10034-.

```

5634 037654
5635 037654 004737 032320
5636 037660 103010
5637 037662 004737 031010
5638 037666
037666 104456
037670 000012
037672 025124
037674 024032

15#:

```

JSR PC,CLRDNI ;WRITE 1 TO CLEAR DNI BIT
BCC 25# ;NO
JSR PC,CHKFTL ;FATAL BIT SET?
ERRHRD 010.,ERR006,MSG003 ;YES, REPORT ERROR
TRAP C$ERHRD ;
.WORD 10
.WORD ERR006
.WORD MSG003

```

5639 037676
037676 104410
037700 000104

```

ESCAPE TST ; AND ABORT TEST
TRAP C$ESCAPE ;
.WORD L10034-.

```

5640

H13

```

5641 037702          25$:
5642
5643 037702 012701 020630      MOV    #PATRN1,R1      ; GET ADDRESS OF DATA PATTERNS
5644 037706 012705 000004      MOV    #4,R5          ; COUNT 4 PATTERNS (PASSES)
5645 037712 012103          30$:      MOV    (R1)+,R3      ; DATA PATTERN -> R3
5646
5647
5648 037714 010377 142312      MOV    R3,@PCSR2     ; DATA PATTERN -> PCSR2
5649 037720 017704 142306      MOV    @PCSR2,R4     ; READ PCSR2
5650 037724 020304          CMP    R3,R4         ; DATA COMPARE?
5651 037726 001406          BEQ    50$          ; YES, CONTINUE
5652 037730 004737 031010      JSR    PC,CHKFTL     ; FATAL BIT SET?
5653 037734          ERRHRD 011.,ERR002,MSG002 ; NO, REPORT ERROR
          037734 104456          TRAP  C$ERHRD
          037736 000013          .WORD 11
          037740 025004          .WORD ERR002
          037742 024004          .WORD MSG002
5654 037744          50$:
5655 037744 005305          DEC    R5            ; DONE?
5656 037746 001361          BNE   30$           ; NO
5657
5658
5659          EXIT    TST
          037750          TRAP  C$EXIT
          037750 104432          .WORD L10034
          037752 000032
5660
5661          ;LOCAL TEST MESSAGE
5662
5663 037754          104    105    114  T06ID: .ASCIZ 'DELUA PCSR2 STATIC BIT '
          037757          125    101    040
          037762          120    103    123
          037765          122    062    040
          037770          123    124    101
          037773          124    111    103
          037776          040    102    111
          040001          124    040    000
5664          .EVEN
5665
5666          040004          ENDTST
          040004          L10034: TRAP  C$ETST
          040004 104401

```

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5704

5705

040006 040006
040006 012704 040166
040012 004737 034610

040016 004737 035310
040022 103034
040024 012777 004100 142174
040032 112777 000140 142166
040040 004737 032034
040044 103010
040046 004737 031010
040052 104456
040054 000014
040056 030105
040060 024032
040062 104410
040064 000132
040066 004737 032320
040072 103010
040074 004737 031010
040100 104456
040102 000015
040104 025124
040106 024032
040110 104410
040112 000104

.SBTTL TEST 7: PCSR3 STATIC BIT TEST

THIS TEST WILL CHECK PCSR3 FOR ALL SA0 AND SA1 ERRORS.
THE HOST WILL WRITE PATTERNS TO PCSR3 AND READ THEM
BACK TO VERIFY.

NOTE: PCSR3 BIT02 THRU BIT15 SHOULD ALWAYS BE A ZERO.
THESE BITS WILL BE MASKED BEFORE DOING THE COMPARE.

TEST SEQUENCE:
1. WRITE PATTERN TO PCSR3
2. COMPARE MASKED PATTERN WITH PCSR3 CONTENTS
3. REPEAT STEPS 1 AND 2 FOR ALL PATTERNS

BGNTST
T7::

PNTMAC T07ID
MOV #T07ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

; END OF MACRO EXPANSION OF 'PNTMAC'

JSR PC,TINIT ;IS A DEVICE RESET NEEDED?
BCC 20# ;NO
MOV #DNI+INTE,@PCSR0 ;PRE-CONDITION INTR ENABLE
MOVB #INTE+RSET,@PCSR0 ;YES, RESET DELUA
JSR PC,CKDNI ;DNI SET?
BCC 10# ;YES
JSR PC,CHKFTL ;FATAL BIT SET?
ERRHRD 012.,ERR042,MSG003 ;NO, REPORT ERROR

TRAP ;B0
.WORD C\$ERHRD
.WORD 12
.WORD ERR042
.WORD MSG003

ESCAPE TST ; AND ABORT TEST
TRAP C\$ESCAPE
.WORD L10035 .

10#:

JSR PC,CLRDN1 ;WRITE 1 TO CLEAR DNI BIT
BCC 20# ;CLEARED OK
JSR PC,CHKFTL ;FATAL BIT SET?
ERRHRD 013.,ERR006,MSG003 ;NO, REPORT ERROR

TRAP C\$ERHRD
.WORD 13
.WORD ERR006
.WORD MSG003

ESCAPE TST ; AND ABORT TEST
TRAP C\$ESCAPE
.WORD L10035-

J13

```

5706 040114          20$:
5707 040114 012701 020630      MOV    #PATRN1,R1      ; GET ADDRESS OF DATA PATTERNS
5708 040120 012705 000004      MOV    #4,R5          ; COUNT 4 PATTERNS (PASSES)
5709 040124 012103          40$:      MOV    (R1)+,R3      ; DATA PATTERN > R3
5710
5711 040126 010377 142102      MOV    R3,@PCSR3     ; DATA PATTERN -> PCSR3
5712 040132 017704 142076      MOV    @PCSR3,R4     ; READ PCSR3
5713 040136 020304          CMP    R3,R4        ; DATA COMPARE?
5714 040140 001406          BEQ    50$          ; YES, CONTINUE
5715 040142 004737 031010      JSR    PC,CHKFTL     ; FATAL ERROR BIT SET?
5716 040146          ERRHRD 014.,ERR003,MSG002 ; NO, REPORT ERROR
      040146 104456          TRAP   C$ERHRD
      040150 000016          .WORD 14
      040152 025042          .WORD ERR003
      040154 024004          .WORD MSG002
5717
5718 040156          50$:
5719 040156 005305          DEC    R5            ; DONE?
5720 040160 001361          BNE   40$          ; NO
5721
5722
5723
5724 040162          EXIT   TST
      040162 104432          TRAP   C$EXIT
      040164 000032          .WORD L10035-.
5725
5726          ;LOCAL TEST MESSAGE
5727
5728 040166          104    105    114  T07ID:..ASCIZ 'DELUA PCSR3 STATIC BIT '
      040171          125    101    040
      040174          120    103    123
      040177          122    063    040
      040202          123    124    101
      040205          124    111    103
      040210          040    102    111
      040213          124    040    000
5729          .EVEN
5730
5731 040216          ENDTST
      040216          L10035: TRAP   C$ETST
      040216 104401

```

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5764 040220
040220
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5766 040220

040220 012704 040560
040224 004737 034610

5767 040230 004737 035310
5768 040234 103034
5769 040236 012777 004100 141762
5770 040244 112777 000140 141754
5771 040252 004737 032034
5772 040256 103010
5773 040260 004737 031010
5774 040264
040264 104456
040266 000017
040270 030105
040272 024032
5775 040274
040274 104410
040276 000302
5776

.SBTTL TEST 8: SELF TEST

THIS TEST VERIFIES THAT THE ROM BASED SELF TEST
CAN BE RUN SUCCESSFULLY WHEN INVOKED VIA THE
SELF TEST PORT COMMAND.

NOTE 1: ON A SELFTEST FAILURE, PCSR1 DATA WILL BE CONSIDERED ;BO
VALID ONLY IF THE FAILING TEST WAS THE PHYSICAL ADDR. ;BO
ROM TEST, TIMER INTERRUPT TEST, IBUS LOADING TEST (CLOG), ;BO
OR ONE OF THE LANCE TESTS. IN ALL OTHER CASES READ THE ;BO
ERROR CODE, IN OCTAL, DIRECTLY FROM THE LED DISPLAY. ;BO

NOTE 2: DIFFERENCE BETWEEN ERROR MESSAGES 'PCSR1 ERROR CODE ;BO
UNRELIABLE', AND 'PCSR1 CONTAINS UNDEFINED SELFTEST ;BO
ERROR CODE'. IN THE FIRST INSTANCE, AN ERROR IS BEING ;BO
REPORTED IN WHICH, DUE TO THE NATURE OF THE FAILED TEST, ;BO
THE CORRECT ERROR CODE MAY NOT BE ABLE TO BE LOADED INTO ;BO
THE PCSR1. IN THE SECOND CASE, THE DIAGNOSTIC FOUND AN ;BO
ERROR CODE IN PCSR1 FOR WHICH THERE IS NO DEFINED FAILURE. ;BO

TEST SEQUENCE:

- 1. ISSUE THE SELF TEST PORT COMMAND
- 2. WAIT FOR DNI
- 3. CHECK LITE BITE REGISTER FOR SUCCESSFUL SELF TEST
- 4. REPORT ANY ERROR ;BO
- 5. WRITE ONE TO CLEAR DNI

BGNTST

T8::

PNTMAC T08ID

MOV #T08ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

END OF MACRO EXPANSION OF 'PNTMAC'

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 25\$; NO
MOV #DNI+INTE,@PCSR0 ; SET INTERRUPT ENABLE
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
JSR PC,CHKFTL ; FATL BIT SET?
ERRHRD 015.,ERR042,MSG003 ; NO, REPORT ERROR

TRAP C\$ERRHRD ;BO
.WORD 15
.WORD ERR042
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10036-

L13

```

5777 040300 004737 032320      20$: JSR      PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
5778                                ; ERROR
5779 040304 103010            BCC      25$      ; NO
5780 040306 004737 031010      JSR      PC,CHKFTL ; FATL BIT SET?
5781 040312                                ERRHRD  016.,ERR006,MSG003 ; YES, REPORT ERROR
                                TRAP      C$ERHRD
                                .WORD    16
                                .WORD    ERR006
                                .WORD    MSG003
5782 040322                                ESCAPE  TST      ; AND ABORT
                                TRAP      C$ESCAPE
                                .WORD    L10036-.
5783                                ;
5784 040326                                ; 25$:
5785 040326 012777 004100 141672 MOV      #DNI+INTE,@PCSR0 ; PRE-CONDITION INTR ENABLE
5786 040334 112777 000103 141664 MOVB     #INTE+SLFT,@PCSR0 ; RUN SELF TEST
5787 040342 004737 032034      JSR      PC,CKDNI  ; SELF TEST COMPLETED OK?
5788 040346 103025            BCC      35$      ; YES, CHECK RESULTS
5789                                ;
5790                                ;FIND OUT WHY SELF TEST DID NOT COMPLETE
5791                                ;
5792 040350 013700 020516      MOV      EPCSR0,R0 ; NO, GET CONTENTS OF PCSRO
5793 040354 042700 172377      BIC      #STATEM,R0 ; MASK UNWANTED BITS
5794 040360 005700            TST      R0        ; 68000 SUBSYSTEM FAULT
5795 040362 001006            BNE      30$      ; NO
5796 040364                                ERRHRD  017.,ERR011,MSG011 ; YES, REPORT ERROR
                                TRAP      C$ERHRD
                                .WORD    17
                                .WORD    ERR011
                                .WORD    MSG011
5797 040374                                EXIT     TST      ; AND EXIT TEST
                                TRAP      C$EXIT
                                .WORD    L10036-.
5798 040400                                ; 30$:
5799 040400 032700 001000      BIT      #FATL,R0  ; DEVICE OR UNIBUS ERROR?
5800 040404 001406            BEQ      35$      ; NO
5801 040406                                ERRHRD  018.,ERR048,MSG011 ; YES, REPORT ERROR
                                TRAP      C$ERHRD
                                .WORD    18
                                .WORD    ERR048
                                .WORD    MSG011
5802 040416                                EXIT     TST      ; AND EXIT TEST
                                TRAP      C$EXIT
                                .WORD    L10036-.
5803                                ;
5804 040422                                ; 35$:
5805 040422 004737 031556      JSR      PC,CHKSTR ; SELF TEST SUCCESSFUL ?
5806 040426 103035            BCC      40$      ; YES
5807 040430 013704 020602      MOV      ECODE,R4 ; NO, SET UP TO PRINT ERROR
5808 040434 006304            ASL      R4        ; SHIFT CODE FOR INDEX
5809 040436 062704 040604      ADD      #STTBL,R4 ; INDEX INTO SELF TEST TABLE
5810 040442 011437 040602      MOV      (R4),STMSG ; LOAD INTO SELF TEST MESSAGE
5811 040446 004737 031010      JSR      PC,CHKFTL ; FATL BIT SET?
5812                                ;*****
5813 040452 022704 040624      CMP      #STTBL+20,R4 ; THIS SECTION ;80
5814 040456 002406            BLT      36$      ;
5815 040460 022704 040704      CMP      #STTBL+100,R4 ; SELECTS WHETHER OR
                                ; NOT THE ERROR CODE

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M13

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5816 040464 002410          BLT      37$          ;          IN PCSR1 WILL BE
5817 040466 022704 040744    CMP      #STTBL+140,R4 ;          PRINTED
5818 040472 001405          BEQ      37$          ;          OUT
5819 040474          36$:    ERRHRD 020.,ERR005 ; REPORT SELF TEST FAILURE, BUT NOT
                                TRAP      C$ERHRD
                                .WORD    20
                                .WORD    ERR005
                                .WORD    0
                                ;          SELFTEST ERROR CODE
5820                                ; SKIP ALTERNATE ERROR REPORT
5821 040504 000404          BR       38$          ; REPORT SELF TEST FAILURE, AND
5822 040506          37$:    ERRHRD 020.,ERR005,MSG004 ;
                                TRAP      C$ERHRD
                                .WORD    20
                                .WORD    ERR005
                                .WORD    MSG004
                                ;          INCLUDE SELFTEST ERROR CODE
5823                                ;
5824 040516          38$:
5825 ;*****
5826 040516          ESCAPE TST ; AND ABORT TEST
                                TRAP      C$ESCAPE
                                .WORD    L10036-.
5827
5828 040522 004737 032320    JSR      PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
5829                                ; ERROR?
5830 040526 103010          BCC     50$          ; NO
5831 040530 004737 031010    JSR      PC,CHKFTL ; FATL BIT SET
5832 040534          ERRHRD 021.,ERR006,MSG003 ; YES, REPORT ERROR
                                TRAP      C$ERHRD
                                .WORD    21
                                .WORD    ERR006
                                .WORD    MSG003
5833 040544          ESCAPE TST ; AND ABORT
                                TRAP      C$ESCAPE
                                .WORD    L10036 .
5834 040550          50$:
5835 040550 004737 032402    JSR      PC,CLINTR ; INSURE DELUA INTR BITS CLEAR
5836
5837 040554          EXIT   TST
                                TRAP      C$EXIT
                                .WORD    L10036-.
5838
5839 ;LOCAL TEST MESSAGE
5840
5841 040560          104     105     114   T08ID: .ASCIZ 'DELUA CTFTEST '
5842 040563          125     101     040
5843 040566          123     105     114
5844 040571          106     124     105
5845 040574          123     124     040
5846 040577          000
5847
5848 .EVEN
5849
5850          ENDTST
                                L10036:
                                TRAP      C$ETST

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5846
5847 ;LOCAL STORAGE FOR TEST 8
5848
5849 040602 000000 STMSG: .WORD 0 ; SELF TEST MESSAGE ADDRESS
5850
5851 ;SELF TEST MESSAGE TABLE
5852
5853 040604 040746 STTBL: .WORD MSG00
5854 040606 040771 .WORD MSG01
5855
5856 ;*****
5857 040610 040771 .WORD MSG01 ;B0
5858 040612 040771 .WORD MSG01
5859 040614 040771 .WORD MSG01
5860 040616 040771 .WORD MSG01
5861 040620 040771 .WORD MSG01
5862 040622 040771 .WORD MSG01
5863 ;*****
5864
5865 040624 041061 .WORD MSG10
5866 040626 041115 .WORD MSG11
5867
5868 ;*****
5869 040630 041144 .WORD MSG13 ;B0
5870 040632 041144 .WORD MSG13
5871 040634 041144 .WORD MSG13
5872 040636 041144 .WORD MSG13
5873 040640 041144 .WORD MSG13
5874 040642 041144 .WORD MSG13
5875 ;*****
5876
5877 040644 041223 .WORD MSG20
5878 040646 041262 .WORD MSG21
5879 040650 041321 .WORD MSG22
5880 040652 041350 .WORD MSG23
5881 040654 041406 .WORD MSG24
5882 040656 041445 .WORD MSG25
5883 040660 041504 .WORD MSG26
5884 040662 041551 .WORD MSG27
5885 ;*****
5886
5887 040664 041144 .WORD MSG13 ;B0
5888 040666 041144 .WORD MSG13
5889 040670 041144 .WORD MSG13
5890 040672 041144 .WORD MSG13
5891 040674 041144 .WORD MSG13
5892 040676 041144 .WORD MSG13
5893 040700 041144 .WORD MSG13
5894 040702 041144 .WORD MSG13
5895 040704 040771 .WORD MSG01
5896 040706 040771 .WORD MSG01
5897 040710 040771 .WORD MSG01
5898 040712 040771 .WORD MSG01
5899 040714 040771 .WORD MSG01
5900 040716 040771 .WORD MSG01
5901 040720 040771 .WORD MSG01
5902 040722 040771 .WORD MSG01

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B14

5903 040724 040771
5904 040726 040771
5905 040730 040771
5906 040732 040771
5907 040734 040771
5908 040736 040771
5909 040740 040771
5910 040742 040771
5911
5912
5913 040744 041610
5914

.WORD SMSG01
.WORD SMSG01
.WORD SMSG01
.WORD SMSG01
.WORD SMSG01
.WORD SMSG01
.WORD SMSG01
.WORD SMSG01
.WORD SMSG01

.WORD SMSG60

C14

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5916 ;ASCII MESSAGES
5917 040746 120 101 123 SMSG00: .ASCIZ /PASSED SELF TEST/<15><12>
      040751 123 105 104
      040754 040 123 105
      040757 114 106 040
      040762 124 105 123
      040765 124 015 012
      040770 000
5918 040771 103 125 122 SMSG01: .ASCIZ /CURRENTLY,PCSR1 ERROR CODE UNRELIABLE, REFER TO LED'S/<15><12>
      040774 122 105 116
      040777 124 114 131
      041002 054 120 103
      041005 123 122 061
      041010 040 105 122
      041013 122 117 122
      041016 040 103 117
      041021 104 105 040
      041024 125 116 122
      041027 105 114 111
      041032 101 102 114
      041035 105 054 040
      041040 122 105 106
      041043 105 122 040
      041046 124 117 040
      041051 114 105 104
      041054 047 123 015
      041057 012 000
5919 041061 120 110 131 SMSG10: .ASCIZ /PHYSICAL ADDRESS ROM TEST/<15><12>
      041064 123 111 103
      041067 101 114 040
      041072 101 104 104
      041075 122 105 123
      041100 123 040 122
      041103 117 115 040
      041106 124 105 123
      041111 124 015 012
      041114 000
5920
5921 041115 124 111 115 SMSG11: .ASCIZ /TIMER INTERRUPT TEST/<15><12>
      041120 105 122 040
      041123 111 116 124
      041126 105 122 122
      041131 125 120 124
      041134 040 124 105
      041137 123 124 015
      041142 012 000
5922 041144 120 103 123 SMSG13: .ASCIZ /PCSR1 CONTAINS UNDEFINED SELFTEST ERROR CODE/<15><12>
      041147 122 061 040
      041152 103 117 116
      041155 124 101 111
      041160 116 123 040
      041163 125 116 104
      041166 105 106 111
      041171 116 105 104
      041174 040 123 105
      041177 114 106 124
      041202 105 123 124
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	041205	040	105	122	
	041210	122	117	122	
	041213	040	103	117	
	041216	104	105	015	
	041221	012	000		
5923					
5924	041223	114	101	116	SMSG20: .ASCIZ /LANCE INTERNAL LOOPBACK TEST/<15><12>
	041226	103	105	040	
	041231	111	116	124	
	041234	105	122	116	
	041237	101	114	040	
	041242	114	117	117	
	041245	120	102	101	
	041250	103	113	040	
	041253	124	105	123	
	041256	124	015	012	
	041261	000			
5925	041262	114	101	116	SMSG21: .ASCIZ /LANCE IBUS PARITY ERROR TEST/<15><12>
	041265	103	105	040	
	041270	111	102	125	
	041273	123	040	120	
	041276	101	122	111	
	041301	124	131	040	
	041304	105	122	122	
	041307	117	122	040	
	041312	124	105	123	
	041315	124	015	012	
	041320	000			
5926	041321	114	101	116	SMSG22: .ASCIZ /LANCE CRC LOGIC TEST/<15><12>
	041324	103	105	040	
	041327	103	122	103	
	041332	040	114	117	
	041335	107	111	103	
	041340	040	124	105	
	041343	123	124	015	
	041346	012	000		
5927	041350	114	101	116	SMSG23: .ASCIZ /LANCE COLLISION DETECT TEST/<15><12>
	041353	103	105	040	
	041356	103	117	114	
	041361	114	111	123	
	041364	111	117	116	
	041367	040	104	105	
	041372	124	105	103	
	041375	124	040	124	
	041400	105	123	124	
	041403	015	012	000	
5928	041406	114	101	116	SMSG24: .ASCIZ /LANCE MULTICAST ADDRESS TEST/<15><12>
	041411	103	105	040	
	041414	115	125	114	
	041417	124	111	103	
	041422	101	123	124	
	041425	040	101	104	
	041430	104	122	105	
	041433	123	123	040	
	041436	124	105	123	
	041441	124	015	012	
	041444	000			

E14

5929	041445	114	101	116	MSG25: .ASCIZ /LANCE BROADCAST ADDRESS TEST/<15><12>
	041450	103	105	040	
	041453	102	122	117	
	041456	101	104	103	
	041461	101	123	124	
	041464	040	101	104	
	041467	104	122	105	
	041472	123	123	040	
	041475	124	105	123	
	041500	124	015	012	
	041503	000			
5930	041504	114	101	116	MSG26: .ASCIZ /LANCE PHYSICAL ADDRESS REJECT TEST/<15><12>
	041507	103	105	040	
	041512	120	110	131	
	041515	123	111	103	
	041520	101	114	040	
	041523	101	104	104	
	041526	122	105	123	
	041531	123	040	122	
	041534	105	112	105	
	041537	103	124	040	
	041542	124	105	123	
	041545	124	015	012	
	041550	000			
5931	041551	114	101	116	MSG27: .ASCIZ /LANCE EXTERNAL LOOPBACK TEST/<15><12>
	041554	103	105	040	
	041557	105	130	124	
	041562	105	122	116	
	041565	101	114	040	
	041570	114	117	117	
	041573	120	102	101	
	041576	103	113	040	
	041601	124	105	123	
	041604	124	015	012	
	041607	000			
5932					
5933	041610	104	105	114	MSG60: .ASCIZ /DELUA IBUS LOADING TEST - CLOG/<15><12>
	041613	125	101	040	
	041616	111	102	125	
	041621	123	040	114	
	041624	117	101	104	
	041627	111	116	107	
	041632	040	124	105	
	041635	123	124	040	
	041640	055	040	103	
	041643	114	117	107	
	041646	015	012	000	
5934					.EVEN

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.SBTTL TEST 9: PORT COMMAND TEST

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*****
THIS TEST VERIFIES THAT NO ERRORS OCCUR WHEN
A DELUA PORT COMMAND IS ISSUED.
TEST SEQUENCE:
1.  ISSUE A DEVICE RESET
2.  WAIT FOR DNI
3.  WRITE A ONE TO CLEAR DNI
4.  ISSUE A NOP PORT COMMAND
5.  WAIT FOR DNI
6.  WRITE ONE TO CLEAR DNI
7.  MOVE NOP FUNCTION INTO PCBB
8.  ISSUE A GETPCBB PORT COMMAND
9.  WAIT FOR DNI
10. WRITE ONE TO CLEAR DNI
11. ISSUE A GETCMD PORT COMMAND
12. WAIT FOR DNI
13. WRITE ONE TO CLEAR DNI
*****

```

5960 041652
041652

BGNTST

T9::

5961
5962 041652

PNTMAC T09ID

041652 012704 042250
041656 004737 034610

MOV #T09ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

; END OF MACRO EXPANSION OF 'PNTMAC'

5963 041662 004737 035310
5964 041666 103034
5965 041670 012777 004100 140330
5966 041676 112777 000140 140322
5967 041704 004737 032034
5968 041710 103010
5969 041712 004737 031010
5970 041716

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 25# ; NO
MOV #DNI+INTE,@PCSR0 ; PRECONDITION INTR EN.
MOVB #INTE!RSET,@PCSR0 ; RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20# ; YES
JSR PC,CHKFTL ; FATL BIT SET?
ERRHRD 022.,ERR042,MSG003 ; REPORT ERROR

:B0
TRAP C\$ERHRD
.WORD 22
.WORD ERR042
.WORD MSG003

041716 104456
041720 000026
041722 030105
041724 024032
5971 041726
041726 104410
041730 000344

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10037-

5972
5973 041732 004737 032320
5974
5975 041736 103010
5976 041740 004737 031010
5977 041744
041744 104456
041746 000027

; 20#:
JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
; ERROR
; NO
BCC 25# ; FATL BIT SET
JSR PC,CHKFTL ; YES, REPORT ERROR
ERRHRD 023.,ERR006,MSG003

TRAP C\$ERHRD
.WORD 23

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041750 025124 .WORD ERR006
041752 024032 .WORD MSG003
5978 041754 ESCAPE TST ; AND ABORT
041754 104410 TRAP C$ESCAPE
041756 000316 .WORD L10037-.

5979
5980 041760 012777 004100 140240 i25$: MOV #DNI+INTE,@PCSR0 ; PRE-CONDITION INTR EN.
5981 041766 112777 000106 140232 MOVB #INTE!PNOP,@PCSR0 ; ISSUE A NOP PORT COMMAND
5982 041774 004737 030706 JSR PC,CHKDNI ; DNI ?
5983 042000 103010 BCC 30$ ; YES
5984 042002 004737 031010 JSR PC,CHKFTL ; FATL BIT SET?
5985 042006 ERRHRD 024.,ERR008,MSG003 ; NO, REPORT ERROR
042006 104456 TRAP C$ERHRD
042010 000030 .WORD 24
042012 025262 .WORD ERR008
042014 024032 .WORD MSG003
5986 042016 ESCAPE TST ; AND ABORT TEST
042016 104410 TRAP C$ESCAPE
042020 000254 .WORD L10037 .

5987
5988 042022 004737 032320 i30$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
5989 ERROR
5990 042026 103010 BCC 40$ ; NO
5991 042030 004737 031010 JSR PC,CHKFTL ; FATL BIT SET?
5992 042034 ERRHRD 025.,ERR006,MSG003 ; YES, REPORT ERROR
042034 104456 TRAP C$ERHRD
042036 000031 .WORD 25
042040 025124 .WORD ERR006
042042 024032 .WORD MSG003
5993 042044 ESCAPE TST ; AND ABORT
042044 104410 TRAP C$ESCAPE
042046 000226 .WORD L10037-.

5994
5995 042050 i40$:
5996 042050 012705 014442 MOV #NOPF,R5 ; POINT TO DEFAULT NOP FUNCTION
5997 042054 004737 033656 JSR PC,LDPCCB ; LOAD FUNCTION INTO PCBB
5998 042060 004737 033706 JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2!3
5999 042064 012777 004100 140134 MOV #DNI+INTE,@PCSR0 ; PRECONDITION INTR EN.
6000 042072 112777 000101 140126 MOVB #INTE!GETPCB,@PCSR0 ; ISSUE A GETPCBB PORT COMMAND
6001 042100 004737 030706 JSR PC,CHKDNI ; DNI?
6002 042104 103010 BCC 50$ ; YES
6003 042106 004737 031010 JSR PC,CHKFTL ; FATL BIT SET
6004 042112 ERRHRD 026.,ERR009,MSG003 ; NO, REPORT ERROR
042112 104456 TRAP C$ERHRD
042114 000032 .WORD 26
042116 025341 .WORD ERR009
042120 024032 .WORD MSG003
6005 042122 ESCAPE TST ; AND ABORT TEST
042122 104410 TRAP C$ESCAPE
042124 000150 .WORD L10037-.

6006
6007 042126 004737 032320 i50$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
6008 ERROR ?
6009 042132 103010 BCC 60$ ; NO
6010 042134 004737 031010 JSR PC,CHKFTL ; FATL BIT SET?
6011 042140 ERRHRD 027.,ERR006,MSG003 ; YES, REPORT ERROR
042140 104456 TRAP C$ERHRD

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042142 000033 .WORD 27
042144 025124 .WORD ERR006
042146 024032 .WORD MSG003
6012 042150 ESCAPE TST ; AND ABORT TEST
042150 104410 TRAP C$ESCAPE
042152 000122 .WORD L10037-.

6013
6014 042154 012777 004100 140044 60$: MOV #DNI+INTE,@PCSRO ; PRECONDITION INTR EN.
6015 042162 112777 000102 140036 MOVB #INTE!GETCMD,@PCSRO ; ISSUE A GETCMD PORT COMMAND
6016 042170 004737 030706 JSR PC,CHKDNI ; DNI ?
6017 042174 103010 BCC 70$ ; YES
6018 042176 004737 031010 JSR PC,CHKFTL ; FATL BIT SET?
6019 042202 ERRHRD 030.,ERR010,MSG003 ; NO, REPORT ERROR
042202 104456 TRAP C$ERHRD
042204 000036 .WORD 30
042206 025425 .WORD ERR010
042210 024032 .WORD MSG003
6020 042212 ESCAPE TST ; AND ABORT TEST
042212 104410 TRAP C$ESCAPE
042214 000060 .WORD L10037-.

6021
6022 042216 004737 032320 70$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
6023 BCC 80$ ; ERROR ?
6024 042222 103010 BCC 80$ ; NO
6025 042224 004737 031010 JSR PC,CHKFTL ; FATL BIT SET?
6026 042230 ERRHRD 031.,ERR006,MSG003 ; YES, REPORT ERROR
042230 104456 TRAP C$ERHRD
042232 000037 .WORD 31
042234 025124 .WORD ERR006
042236 024032 .WORD MSG003
6027 042240 ESCAPE TST ; AND ABORT TEST
042240 104410 TRAP C$ESCAPE
042242 000032 .WORD L10037-.

6028 042244 80$:
6029
6030 042244 EXIT TST TRAP C$EXIT
042244 104432 .WORD L10037-.
042246 000026

6031
6032 ;LOCAL TEST MESSAGE
6033
6034 042250 104 105 114 T09ID:.ASCIZ 'DELUA PORT COMMAND '
042253 125 101 040
042256 120 117 122
042261 124 040 103
042264 117 115 115
042267 101 116 104
042272 040 000

6035 .EVEN
6036
6037 042274 ENDTST
042274 L10037: TRAP C$ETST
042274 104401

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042370
042370
042372
042374
042376
042400
042400

012704
004737
042612
034610

004737
004100
000140
032034

004737
031010

104456
000040
030105
024032

104410
000266

004737
032320

103010

004737
031010

104456
000041
025124
024032

104410

```
.SBTTL TEST 10: INTERRUPT LOGIC TEST
:*****
:
:   THIS TEST VERIFIES THAT A DELUA INTERRUPT CAN BE GENERATED.
:
:   TEST SEQUENCE:
:     1. SET UP THE INTERRUPT VECTOR
:     2. ISSUE A GET PCBB PORT COMMAND
:     3. WAIT FOR A DNI INTERRUPT
:     4. WRITE ONE TO CLEAR DNI
:*****
:
:   BGNTST
:
:   PNTMAC T10ID
:
:   MOV #T10ID,R4 ;GET POINTER TO TEST NAME MESSAGE
:   JSR PC,PNTID ;PRINT TEST NUMBER AND NAME
:
:   END OF MACRO EXPANSION OF 'PNTMAC'
:
:   JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
:   BCC 25# ; NO
:   MOV #DNI+INTE,@PCSR0 ; PRECONDITION INTR EN.
:   MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
:   JSR PC,CKDNI ; DNI ?
:   BCC 20# ; YES
:   FTL
:
:   JSR PC,CHKFTL ; 'FATL' BIT SET?
:
:   ERRHRD 032.,ERR042,MSG003 ; NO, REPORT ERROR
:
:   ESCAPE TST ; AND ABORT TEST
:
:   JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
:   BCC 25# ; ERROR
:   FTL ; NO
:
:   JSR PC,CHKFTL ; 'FATL' BIT SET?
:
:   ERRHRD 033.,ERR006,MSG003 ; YES, REPORT ERROR
:
:   ESCAPE TST ; AND ABORT
:
:   TRAP C$ERHRD ;80
:   .WORD 32
:   .WORD ERR042
:   .WORD MSG003
:
:   TRAP C$ESCAPE
:   .WORD L10040-.
```

J14

```

042402 000240                                .WORD  L10040-.
6072
6073      ; SET UP INTERRUPT VECTOR
6074
6075 25$: SETVEC INTVEC, #ISRDN1, UNAPRI
        MOV UNAPRI, -(SP)
        MOV #ISRDN1, -(SP)
        MOV INTVEC, -(SP)
        MOV #3, -(SP)
        TRAP C+SVEC
        ADD #10, SP
6076 042404 013746 002244
        042410 012746 036366
        042414 013746 002242
        042420 012746 000003
        042424 104437
        042426 062706 000010
        SETPRI #PRI04 ; SET CPU PRIORITY = 4
        MOV #PRI04, R0
        TRAP C+SPRI
6077
6078      ; ISSUE GET PCBB PORT COMMAND WITH INTERRUPTS ENABLED
6079
6080 40$:
6081 042440 005037 020612      CLR DNIFLG ; INSURE DNI BIT SET FLAG IS CLEAR
6082 042444 012705 014442      MOV #NOPF, R5 ; POINT TO DEFAULT NOP FUNCTION
6083 042450 004737 033656      JSR PC, LDPCBB ; LOAD FUNCTION INTO PCBB
6084 042454 004737 033706      JSR PC, LDPCSR ; ADDRESS OF PCBB -> PCSR2!3
6085 042460 012777 004100 137540  MOV #DNI!INTE, @PCSR0 ; PRECONDITION INTR EN.
6086 042466 112777 000101 137532  MOVB #INTE!GETPCB, @PCSR0 ; ISSUE A GETPCBB PORT COMMAND
6087
6088      ; WAIT FOR D I INTERRUPT
6089
6090 042474 012701 005000      MOV #5000, R1 ; INIT WAIT COUNT
6091 50$:
6092 042500 005737 020612      TST DNIFLG ; DID DNI INTERRUPT OCCUR?
6093 042504 001020              BNE 70$ ; YES, CONTINUE TEST
6094 042506 005301              DEC R1 ; REDUCE DELAY
6095 042510 001373              BNE 50$ ; NOT YET
6096 042512
        JSR PC, CHKFTL ; 'FATL' BIT SET?
        ERRHRD 034., ERR007 ; YES, REPORT ERROR
        TRAP C+ERRHD
        .WORD 34
        .WORD ERRO07
        .WORD 0
6097 042516
        042516 104456
        042520 000042
        042522 025172
        042524 000000
        CLRVEC INTVEC ; DEALLOCATE VECTOR
        MOV INTVEC, R0
        TRAP C+CVEC
6098 042526
        042526 013700 002242
        042532 104436
        SETPRI #PPI07 ; RESTORE CPU PRIORITY TO 7
        MOV #PRI07, R0
        TRAP C+SPRI
6099 042534
        042534 012700 000340
        042540 104441
        ESCAPE TST ; AND ABORT TEST
        TRAP C+ESCAPE
        .WORD L10040-.
6100 042542
        042542 104410
        042544 000076
6101
6102      ; WRITE ONE TO CLEAR DNI
6103
6104 70$: JSR PC, TIMOFF ; TURN OFF THE TIMER
6105 042546 004737 035256      SETPRI #PRI07 ; RESTORE CPU PRIORITY TO 7
        MOV #PRI07, R0
042552 012700 000340

```

K14

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042556 104441
6106 042560 004737 032320 JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI TRAP C$SPRI
6107 ; ERROR?
6108 042564 103010 BCC 80$ ; NO
6109 042566 FTL

042566 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
6110 042572 ERRHRD 035.,ERR006,MSG003 ; YES, REPORT ERROR TRAP C$ERHRD
042572 104456 .WORD 35
042574 000043 .WORD ERR006
042576 025124 .WORD MSG003
042600 024032
6111 042602 ESCAPE TST ; AND ABORT TRAP C$ESCAPE
042602 104410 .WORD L10040-.
042604 000036
6112 042606 80$:
6113
6114 042606 EXIT TST TRAP C$EXIT
042606 104432 .WORD L10040 .
042610 000032
6115
6116 ;LOCAL TEST MESSAGE
6117
6118 042612 104 105 114 T10ID: .ASCIZ 'DELUA INTERRUPT LOGIC '
042615 125 101 040
042620 111 116 124
042623 105 122 122
042626 125 120 124
042631 040 114 117
042634 107 111 103
042637 040 000
6119 .EVEN
6120
6121 042642 ENDTST L10040: TRAP C$ETST
042642
042642 104401

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6142 042644
042644
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6144 042644

042644 012704 043334
042650 004737 034610

6145 042654 004737 035310
6146 042660 103034
6147 042662 012777 004100 137336
6148 042670 112777 000140 137330
6149 042676 004737 032034
6150 042702 103010
6151 042704

042704 004737 031010

6152 042710
042710 104456
042712 000044
042714 030105
042716 024032

6153 042720
042720 104410
042722 000444

6154
6155 042724 004737 032320
6156
6157 042730 103010
6158 042732

042732 004737 031010

6159 042736
042736 104456

.SBTTL TEST 11: READ INTERNAL ROM TEST

THIS TEST READS AND VERIFIES THE INTERNAL ROM.
THE DUMP INTERNAL MEMORY FUNCTION IS USED TO READ THE ROM.
A CRC IS GENERATED FROM THE ROM DATA READ.
A CRC VALUE OF ZERO SHOULD BE GENERATED FROM THE ROM
DATA READ WHICH INCLUDES THE STORED ROM CRC VALUE.

TEST SEQUENCE:

1. CLEAR RBUF
2. READ 1K OF ROM INTO RBUF
3. CALCULATE CRC ON RBUF
4. REPEAT STEPS 1-3 FOR EACH 1K BLOCK OF ROM (8 TIMES)
5. VERIFY CRC GENERATED = 0

BGNTST

T11::

PNTMAC T11ID

MOV #T11ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

; END OF MACRO EXPANSION OF 'PNTMAC'

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

JSR PC,CHKFTL ; 'FATL' BIT SET?

ERRHRD 036.,ERR042,MSG003 ; NO, REPORT ERROR

TRAP ;B0
.WORD C\$ERRRD
.WORD 36
.WORD ERR042
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10041 .

20\$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 30\$; NO
FTL

JSR PC,CHKFTL ; 'FATL' BIT SET?

ERRHRD 037.,ERR006,MSG003 ; YES, REPORT ERROR

TRAP C\$ERRRD


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6194
6195 043130 012237 002320      ;
6196 043134 012777 004100 137064  MOV      (R2)+,UDBB+6      ; LOAD ROM ADDRESS -> UDBB+6
6197 043142 112777 000102 137056  MOV      #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6198 043150 004737 030706      MOVVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET COMMAND PORT COMMAND
6199 043154 103010      JSR      PC,CHKDNI        ; DNI ?
6200 043156      BCC      70$             ; YES
                                FTL
                                JSR      PC,CHKFTL        ; 'FATL' BIT SET?
                                ERRHRD  042.,ERR010,MSG003 ; NO, REPORT ERROR
                                TRAP      C$ERHRD
                                .WORD    42
                                .WORD    ERR010
                                .WORD    MSG003
6201 043162      JSR      PC,CHKFTL        ; 'FATL' BIT SET?
                                ERRHRD  042.,ERR010,MSG003 ; NO, REPORT ERROR
                                TRAP      C$ERHRD
                                .WORD    42
                                .WORD    ERR010
                                .WORD    MSG003
                                ESCAPE  TST        ; AND ABORT TEST
                                TRAP      C$ESCAPE
                                .WORD    L10041-.
6202 043162 104456
6203 043164 000052
6204 043166 025425
6205 043170 024032
6206 043172 104410
6207 043174 000172
6208 043176 004737 032320      ;
6209 043202 103010      70$:  JSR      PC,CLRDN1        ; WRITE ONE TO CLEAR DNI
6210 043204      BCC      80$             ; ERROR ?
6211 043204      FTL             ; NO
                                JSR      PC,CHKFTL        ; 'FATL' BIT SET?
                                ERRHRD  043.,ERR006,MSG003 ; YES, REPORT ERROR
                                TRAP      C$ERHRD
                                .WORD    43
                                .WORD    ERR006
                                .WORD    MSG003
                                ESCAPE  TST        ; AND ABORT TEST
                                TRAP      C$ESCAPE
                                .WORD    L10041-.
6212 043210      JSR      PC,CHKFTL        ; 'FATL' BIT SET?
                                ERRHRD  043.,ERR006,MSG003 ; YES, REPORT ERROR
                                TRAP      C$ERHRD
                                .WORD    43
                                .WORD    ERR006
                                .WORD    MSG003
6213 043210 104456
6214 043212 000053
6215 043214 025124
6216 043216 024032
6217 043220      JSR      PC,CLRDN1        ; WRITE ONE TO CLEAR DNI
6218 043220 104410      80$:  BCC      80$             ; ERROR ?
6219 043222 000144      FTL             ; NO
                                JSR      PC,CHKFTL        ; 'FATL' BIT SET?
                                ERRHRD  043.,ERR006,MSG003 ; YES, REPORT ERROR
                                TRAP      C$ERHRD
                                .WORD    43
                                .WORD    ERR006
                                .WORD    MSG003
                                ESCAPE  TST        ; AND ABORT TEST
                                TRAP      C$ESCAPE
                                .WORD    L10041-.
6220 043224      JSR      PC,CLRDN1        ; WRITE ONE TO CLEAR DNI
6221 043224 004737 034336      80$:  BCC      80$             ; ERROR ?
6222 043230 005301      FTL             ; NO
6223 043232 020127 000001      JSR      PC,ROMCRC        ; CALCULATE CRC ON 1K RBUF
6224 043236 002332      DEC      R1             ; REDUCE 1K BLOCK COUNT
6225 043240 005701      CMP      R1,#1          ; NEXT BLOCK LAST ONE?
6226 043242 100404      BGE      60$           ; NO
6227 043244 012737 001774 020562  TST      R1             ; ALL DONE?
6228 043252 000724      BMI      85$           ; YES
6229 043254      MOV      #1774,BYTCNT ; NO, BUT,DON'T INCLUDE CRC
6230 043254      BR       60$           ; IN LAST 1K CRC CALCULATION
6231 043254      ;
6232 043254      ;VERIFY CRC
6233 043254      85$:  COM      R3             ; COMPLIMENT
6234 043256 005103      COM      R4             ; CRC
6235 043260 012700 020576      MOV      #XCRC,R0        ; BASE ADDRESS OF CALCULATED CRC
6236 043264 010420      MOV      R4,(R0)+       ; SAVE
6237 043266 010310      MOV      R3,(R0)        ; CRC
6238 043270 012700 020576      MOV      #XCRC,R0        ; RESET POINTER
6239 043274 012701 012436      MOV      #RBUF+1774,R1   ; POINT TO ROM CRC
6240 043300 022021      CMP      (R0)+,(R1)+    ; 1ST 2 BYTES CHECK?
    
```

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6233 043302 001002          BNE      90$          ; NO, GO REPORT ERROR
6234 043304 021011          CMP      (R0),(R1)   ; 2ND 2 BYTES COMPARE?
6235 043306 001410          BEQ      95$          ; YES, GO EXIT TEST
6236 043310          90$:
6237 043310          FTL
          043310 004737 031010 JSR      PC,CHKFTL   ; 'FATL' BIT SET?
6238 043314          ERRHRD 044.,ERR024 ; NO, ROM CRC ERROR, REPORT ERROR
          043314 104456          TRAP    C$ERHRD
          043316 000054          .WORD  44
          043320 026540          .WORD  ERR024
          043322 000000          .WORD  0
6239 043324          ESCAPE TST          ; AND ABORT TEST
          043324 104410          TRAP    C$ESCAPE
          043326 000040          .WORD  L10041-.
6240 043330          95$:
6241
6242 043330          EXIT   TST
          043330 104432          TRAP    C$EXIT
          043332 000034          .WORD  L10041-.
6243
6244          ;LOCAL TEST MESSAGE
6245
6246 043334          104    105    114  T11ID: .ASCIZ 'DELUA READ INTERNAL ROM '
          043337          125    101    040
          043342          122    105    101
          043345          104    040    111
          043350          116    124    105
          043353          122    116    101
          043356          114    040    122
          043361          117    115    040
          043364          000
6247          .EVEN
6248
6249 043366          ENDTST
          043366          L10041: TRAP    C$ETST
          043366 104401

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6280 043370
043370
6281
6282 043370

043370 012704 044560
043374 004737 034610

6283 043400 004737 035310
6284 043404 103034
6285 043406 012777 0C4100 136612
6286 043414 112777 000140 136604
6287 043422 004737 032034
6288 043426 103010
6289 043430

043430 004737 031010

6290 043434
043434 1C :56
043436 0C0055
043440 030105
043442 024032
6291 043444
043444 104410
043446 001154

.SBTTL TEST 12: READ/WRITE INTERNAL MEMORY TEST

```
*****
:
: THIS TEST READS AND WRITES THE INTERNAL RAM MEMORY.
: THE DUMP/LOAD INTERNAL MEMORY FUNCTIONS ARE USED TO
: READ/WRITE THE ENTIRE INTERNAL RAM ABOVE THAT USED
: FOR THE LOADED PROCESS.
:
:         LOWEST ADDRESS: 08400(16)
:         HIGHEST ADDRESS: 1F400(16)
:
: TEST SEQUENCE:
:
: 1.  WRITE MODE REGISTER = INTERNAL LOOPBACK MODE
:     TO REMOVE MEMORY FROM THE WIRE
: 2.  LOAD TBUF WITH DATA = ADDRESS
: 3.  LOAD 1K OF INTERNAL MEMORY WITH TBUF
: 4.  REPEAT STEPS 1 AND 2 FOR
:     EACH 1K BLOCK OF MEMORY (  TIMES)
: 5.  RESETUP TBUF FOR DATA COMPARE
: 6.  CLEAR RBUF
: 7.  DUMP INTERNAL MEMORY -> RBUF
: 8.  COMPARE RBUF WITH TBUF
: 9.  REPEAT STEPS 4,5,6 AND 7 FOR EACH 1K BLOCK
: 10. REPEAT STEPS 1 THRU 8 WITH COMPLIMENT DATA
:
*****
```

BGNTST

T12::

PNTMAC T12ID

MOV #T12ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

END OF MACRO EXPANSION OF 'PNTMAC'

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

JSR PC,CHKFTL ; 'FATL' BIT SET?

ERRHRD 045.,ERR042,MSG003 ; NO, REPORT ERROR

TRAP ;B0
.WORD C\$ERRHRD
.WORD 45
.WORD ERR042
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10042-

D15

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TEST 12: READ/WRITE INTERNAL MEMORY TEST

SEQ 185

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6292
6293 043450 004737 032320      ; 20$: JSR      PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
6294                                ;      BCC      30$          ; ERROR ?
6295 043454 103010            ;      FTL                                ; NO
6296 043456
        043456 004737 031010      JSR      PC,CHKFTL          ; 'FATL' BIT SET?
6297 043462                                ERRHRD  046.,ERR006,MSG003 ; YES, REPORT ERROR
        043462 104456                                TRAP   C$ERHRD
        043464 000056                                .WORD  46
        043466 025124                                .WORD  ERR006
        043470 024032                                .WORD  MSG003
6298 043472                                ESCAPE  TST                ; AND ABORT TEST
        043472 104410                                TRAP   C$ESCAPE
        043474 001126                                .WORD  L10042-.
6299
6300 043476 004737 033706      ; 30$: JSR      PC,LDPCSR      ; ADDRESS OF PCBB > PCSR2!3
6301 043502 012777 004100 136516 ;      MOV      #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6302 043510 112777 000101 136510 ;      MOVB    #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
6303 043516 004737 030706      ;      JSR      PC,CHKDNI
6304 043522 103010            ;      BCC      40$          ; YES
6305 043524
        043524 004737 031010      JSR      PC,CHKFTL          ; 'FATL' BIT SET?
6306 043530                                ERRHRD  047.,ERR009,MSG003 ; NO, REPORT ERROR
        043530 104456                                TRAP   C$ERHRD
        043532 000057                                .WORD  47
        043534 025341                                .WORD  ERR009
        043536 024032                                .WORD  MSG003
6307 043540                                ESCAPE  TST                ; AND ABORT TEST
        043540 104410                                TRAP   C$ESCAPE
        043542 001060                                .WORD  L10042 .
6308
6309 043544 004737 032320      ; 40$: JSR      PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
6310                                ;      BCC      45$          ; ERROR ?
6311 043550 103010            ;      FTL                                ; NO
6312 043552
        043552 004737 031010      JSR      PC,CHKFTL          ; 'FATL' BIT SET?
6313 043556                                ERRHRD  050.,ERR006,MSG003 ; YES, REPORT ERROR
        043556 104456                                TRAP   C$ERHRD
        043560 000062                                .WORD  50
        043562 025124                                .WORD  ERR006
        043564 024032                                .WORD  MSG003
6314 043566                                ESCAPE  TST                ; AND ABORT TEST
        043566 104410                                TRAP   C$ESCAPE
        043570 001032                                .WORD  L10042 .
6315
6316                                ; ISSUE A PORT HALT TO INHIBIT NI ACTIVITY
6317
6318 043572                                ; 45$:
6319
6320 043572 012777 004100 136426 ;      MOV      #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6321 043600 112777 000116 136420 ;      MOVB    #INTE!HALT,@PCSR0 ; PORT HALT

```

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TEST 12: READ/WRITE INTERNAL MEMORY TEST

SEQ 186

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6322 043606 004737 030706      JSR    PC,CHKDNI      ; DNI ?
6323 043612 103010      BCC    47$           ; YES
6324 043614

      043614 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?
6325 043620      ERRHRD 051.,ERR038,MSG003 ; NO, REPORT ERROR
      043620 104456      TRAP   C$ERHRD
      043622 000063      .WORD  51
      043624 027616      .WORD  ERR038
      043626 024032      .WORD  MSG003
6326 043630      ESCAPE TST          ; AND ABORT TEST
      043630 104410      TRAP   C$ESCAPE
      043632 000770      .WORD  L10042-.
6327
6328 043634 004737 032320      47$: JSR    PC,CLRDN1  ; WRITE ONE TO CLEAR DNI
6329
6330 043640 103010      BCC    50$           ; ERROR ?
6331 043642      FTL
      043642 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?
6332 043646      ERRHRD 052.,ERR006,MSG003 ; YES, REPORT ERROR
      043646 104456      TRAP   C$ERHRD
      043650 000064      .WORD  52
      043652 025124      .WORD  ERR006
      043654 024032      .WORD  MSG003
6333 043656      ESCAPE TST          ; AND ABORT TEST
      043656 104410      TRAP   C$ESCAPE
      043660 000742      .WORD  L10042 .
6334
6335      ;WRITE RAM MEMORY WITH DATA = ADDRESS BY 1K BLOCKS
6336 043662      50$:
6337 043662 005037 020610      CLR    EAFLAG        ; CLEAR EXT ADDR BITS FLAG
6338 043666 012703 017714      MOV    #MEM13A,R3    ; R3 POINTS TO LINK MEM ADDRESS TABLE
6339 043672 012701 000065      MOV    #53.,R1       ; DO LOOP
6340
6341      ;WRITE TBUF WITH DATA = ADDRESS
6342 043676 010305      60$: MUV    R3,R5        ; R5 POINTS TO ADDRESS
6343 043700 004737 033322      JSR    PC,LDBUFC     ; LOAD TBUF WITH ADDRESS DATA PATTERN
6344
6345      ;LOAD INTERNAL RAM MEMORY
6346 043704 012705 014676      MOV    #LDMEM,R5     ; DEFAULT LOAD INTERNAL MEMORY
6347 043710 004737 035132      JSR    PC,SRWRAM    ; LOAD PCBB AND UDBB
6348
6349 043714 012777 004100 136304 65$: MOV    #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6350 043722 112777 000102 136276      MOVB  #INTE!GETCMD,@PCSR0 ; ISSUE GET COMMAND PORT COMMAND
6351 043730 004737 030706      JSR    PC,CHKDNI    ; DNI ?
6352 043734 103010      BCC    70$           ; YES
6353 043736

      043736 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?
6354 043742      ERRHRD 053.,ERR010,MSG003 ; NO, REPORT ERROR
      043742 104456      TRAP   C$ERHRD
      043744 000065      .WORD  53
      043746 025425      .WORD  ERR010

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6355 043750 024032          ESCAPE TST          ; AND ABORT TEST          .WORD  MSG003
      043752          ;                                     TRAP    C$ESCAPE
      043752 104410          ;                                     .WORD  L10042 .
      043754 000646          ;
6356          ;
6357 043756 004737 032320  70$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
6358          ;                                     ; ERROR ?
6359 043762 103010          BCC    80$          ; NO
6360 043764          FTL
      043764 004737 031010  JSR    PC,CHKFTL      ; 'FATL' BIT SET?
6361 043770          ERRHRD 054.,ERR006,MSG003 ; YES, REPORT ERROR
      043770 104456          ;                                     TRAP    C$ERHRD
      043772 000066          ;                                     .WORD  54
      043774 025124          ;                                     .WORD  ERR006
      043776 024032          ;                                     .WORD  MSG003
6362 044000          ESCAPE TST          ; AND ABORT TEST          TRAP    C$ESCAPE
      044000 104410          ;                                     .WORD  L10042-.
      044002 000620          ;
6363 044004          80$: TST    (R3)+      ; BUMP TABLE POINTER
6364 044004 005723          DEC    R1          ; DONE 16 WRITES ?
6365 044006 005301          BNE    60$          ; NO
6366 044010 001332          ;
6367          ;
6368          ;READ INTERNAL RAM MEMORY BY 1K BLOCKS AND COMPARE DATA
6369          ;
6370 044012 005037 020610  CLR    EAFLAG      ; CLEAR EXT ADDR BITS FLAG
6371 044016 012703 017714  MOV    #MEM13A,R3  ; R3 POINTS TO LINK MEM ADDRESS TABLE
6372 044022 012701 000065  MOV    #53.,R1     ; DO LOOP
6373          ;
6374          ;SETUP TBUF FOR DATA COMPARE
6375 044026 010305 100$: MOV    R3,R5          ; R5 POINTS TO ADDRESS
6376 044030 004737 033322  JSR    PC,LDBUFC   ; LOAD TBUF WITH ADDRESS DATA PATTERN
6377          ;
6378          ;CLEAR RBUF
6379          ;
6380 044034 004737 032272  JSR    PC,CLRCV    ; CLEAR RECEIVE BUFFER
6381          ;
6382          ;DUMP INTERNAL MEMORY INTO RBUF
6383 044040 012705 014666  MOV    #DMPMEM,R5  ; DEFAULT DUMP INTERNAL MEMORY
6384 044044 004737 035132  JSR    PC,SRWRAM   ; LOAD PCBB AND UDBB
6385          ;
6386 044050 012777 004100 136150 115$: MOV    #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6387 044056 112777 000102 136142  MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET COMMAND PORT COMMAND
6388 044064 004737 030706  JSR    PC,CHKDNI   ; DNI ?
6389 044070 103010          BCC    120$        ; YES
6390 044072          FTL
      044072 004737 031010  JSR    PC,CHKFTL      ; 'FATL' BIT SET?
6391 044076          ERRHRD 055.,ERR010,MSG003 ; NO, REPORT ERROR
      044076 104456          ;                                     TRAP    C$ERHRD
      044100 000067          ;                                     .WORD  55
      044102 025425          ;                                     .WORD  ERR010
      044104 024032          ;                                     .WORD  MSG003
6392 044106          ESCAPE TST          ; AND ABORT TEST

```

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 TEST 12: READ/WRITE INTERNAL MEMORY TEST

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044106 104410
044110 000512
6393
6394 044112 004737 032320 ;120$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
6395 ; ERROR ?
6396 044116 103010 BCC 130$ ; NO
6397 044120 FTL

044120 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
6398 044124 ERRHRD 056.,ERR006,MSG003 ; YES, REPORT ERROR
044124 104456 TRAP C$ERHRD
044126 000070 .WORD 56
044130 025124 .WORD ERR006
044132 024032 .WORD MSG003
6399 044134 ESCAPE TST ; AND ABORT TEST
044134 104410 TRAP C$ESCAPE
044136 000464 .WORD L10042-.

6400 ;
6401 ;COMPARE RBUF WITH TBUF
6402 ;
6403 044140 022701 000001 ;130$: CMP #1,R1 ; IS THIS THE LAST 1K BLOCK ?
6404 044144 001003 BNE 135$ ; NO
6405 044146 012705 000500 MOV #500,R5 ; YES, ONLY COMPARE 500 WORDS
6406 044152 000402 BR 136$

6407 ;
6408 044154 012705 002000 ;135$: MOV #1024.,R5 ; COMPARE 1024. WORDS OF DATA
6409 044160 004737 032726 ;136$: JSR PC,CMPMEM ; DATA COMPARE ERROR ?
6410 044164 103010 BCC 140$ ; NO
6411 044166 FTL

044166 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
6412 044172 ERRHRD 057.,ERR041,MSG007 ; YES, REPORT ERROR
044172 104456 TRAP C$ERHRD
044174 000071 .WORD 57
044176 030037 .WORD ERR041
044200 024442 .WORD MSG007
6413 044202 ESCAPE TST ; AND ABORT TEST
044202 104410 TRAP C$ESCAPE
044204 000416 .WORD L10042-.

6414 ;
6415 044206 ;140$: TST (R3)+ ; BUMP UP TABLE POINTER
6416 044206 005723 DEC R1 ; DONE 103 READS ?
6417 044210 005301 BNE 100$

6419 ;
6420 ;REPEAT TEST WITH COMPLIMENTED DATA PATTERN
6421 ;
6422 ;WRITE INTERNAL MEMORY WITH DATA = COMPLIMENT OF ADDRESS BY 1K BLOCKS
6423 ;
6424 044214 005037 020610 CLR EAFLAG ; CLEAR EXT ADDR BITS FLAG
6425 044220 012703 017714 MOV #MEM13A,R3 ; R3 POINTS TO LINK MEM ADDRESS TABLE
6426 044224 012701 000065 MOV #53.,R1 ; DO LOOP
6427 ;
6428 ;WRITE RBUF WITH DATA = ADDRESS
6429 044230 010305 ;160$: MOV R3,R5 ; R5 POINTS TO ADDRESS

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6430 044232 004737 033322          JSR    PC,LDBUFC          ; LOAD TBUF WITH COMPLIMENTED DATA
6431                                ;
6432                                ;LOAD INTERNAL RAM MEMORY
6433 044236 012705 014676          MOV    #LDMEM,R5        ; DEFAULT LOAD INTERNAL MEMORY
6434 044242 004737 035132          JSR    PC,SRWRAM        ; LOAD PCBB AND UDBB
6435                                ;
6436 044246 012777 004100 135752 165$: MOV    #DNI!INTE,@PCSR0    ; PRECONDITION INTR EN.
6437 044254 112777 000102 135744  MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET COMMAND PORT COMMAND
6438 044262 004737 030706          JSR    PC,CHKDNI        ; DNI ?
6439 044266 103010                  BCC    170$             ; YES
6440 044270                          FTL
                                ;
                                044270 004737 031010          JSR    PC,CHKFTL        ; 'FATL' BIT SET?
6441 044274                          ERRHRD 060.,ERR010,MSG003 ; NO, REPORT ERROR
                                TRAP    C$ERRHRD
                                .WORD   60
                                044274 104456
                                044276 000074
                                044300 025425
                                044302 024032
                                .WORD   ERR010
                                .WORD   MSG003
6442 044304                          ESCAPE TST                ; AND ABORT TEST
                                TRAP    C$ESCAPE
                                .WORD   L10042-.
                                044304 104410
                                044306 000314
6443                                ;
6444 044310 004737 032320 170$: JSR    PC,CLRDNI        ; WRITE ONE TO CLEAR DNI
6445                                ; ERROR ?
6446 044314 103010                  BCC    180$             ; NO
6447 044316                          FTL
                                ;
                                044316 004737 031010          JSR    PC,CHKFTL        ; 'FATL' BIT SET?
6448 044322                          ERRHRD 061.,ERR006,MSG003 ; YES, REPORT ERROR
                                TRAP    C$ERRHRD
                                .WORD   61
                                044322 104456
                                044324 000075
                                044326 025124
                                044330 024032
                                .WORD   ERR006
                                .WORD   MSG003
6449 044332                          ESCAPE TST                ; AND ABORT TEST
                                TRAP    C$ESCAPE
                                .WORD   L10042-.
                                044332 104410
                                044334 000266
6450 044336 180$:
6451 044336 005301                  DEC    R1                ; DONE 16 WRITES ?
6452 044340 001333                  BNE    160$             ; NO
6453                                ;
6454                                ;READ INT RAM MEMORY BY 1K BLOCKS AND COMPARE DATA
6455                                ;
6456 044342 005037 020610          CLR    EAFLAG           ; CLEAR EXT ADDR BITS FLAG
6457 044346 012703 017714          MOV    #MEM13A,R3       ; R3 POINTS TO LINK MEM ADDRESS TABLE
6458 044352 012701 000065          MOV    #53.,R1          ; DO LOOP
6459                                ;
6460                                ;SETUP TBUF FOR DATA COMPARE
200$: 044356 010305                  MOV    R3,R5            ; R5 POINTS TO ADDRESS
6461 044356 010305                  MOV    R3,R5            ;
6462 044360 004737 033322          JSR    PC,LDBUFC        ; LOAD TBUF WITH COMPLIMENTED DATA
6463                                ;
6464                                ;CLEAR RBUF
6465 044364 012704 010442          MOV    #RBUF,R4         ; CLEAR RBUF
6466 044370 012700 002000          MOV    #1024.,R0        ;
6467 044374 005024                  CLR    (R4)+            ;
6468 044376 077002                  SOB    R0,210$         ;

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6469
6470          ;DUMP INTERNAL RAM MEMORY INTO RBUF
6471 044400 012705 014666      MOV      #DMPMEM,R5      ; DEFAULT DUMP INTERNAL MEMORY
6472 044404 004737 035132      JSR      PC,SRWRAM      ; LOAD PCBB AND UDBB
6473
6474 044410 012777 004100 135610 ;215$: MOV      #DNI!INTE,@PCSR0      ; PRECONDITION INTR EN.
6475 044416 112777 000102 135602 MOVB     #INTE!GETCMD,@PCSR0 ; ISSUE GET COMMAND PORT COMMAND
6476 044424 004737 030706      JSR      PC,CHKDNI      ; DNI ?
6477 044430 103010      BCC     220$            ; YES
6478 044432
          JSR      PC,CHKFTL      ; 'FATL' BIT SET?
          ERRHRD 062.,ERR010,MSG003 ; NO, REPORT ERROR
6479 044436
          044436 104456      TRAP     C$ERHRD
          044440 000076      .WORD   62
          044442 025425      .WORD   ERR010
          044444 024032      .WORD   MSG003
6480 044446      ESCAPE TST      ; AND ABORT TEST
          044446 104410      TRAP     C$ESCAPE
          044450 000152      .WORD   L10042-.
6481
6482 044452 004737 032320      ;220$: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
6483
6484 044456 103010      BCC     230$            ; ERROR ?
6485 044460      FTL
          JSR      PC,CHKFTL      ; 'FATL' BIT SET?
          ERRHRD 063.,ERR006,MSG003 ; YES, REPORT ERROR
6486 044464
          044464 104456      TRAP     C$ERHRD
          044466 000077      .WORD   63
          044470 025124      .WORD   ERR006
          044472 024032      .WORD   MSG003
6487 044474      ESCAPE TST      ; AND ABORT TEST
          044474 104410      TRAP     C$ESCAPE
          044476 000124      .WORD   L10042-.
6488
6489          ;COMPARE RBUF WITH TBUF
6490
6491 044500 022701 000001      ;230$: CMP      #1,R1          ; IS THIS THE LAST 1K PLOCK ?
6492 044504 001003      BNE     235$            ; NO
6493 044506 012705 000500      MOV      #500,R5        ; YES, ONLY COMPARE 500 WORDS
6494 044512 000402      BR      236$
6495
6496 044514 012705 002000      ;235$: MOV      #1024.,R5      ; COMPARE 1024. WORDS OF DATA
6497 044520 004737 032726      ;236$: JSR      PC,CHPMEM      ; DATA COMPARE ERROR ?
6498 044524 103010      BCC     240$            ; NO
6499 044526
          JSR      PC,CHKFTL      ; 'FATL' BIT SET?
          ERRHRD 064.,ERR041,MSG007 ; YES, REPORT ERROR
6500 044532
          044532 104456      TRAP     C$ERHRD
          044534 000100      .WORD   64
          044536 030037      .WORD   ERR041
          044540 024442      .WORD   MSG007

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6501 044542          ESCAPE TST          ; AND ABORT TEST
      044542 104410          TRAP        C$ESCAPE
      044544 000056          .WORD      L10042 .
6502
6503 044546          ;240$:
6504 044546 005723          TST      (R3)+          ; BUMP UP TABLE POINTER
6505 044550 005301          DEC      R1              ; DONE 103 READS ?
6506 044552 001301          BNE     200$
6507
6508
6509 044554          EXIT  TST
      044554 104432          TRAP        C$EXIT
      044556 000044          .WORD      L10042-.
6510
6511          ;LOCAL TEST MESSAGE
6512
6513 044560          104      105      114      T12ID: .ASCIZ 'DELUA READ/WRITE INTERNAL MEMORY '
      044563          125      101      040
      044566          122      105      101
      044571          104      057      127
      044574          122      111      124
      044577          105      040      111
      044602          116      124      105
      044605          122      116      101
      044610          114      040      115
      044613          105      115      117
      044616          122      131      040
      044621          000
6514          .EVEN
6515
6516 044622          ENDTST
      044622          L10042: TRAP        C$ETST
      044622 104401

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.SBTTL TEST 13: INTERNAL LOOPBACK TEST

```

*****
:
: THIS TEST VERIFIES THAT AN INTERNAL LOOPBACK OPERATION
: CAN BE PERFORMED SUCCESSFULLY.
:
: TEST SEQUENCE:
:   1. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM MODE
:   2. WRITE RING FORMAT
:   3. WRITE PHYSICAL ADDRESS
:   4. SET UP RINGS AND BUFFERS
:   5. ISSUE START
:   6. CHECK FOR ERRORS
:   7. ISSUE STOP
:
*****

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6536 044624
044624
6537
6538 044624

BGNTST

T13::

PNTMAC T13ID

044624 012704 046200
044630 004737 034610

MOV #T13ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

: END OF MACRO EXPANSION OF 'PNTMAC'

6539 044634 004737 035310
6540 044640 103034
6541 044642 012777 004100 135356
6542 044650 112777 000140 135350
6543 044656 004737 032034
6544 044662 103010
6545 044664

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

044664 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

6546 044670
044670 104456
044672 000101
044674 030105
044676 024032

ERRHRD 065.,ERR042,MSG003 ; NO, REPORT ERROR
TRAP ;B0
.WORD C\$ERRRD
.WORD 65
.WORD ERR042
.WORD MSG003

6547 044700
044700 104410
044702 001330

ESCAPE TST ; AND ABORT TEST
TRAP C\$ESCAPE
.WORD L10043 .

6548
6549 044704 004737 032320 ; 20\$:
6550
6551 044710 103010
6552 044712

JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 30\$; NO
FTL

044712 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

6553 044716
044716 104456
044720 000102

ERRHRD 066.,ERR006,MSG003 ; YES, REPORT ERROR
TRAP C\$ERRRD
.WORD 66

L15

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TEST 13: INTERNAL LOOPBACK TEST

SEQ 193

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044722 025124                                .WORD  ERR006
044724 024032                                .WORD  MSG003
6554 044726                                ESCAPE TST                                ; AND ABORT TEST                                TRAP  C$ESCAPE
044726 104410                                .WORD  L10043-.
044730 001302

6555
6556 044732                                ; 30$:
6557 044732 004737 032246                    JSR    PC,CLRBUF                            ; CLEAR XMIT,RECV BUFFERS
6558 044736 004737 033606                    JSR    PC,LDDFLT                            ; LOAD DEFAULT PHY.ADDRESS TABLES
6559 044742 004737 033706                    JSR    PC,LDPCSR                            ; ADDRESS OF PCBB -> PCSR2!3
6560 044746 012777 004100 135252            MOV    #DNI!INTE,@PCSR0                    ; PRECONDITION INTR EN.
6561 044754 112777 000101 135244            MOV    #INTE!GETPCB,@PCSR0                ; ISSUE GET_PCBB PORT COMMAND
6562 044762 004737 030706                    JSR    PC,CHKDNI                            ; DNI?
6563 044766 103010                    BCC    40$                                ; YES
6564 044770                                FTL

044770 004737 031010                    JSR    PC,CHKFTL                            ; 'FATL' BIT SET?

6565 044774                                ERRHRD 067.,ERR009,MSG003                ; NO, REPORT ERROR
044774 104456                                TRAP  C$ERHRD
044776 000103                                .WORD  67
045000 025341                                .WORD  ERR009
045002 024032                                .WORD  MSG003
6566 045004                                ESCAPE TST                                ; AND ABORT TEST                                TRAP  C$ESCAPE
045004 104410                                .WORD  L10043-.
045006 001224

6567
6568 045010 004737 032320                    ; 40$: JSR    PC,CLR DNI                    ; WRITE ONE TO CLEAR DNI
6569                                BCC    50$                                ; ERROR ?
6570 045014 103010                                FTL                                ; NO
6571 045016

045016 004737 031010                    JSR    PC,CHKFTL                            ; 'FATL' BIT SET?

6572 045022                                ERRHRD 070.,ERR006,MSG003                ; YES, REPORT ERROR
045022 104456                                TRAP  C$ERHRD
045024 000106                                .WORD  70
045026 025124                                .WORD  ERR006
045030 024032                                .WORD  MSG003
6573 045032                                ESCAPE TST                                ; AND ABORT TEST                                TRAP  C$ESCAPE
045032 104410                                .WORD  L10043-.
045034 001176

6574
6575                                ; WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
6576
6577 045036 012705 014602                    ; 50$: MOV    #WTMODE,R5                    ; DEFAULT WRITE MODE FUNCTION
6578 045042 004737 033656                    JSR    PC,LDP CBB                            ; LOAD FUNCTION -> PCBB
6579 045046 012777 004100 135152            MOV    #DNI!INTE,@PCSR0                    ; PRECONDITION INTR EN.
6580 045054 112777 000102 135144            MOV    #INTE!GETCMD,@PCSR0                ; ISSUE GET_CMD PORT COMMAND
6581 045062 004737 030706                    JSR    PC,CHKDNI                            ; DNI ?
6582 045066 103010                    BCC    60$                                ; YES
6583 045070                                FTL

045070 004737 031010                    JSR    PC,CHKFTL                            ; 'FATL' BIT SET?

6584 045074                                ERRHRD 071.,ERR010,MSG003                ; NO, REPORT ERROR
045074 104456                                TRAP  C$ERHRD

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M15

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045076 000107 .WORD 71
045100 025425 .WORD ERR010
045102 024032 .WORD MSG003
6585 045104 ESCAPE TST ; AND ABORT TEST
045104 104410 TRAP C$ESCAPE
045106 001124 .WORD L10043-.

6586
6587 045110 004737 032320 ;60$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
6588 ; ERROR ?
6589 045114 103010 BCC 70$ ; NO
6590 045116 FTL

045116 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

6591 045122 ERRHRD 072.,ERR006,MSG003 ; YES, REPORT ERROR
045122 104456 TRAP C$ERHRD
045124 000110 .WORD 72
045126 025124 .WORD ERR006
045130 024032 .WORD MSG003
6592 045132 ESCAPE TST ; AND ABORT TEST
045132 104410 TRAP C$ESCAPE
045134 001076 .WORD L10043-.

6593 ;WRITE RING FORMAT
6594
6595
6596 045136 012705 014542 70$: MOV #WTRNGS,R5 ; DEFAULT WRITE RING FORMAT FUNCTION
6597 045142 004737 033656 JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
6598 045146 012705 014706 MOV #RFRMT,R5 ; DEFAULT RING FORMAT
6599 045152 012700 000006 MOV #6,R0 ; FORMAT = SIX WORDS
6600 045156 004737 034134 JSR PC,LDUDBB ; LOAD RING FORMAT -> UDBB
6601 045162 012777 004100 135036 MOV #DNI!INTE,@PCSRO ; PRECONDITION INTR EN.
6602 045170 112777 000102 135030 MOVB #INTE!GETCMD,@PCSRO ; ISSUE GET_CMD PORT COMMAND
6603 045176 004737 030706 JSR PC,CHKDNI ; DNI ?
6604 045202 103010 BCC 80$ ; YES
6605 045204 FTL

045204 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

6606 045210 ERRHRD 073.,ERR010,MSG003 ; NO, REPORT ERROR
045210 104456 TRAP C$ERHRD
045212 000111 .WORD 73
045214 025425 .WORD ERR010
045216 024032 .WORD MSG003
6607 045220 ESCAPE TST ; AND ABORT TEST
045220 104410 TRAP C$ESCAPE
045222 001010 .WORD L10043-.

6608
6609 045224 004737 032320 ;80$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
6610 ; ERROR ?
6611 045230 103010 BCC 90$ ; NO
6612 045232 FTL

045232 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

6613 045236 ERRHRD 074.,ERR006,MSG003 ; YES, REPORT ERROR
045236 104456 TRAP C$ERHRD
045240 000112 .WORD 74

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N15

```

045242 025124
045244 024032
6614 045246          ESCAPE TST          ; AND ABORT TEST          .WORD  ERRO06
045246 104410          ;                               .WORD  MSG003
045250 000762          ;                               TRAP   C$ESCAPE
6615          ;                               .WORD  L10043-.
6616          ;WRITE PHYSICAL ADDRESS
6617
6618 045252          90$:
6619 045252 012705 002274      MOV     #DEFAULT,R5          ; GET DEFAULT PHYSICAL ADDRESS
6620 045256 004737 033724      JSR    PC,LDPHYA           ; PLACE IT IN DATA TABLE
6621 045262 012705 014502      MOV     #WTPHYA,R5         ; DEFAULT WRITE PHYSICAL ADDR FUNC
6622 045266 004737 033656      JSR    PC,LDPCCBB         ; LOAD FUNCTION -> PCBB
6623 045272 012777 004100      MOV     #DNI!INTE,@PCSR0   ; PRECONDITION INTR EN.
6624 045300 112777 000102      MOV     #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
6625 045306 004737 030706      JSR    PC,CHKDNI          ; DNI ?
6626 045312 103010      BCC    100$               ; YES
6627 045314          FTL
045314 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
6628 045320          ERRHRD 075.,ERRO10,MSG003      ; NO, REPORT ERROR
045320 104456          TRAP   C$ERHRD
045322 000113          .WORD  75
045324 025425          .WORD  ERRO10
045326 024032          .WORD  MSG003
6629 045330          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
045330 104410          ;                               .WORD  L10043-.
045332 000700
6630
6631 045334 004737 032320      100$: JSR    PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
6632          ; ERROR ?
6633 045340 103010          BCC    110$               ; NO
6634 045342          FTL
045342 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
6635 045346          ERRHRD 076.,ERRO06,MSG003      ; YES, REPORT ERROR
045346 104456          TRAP   C$ERHRD
045350 000114          .WORD  76
045352 025124          .WORD  ERRO06
045354 024032          .WORD  MSG003
6636 045356          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
045356 104410          ;                               .WORD  L10043-.
045360 000652
6637
6638          ;SET UP RINGS FOR ONE BUFFER LOOPBACK
6639
6640 045362 012705 016412      110$: MOV     #TDRB1A,R5         ; DEFAULT ONE BUFFER TRANSMIT RING
6641 045366 004737 034040      JSR    PC,LDTDRB         ; LOAD TDRB
6642 045372 012705 014752      MOV     #RDRB1A,R5         ; DEFAULT ONE BUFFER RECEIVE RING
6643 045376 004737 033744      JSR    PC,LDRDRB         ; LOAD RDRB
6644
6645          ;SET UP BUFFERS AND START
6646
6647 045402 005037 020564      CLR    D0CRC              ; NO APPEND CRC
6648 045406 012737 000006      MOV     #6,BYTCNT         ; DATA BYTE COUNT
020562

```


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TEST 13: INTERNAL LOOPBACK TEST

SEQ 198

```

6700 045706 004737 032434      180$: JSR    PC,CLRRXI          ; WRITE ONE TO CLEAR RXI
6701                                ; ERROR ?
6702 045712 103010            BCC    190$                    ; NO
6703 045714                                FTL
                                JSR    PC,CHKFTL              ; 'FATL' BIT SET?
                                ERRHRD 086.,ERR016,MSG003 ; YES, REPORT ERROR
6704 045720                                TRAP  C$ERHRD
045720 104456                                .WORD 86
045722 000126                                .WORD ERR016
045724 025754                                .WORD MSG003
045726 024032
6705 045730 ESCAPE TST          ; AND ABORT TEST
045730 104410                                TRAP  C$ESCAPE
045732 000300                                .WORD L10043 .
6706
6707 045734 012705 002662      190$: MOV    #RDRB,R5          ; CHECK RDRB OWNERSHIP
6708 045740 004737 031162      JSR    PC,CHKOWN              ; OWN = PORT DRIVER ?
6709 045744 103010            BCC    200$                    ; YES
6710 045746                                FTL
                                JSR    PC,CHKFTL              ; 'FATL' BIT SET?
                                ERRHRD 087.,ERR017              ; NO, REPORT ERROR
6711 045752                                TRAP  C$ERHRD
045752 104456                                .WORD 87
045754 000127                                .WORD ERR017
045756 026022                                .WORD 0
045760 000000
6712 045762 ESCAPE TST          ; AND ABORT TEST
045762 104410                                TRAP  C$ESCAPE
045764 000246                                .WORD L10043-.
6713
6714 045766 012705 020456      200$: MOV    #RDR20C,R5        ; POINT TO EXPECTED RDRB
6715 045772 004737 034214      JSR    PC,LDXRDR              ; LOAD INTO XRDRBO TABLE
6716 045776 012705 002662      MOV    #RDRB,R5              ; CHECK RDRB
6717 046002 004737 031344      JSR    PC,CHKRDR              ; ERRORS ?
6718 046006 103010            BCC    210$                    ; NO
6719 046010                                FTL
                                JSR    PC,CHKFTL              ; 'FATL' BIT SET?
                                ERRHRD 090.,ERR021,MSG006 ; YES, REPORT ERROR
6720 046014                                TRAP  C$ERHRD
046014 104456                                .WORD 90
046016 000132                                .WORD ERR021
046020 026363                                .WORD MSG006
046022 024300
6721 046024 ESCAPE TST          ; AND ABORT TEST
046024 104410                                TRAP  C$ESCAPE
046026 000204                                .WORD L10043-.
6722
6723 ; COMPARE RBUF WITH TBUF
6724
6725 046030 013705 020562      210$: MOV    BYTCNT,R5          ; NUMBER OF DATA COMPARES
6726 046034 004737 032646      JSR    PC,CMPDAT              ; DATA COMPARE ERROR ?
6727 046040 103006            BCC    220$                    ; NO
6728 046042 ERRHRD 091.,ERR022,MSG007 ; YES, REPORT ERROR
046042 104456                                TRAP  C$ERHRD

```

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TEST 13: INTERNAL LOOPBACK TEST

SEQ 199

	046044	000133										.WORD	91	
	046046	026444										.WORD	ERR022	
	046050	024442										.WORD	MSG007	
6729	046052					ESCAPE	TST							; AND ABORT TEST
	046052	104410										TRAP	C\$ESCAPE	
	046054	000156										.WORD	L10043-	
6730														
6731	046056													
6732	046056	012705	010474			MOV	#RBUF+32,R5							; BASE ADDRESS
6733														; OFFSET TO CRC
6734	046062	004737	032576			JSR	PC,CMPCRC							; ERRORS ?
6735	046066	103006				BCC	230\$; NO
6736	046070					ERRHRD	092.,ERR023,MSG008							; YES, REPORT ERROR
	046070	104456										TRAP	C\$ERHRD	
	046072	000134										.WORD	92	
	046074	026513										.WORD	ERR023	
	046076	024474										.WORD	MSG008	
6737	046100					ESCAPE	TST							; AND ABORT TEST
	046100	104410										TRAP	C\$ESCAPE	
	046102	000130										.WORD	L10043 .	
6738														
6739	046104	012777	004100	134114		MOV	#DNI!INTE,@PCSR0							; PRECONDITION INTR EN.
6740	046112	112777	000117	134106		MOVB	#INTE!STOP,@PCSR0							; ISSUE STOP PORT COMMAND
6741	046120	004737	030706			JSR	PC,CHKDNI							; DNI ?
6742	046124	103010				BCC	240\$; YES
6743	046126					FTL								
	046126	004737	031010			JSR	PC,CHKFTL							; 'FATL' BIT SET?
6744	046132					ERRHRD	093.,ERR019,MSG003							; NO, REPORT ERROR
	046132	104456										TRAP	C\$ERHRD	
	046134	000135										.WORD	93	
	046136	026222										.WORD	ERR019	
	046140	024032										.WORD	MSG003	
6745	046142					ESCAPE	TST							; AND ABORT TEST
	046142	104410										TRAP	C\$ESCAPE	
	046144	000066										.WORD	L10043-	
6746														
6747	046146	004737	032320			JSR	PC,CLRDNI							; WRITE ONE TO CLEAR DNI
6748														; ERROR ?
6749	046152	103010				BCC	250\$; NO
6750	046154					FTL								
	046154	004737	031010			JSR	PC,CHKFTL							; 'FATL' BIT SET?
6751	046160					ERRHRD	094.,ERR006,MSG003							; YES, REPORT ERROR
	046160	104456										TRAP	C\$ERHRD	
	046162	000136										.WORD	94	
	046164	025124										.WORD	ERR006	
	046166	024032										.WORD	MSG003	
6752	046170					ESCAPE	TST							; AND ABORT TEST
	046170	104410										TRAP	C\$ESCAPE	
	046172	000040										.WORD	L10043-	
6753	046174													
6754														
6755	046174					EXIT	TST							
	046174	104432										TRAP	C\$EXIT	

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```
046176 000034 .WORD L10043-.
6756
6757 ;LOCAL TEST MESSAGE
6758
6759 046200 104 105 114 T13ID:.ASCIZ 'DELUA INTERNAL LOOPBACK '
      046203 125 101 040
      046206 111 116 124
      046211 105 122 116
      046214 101 114 040
      046217 114 117 117
      046222 120 102 101
      046225 103 113 040
      046230 000
6760 .EVEN
6761
6762 046232 ENDTST
      046232
      046232 104401 L10043: TRAP C#ETST
```

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6786

6787 046234
046234

6788
6789 046234

046234 012704 047564
046240 004737 034610

6790 046244 004737 035310
6791 046250 103034
6792 046252 012777 004100 133746
6793 046260 112777 000140 133740
6794 046266 004737 032034
6795 046272 103010
6796 046274

046274 004737 031010

6797 046300
046300 104456
046302 000137
046304 030105
046306 024032

6798 046310
046310 104410
046312 001276

6799
6800 046314 004737 032320
6801
6802 046320 103010
6803 046322

.SBTTL TEST 14: CRC CHECKING TEST

```
*****
:
: THIS TEST VERIFIES THAT CRC CHECKING MODE IS OPERATIONAL.
: AN INTERNAL LOOPBACK IS PERFORMED WHILE IN
: THE DISABLE TRANSMIT CRC MODE.
: WITH A GOOD CRC VALUE APPENDED TO THE TRANSMIT BUFFER
: AN ERROR FREE LOOPBACK IS EXPECTED.
:
: TEST SEQUENCE:
:   1. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM,
:                                     and DISABLE TRANSMIT CRC MODE
:   2. WRITE RING FORMAT
:   3. WRITE PHYSICAL ADDRESS
:   4. SET UP RINGS AND BUFFERS
:   5. APPEND GOOD CRC VALUE TO TRANSMIT BUFFER
:   6. ISSUE START
:   7. CHECK FOR ERRORS
:   8. ISSUE STOP
:
:*****
```

BGNTST

T14::

PNTMAC T14ID

MOV #T14ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

; END OF MACRO EXPANSION OF 'PNTMAC'

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

JSR PC,CHKFTL ; 'FATL' BIT SET?

ERRHRD 095.,ERR042,MSG003 ; NO, REPORT ERROR

TRAP ;B0
.WORD C\$ERRHRD
.WORD 95
.WORD ERR042
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10044-

; 20\$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI

BCC 30\$; ERROR ?
FTL ; NO

H16

```

046322 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
6804 046326      ERRHRD  096.,ERR006,MSG003 ; YES, REPORT ERROR
      046326 104456      TRAP      C$ERHRD
      046330 000140      .WORD    96
      046332 025124      .WORD    ERR006
      046334 024032      .WORD    MSG003
6805 046336      ESCAPE  TST      ; AND ABORT TEST
      046336 104410      TRAP      C$ESCAPE
      046340 001250      .WORD    L10044-.
6806
6807 046342      ;30$:
6808 046342 004737 032246      JSR      PC,CLRBUF      ; CLEAR XMIT,RECV BUFFERS
6809 046346 004737 033606      JSR      PC,LDDFLT      ; LOAD DEF PHY.ADDRESS TABLES
6810 046352 004737 033706      JSR      PC,LDPCSR      ; ADDRESS OF PCBB -> PCSR2!3
6811 046356 012777 004100 133642      MOV      #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6812 046364 112777 000101 133634      MOVB    #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
6813 046372 004737 030706      JSR      PC,CHKDNI      ; DNI?
6814 046376 103010      BCC     40$            ; YES
6815 046400
      046400 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
6816 046404      ERRHRD  097.,ERR009,MSG003 ; NO, REPORT ERROR
      046404 104456      TRAP      C$ERHRD
      046406 000141      .WORD    97
      046410 025341      .WORD    ERR009
      046412 024032      .WORD    MSG003
6817 046414      ESCAPE  TST      ; AND ABORT TEST
      046414 104410      TRAP      C$ESCAPE
      046416 001172      .WORD    L10044-.
6818
6819 046420 004737 032320      ;40$: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
6820      BCC     50$            ; ERROR ?
6821 046424 103010      BCC     50$            ; NO
6822 046426
      046426 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
6823 046432      ERRHRD  100.,ERR006,MSG003 ; YES, REPORT ERROR
      046432 104456      TRAP      C$ERHRD
      046434 000144      .WORD    100
      046436 025124      .WORD    ERR006
      046440 024032      .WORD    MSG003
6824 046442      ESCAPE  TST      ; AND ABORT TEST
      046442 104410      TRAP      C$ESCAPE
      046444 001144      .WORD    L10044 .
6825
6826      ;WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM AND DISABLE XMIT CRC MODE
6827
6828 046446 012705 014622      ;50$: MOV      #WTMOD2,R5      ; WRITE MODE FUNCTION, DISABLE
6829      ; TRANSMIT CRC
6830 046452 004737 033656      JSR      PC,LDPCBB      ; LOAD FUNCTION -> PCBB
6831 046456 012777 004100 133542      MOV      #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6832 046464 112777 000102 133534      MOVB    #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
6833 046472 004737 030706      JSR      PC,CHKDNI      ; DNT ?
6834 046476 103010      BCC     60$            ; YES

```

TEST 14: CRC CHECKING TEST

```

6835 046500          FTL
      046500 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
6836 046504          ERRHRD 101.,ERR010,MSG003      ; NO, REPORT ERROR
      046504 104456          TRAP  C$ERHRD
      046506 000145          .WORD 101
      046510 025425          .WORD  ERR010
      046512 024032          .WORD  MSG003
6837 046514          ESCAPE TST          ; AND ABORT TEST
      046514 104410          TRAP  C$ESCAPE
      046516 001072          .WORD  L10044-.
6838
6839 046520 004737 032320      ;60$: JSR    PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
6840                                     ; ERROR ?
6841 046524 103010          BCC    70$                ; NO
6842 046526          FTL
      046526 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
6843 046532          ERRHRD 102.,ERR006,MSG003      ; YES, REPORT ERROR
      046532 104456          TRAP  C$ERHRD
      046534 000146          .WORD 102
      046536 025124          .WORD  ERR006
      046540 024032          .WORD  MSG003
6844 046542          ESCAPE TST          ; AND ABORT TEST
      046542 104410          TRAP  C$ESCAPE
      046544 001044          .WORD  L10044-.
6845
6846                                     ;WRITE RING FORMAT
6847
6848 046546 012705 014542      ;70$: MOV    #WTRNGS,R5      ; DEFAULT WRITE RING FORMAT FUNCTION
6849 046552 004737 033656      JSR    PC,LDPCBB          ; LOAD FUNCTION -> PCBB
6850 046556 012705 014706      MOV    #RFRMT,R5        ; DEFAULT RING FORMAT
6851 046562 012700 000006      MOV    #6,R0            ; FORMAT = SIX WORDS
6852 046566 004737 034134      JSR    PC,LDUDBB          ; LOAD RING FORMAT -> UDBB
6853 046572 012777 004100 133426 MOV    #DNI!INTE,@PCSR0  ; PRECONDITION INTR EN.
6854 046600 112777 000102 133420 MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
6855 046606 004737 030706      JSR    PC,CHKDNI         ; DNI ?
6856 046612 103010          BCC    80$                ; YES
6857 046614          FTL
      046614 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
6858 046620          ERRHRD 103.,ERR010,MSG003      ; NO, REPORT ERROR
      046620 104456          TRAP  C$ERHRD
      046622 000147          .WORD 103
      046624 025425          .WORD  ERR010
      046626 024032          .WORD  MSG003
6859 046630          ESCAPE TST          ; AND ABORT TEST
      046630 104410          TRAP  C$ESCAPE
      046632 000756          .WORD  L10044-.
6860
6861 046634 004737 032320      ;80$: JSR    PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
6862                                     ; ERROR ?
6863 046640 103010          BCC    90$                ; NO
6864 046642          FTL

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```

046642 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
6865 046646 104456      ERRHRD  104.,ERR006,MSG003 ; YES, REPORT ERROR
046646 000150      TRAP    C$ERRHRD
046650 025124      .WORD  104
046652 024032      .WORD  ERR006
046654 024032      .WORD  MSG003
6866 046656 104410      ESCAPE  TST            ; AND ABORT TEST
046656 000730      TRAP    C$ESCAPE
046660 000730      .WORD  L10044-.
6867
6868      ;WRITE PHYSICAL ADDRESS
6869
6870 046662 90$:
6871 046662 012705 002274      MOV      #DEFAULT,R5      ; GET DEFAULT PHYSICAL ADDRESS
6872 046666 004737 033724      JSR      PC,LDPHYA        ; STORE IT IN DEFAULT TABLE
6873 046672 012705 014502      MOV      #WTPHYA,R5      ; DEFAULT WRITE PHYSICAL ADDR FUNC
6874 046676 004737 033656      JSR      PC,LDPCBB        ; LOAD FUNCTION -> PCBB
6875 046702 012777 004100 133316      MOV      #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6876 046710 112777 000102 133310      MOVB    #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
6877 046716 004737 030706      JSR      PC,CHKDNI        ; DNI ?
6878 046722 103010      BCC     100$            ; YES
6879 046724      FTL
046724 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
6880 046730 104456      ERRHRD  105.,ERR010,MSG003 ; NO, REPORT ERROR
046730 000151      TRAP    C$ERRHRD
046732 025425      .WORD  105
046734 024032      .WORD  ERR010
046736 024032      .WORD  MSG003
6881 046740 104410      ESCAPE  TST            ; AND ABORT TEST
046740 000646      TRAP    C$ESCAPE
046742 000646      .WORD  L10044-.
6882
6883 046744 004737 032320      i100$: JSR      PC,CLRDN1        ; WRITE ONE TO CLEAR DNI
6884
6885 046750 103010      BCC     110$            ; ERROR ?
6886 046752      FTL                    ; NO
046752 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
6887 046756 104456      ERRHRD  106.,ERR006,MSG003 ; YES, REPORT ERROR
046756 000152      TRAP    C$ERRHRD
046760 025124      .WORD  106
046762 024032      .WORD  ERR006
046764 024032      .WORD  MSG003
6888 046766 104410      ESCAPE  TST            ; AND ABORT TEST
046766 000620      TRAP    C$ESCAPE
046770 000620      .WORD  L10044-.
6889
6890      ;SET UP RINGS FOR ONE BUFFER LOOPBACK
6891
6892 046772 012705 016452      110$:  MOV      #TDRB1B,R5      ; DEFAULT ONE BUFFER TRANSMIT RING
6893 046776 004737 034040      JSR      PC,LDTDRB        ; LOAD TDRB
6894 047002 012705 014752      MOV      #RDRB1A,R5      ; DEFAULT ONE BUFFER RECEIVE RING
    
```

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TEST 14: CRC CHECKING TEST

SEQ 205

```

6895 047006 004737 03374^      JSR    PC,LDRDRB      ; LOAD RDRB
6896
6897                          ;SET UP BUFFERS AND START
6898
6899 047012 012737 000001 020564  MOV    #1,DOCRC      ; APPEND CRC AND SAVE
6900 047020 012737 000006 020562  MOV    #6,BYTCNT    ; DATA BYTES/PACKET
6901 047026 004737 034662      JSR    PC,SETBUF     ; SET UP BUFFERS
6902
6903 047032 012777 004100 133166  MOV    #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
6904 047040 112777 000104 133160  MOVB   #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
6905 047046 004737 030706      JSR    PC,CHKDNI     ; DNI?
6906 047052 103010      BCC    120$         ; YES
6907 047054
                                JSR    PC,CHKFTL      ; 'FATL' BIT SET?
                                ERRHRD 107.,ERR012,MSG003 ; NO, REPORT ERROR
6908 047060
                                TRAP   C$ERHRD
                                .WORD 107
                                .WORD ERR012
                                .WORD MSG003
                                047060 104456
                                047062 000153
                                047064 025543
                                047066 024032
6909 047070      ESCAPE TST      ; AND ABORT TEST
                                TRAP   C$ESCAPE
                                .WORD L10044-.
                                047070 104410
                                047072 000516
6910
6911 047074 004737 032320      i120$: JSR    PC,CLRDNI    ; WRITE ONE TO CLEAR DNI
6912
6913 047100 103010      BCC    130$         ; ERROR ?
6914 047102
                                FTL
                                ; NO
                                JSR    PC,CHKFTL      ; 'FATL' BIT SET?
                                ERRHRD 110.,ERR006,MSG003 ; YES, REPORT ERROR
6915 047106
                                TRAP   C$ERHRD
                                .WORD 110
                                .WORD ERR006
                                .WORD MSG003
                                047106 104456
                                047110 000156
                                047112 025124
                                047114 024032
6916 047116      ESCAPE TST      ; AND ABORT TEST
                                TRAP   C$ESCAPE
                                .WORD L10044-.
                                047116 104410
                                047120 000470
6917
6918 047122 004737 031724      i130$: JSR    PC,CHKTXI    ; TXI ?
6919 047126 103010      BCC    140$         ; YES
6920 047130
                                FTL
                                JSR    PC,CHKFTL      ; 'FATL' BIT SET?
                                ERRHRD 111.,ERR013,MSG003 ; NO, REPORT ERROR
6921 047134
                                TRAP   C$ERHRD
                                .WORD 111
                                .WORD ERR013
                                .WORD MSG003
                                047134 104456
                                047136 000157
                                047140 025624
                                047142 024032
6922 047144      ESCAPE TST      ; AND ABORT TEST
                                TRAP   C$ESCAPE
                                .WORD L10044-.
                                047144 104410
                                047146 000442
6923
6924 047150 004737 032502      i140$: JSR    PC,CLRTXI    ; WRITE ONE TO CLEAR TXI

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```

6976                                     ;COMPARE RBUF WITH TBUF
6977
6978 047442 013705 020562                210$: MOV      BYTCNT,R5          ; COMPARE DATA
6979 047446 004737 032646                JSR      PC,CMPDAT          ; DATA COMPARE ERROR ?
6980 047452 103006                        BCC      230$              ; NO
6981 047454                                ERRHRD   121.,ERR022,MSG007 ; YES, REPORT ERROR
                                TRAP      C$ERHRD
                                .WORD     121
                                .WORD     ERR022
                                .WORD     MSG007
                                047454 104456
                                047455 000171
                                047460 026444
                                047462 024442
6982 047464                                ESCAPE   TST                ; AND ABORT TEST
                                TRAP      C$ESCAPE
                                .WORD     L10044-.
                                047464 104410
                                047466 000122
6983
6984 047470 012777 004100 132530        230$: MOV      #DNI!INTE,&PCSR0 ; PRECONDITION INTR EN.
6985 047476 112777 000117 132522        MOVB     #INTE!STOP,&PCSR0 ; ISSUE STOP PORT COMMAND
6986 047504 004737 030706                JSR      PC,CHKDNI         ; DNI ?
6987 047510 103010                        BCC      240$              ; YES
6988 047512                                FTL
                                JSR      PC,CHKFTL          ; 'FATL' BIT SET?
                                ERRHRD   122.,ERR019,MSG003 ; NO, REPORT ERROR
                                TRAP      C$ERHRD
                                .WORD     122
                                .WORD     ERR019
                                .WORD     MSG003
6989 047516                                ESCAPE   TST                ; AND ABORT TEST
                                TRAP      C$ESCAPE
                                .WORD     L10044-.
                                047516 104456
                                047520 000172
                                047522 026222
                                047524 024032
6990 047526                                ESCAPE   TST                ; AND ABORT TEST
                                TRAP      C$ESCAPE
                                .WORD     L10044-.
                                047526 104410
                                047530 000060
6991
6992 047532 004737 032320                240$: JSR      PC,CLRDN1     ; WRITE ONE TO CLEAR DNI
6993                                BCC      250$              ; ERROR ?
6994 047536 103010                        FTL                          ; NO
6995 047540                                JSR      PC,CHKFTL          ; 'FATL' BIT SET?
                                ERRHRD   123.,ERR006,MSG003 ; YES, REPORT ERROR
                                TRAP      C$ERHRD
                                .WORD     123
                                .WORD     ERR006
                                .WORD     MSG003
6996 047544                                ESCAPE   TST                ; AND ABORT TEST
                                TRAP      C$ESCAPE
                                .WORD     L10044-.
                                047544 104456
                                047546 000173
                                047550 025124
                                047552 024032
6997 047554                                ESCAPE   TST                ; AND ABORT TEST
                                TRAP      C$ESCAPE
                                .WORD     L10044-.
                                047554 104410
                                047556 000032
6998 047560                                250$:
6999
7000 047560                                EXIT     TST
                                TRAP      C$EXIT
                                .WORD     L10044-.
                                047560 104432
                                047562 000026
  
```

Cl

```
7002          ;LOCAL TEST MESSAGE
7003
7004 047564    104    105    114  T14ID: .ASCIZ 'DELUA CRC CHECKING '
      047567    125    101    040
      047572    103    122    103
      047575    040    103    110
      047600    105    103    113
      047603    111    116    107
      047606    040    000
7005          .EVEN
7006
7007          ENDTST
      047610
      047610
      047610 104401
```

L10044: TRAP C#ETST

D1

7009
7010
7011
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7031
7032 047612
047612
7033
7034 047612

047612 012704 051174
047616 004737 034610

7035 047622 004737 035310
7036 047626 103034
7037 047630 012777 004100 132370
7038 047636 112777 000140 132362
7039 047644 004737 032034
7040 047650 103010
7041 047652

047652 004737 031010

7042 047656
047656 104456
047660 000174
047662 030105
047664 024032
7043 047666
047666 104410
047670 001374

7044
7045 047672 004737 032320
7046
7047 047676 103010
7048 047700

.SBTTL TEST 15: FORCE CRC ERROR TEST

```
*****
:
: THIS TEST VERIFIES THAT A CRC ERROR CAN BE DETECTED.
: AN INTERNAL LOOPBACK IS PERFORMED WHILE IN
: THE DISABLE TRANSMIT CRC MODE.
: WITH A BAD CRC VALUE APPENDED TO THE TRANSMIT BUFFER
: A CRC ERROR IS EXPECTED IN THE RECEIVE DESCRIPTOR RING.
:
: TEST SEQUENCE:
: 1. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM,
: and DISABLE TRANSMIT CRC MODE
: 2. WRITE RING FORMAT
: 3. WRITE PHYSICAL ADDRESS
: 4. SET UP RINGS AND BUFFERS
: 5. APPEND BAD CRC VALUE TO TRANSMIT BUFFER
: 6. ISSUE START
: 7. CHECK FOR CRC ERROR IN RDRB+4
: 8. ISSUE STOP
:
:*****
```

BGNTST

T15::

PNTMAC T15ID

MOV #T15ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

; END OF MACRO EXPANSION OF 'PNTMAC'

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

JSR PC,CHKFTL ; 'FATL' BIT SET?

ERRHRD 124.,ERR042,MSG003 ; NO, REPORT ERROR

TRAP ;B0
.WORD C\$ERRHRD
.WORD 124
.WORD ERR042
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10045-

; 20\$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 30\$; NO
FTL

E1

```

047700 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
7049 047704      ERRHRD  125.,ERR006,MSG003 ; YES, REPORT ERROR
047704 104456      TRAP      C$ERHRD
047706 000175      .WORD    125
047710 025124      .WORD    ERR006
047712 024032      .WORD    MSG003
7050 047714      ESCAPE  TST           ; AND ABORT TEST
047714 104410      TRAP      C$ESCAPE
047716 001306      .WORD    L10045-.
7051
7052 047720      ; 30$:
7053 047720 004737 032246      JSR      PC,CLRBUF      ; CLEAR TRANSMIT AND RECV BUFFERS
7054 047724 004737 033606      JSR      PC,LDDFLT      ; LOAD DEFAULT PHY.ADDRESS TABLES
7055 047730 004737 033706      JSR      PC,LDPCSR      ; ADDRESS OF PCBB -> PCSR2!3
7056 047734 012777 004100 132264      MOV      #DNI!INTE,@PCSR0
7057 047742 112777 000101 132256      MOV      #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
7058 047750 004737 030706      JSR      PC,CHKDNI      ; DNI?
7059 047754 103010      BCC      40$           ; YES
7060 047756      FTL
047756 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
7061 047762      ERRHRD  126.,ERR009,MSG003 ; NO, REPORT ERROR
047762 104456      TRAP      C$ERHRD
047764 000176      .WORD    126
047766 025341      .WORD    ERR009
047770 024032      .WORD    MSG003
7062 047772      ESCAPE  TST           ; AND ABORT TEST
047772 104410      TRAP      C$ESCAPE
047774 001230      .WORD    L10045.
7063
7064 047776 004737 032320      ; 40$: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
7065      BCC      50$           ; ERROR ?
7066 050002 103010      BCC      50$           ; NO
7067 050004      FTL
050004 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
7068 050010      ERRHRD  127.,ERR006,MSG003 ; YES, REPORT ERROR
050010 104456      TRAP      C$ERHRD
050012 000177      .WORD    127
050014 025124      .WORD    ERR006
050016 024032      .WORD    MSG003
7069 050020      ESCAPE  TST           ; AND ABORT TEST
050020 104410      TRAP      C$ESCAPE
050022 001202      .WORD    L10045-.
7070
7071      ;WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM AND DISABLE XMIT CRC MODE
7072
7073 050024 012705 014622      ; 50$: MOV      #WTMOD2,R5      ; WRITE MODE FUNCTION, DISABLE
7074      ; TRANSMIT CRC
7075 050030 004737 033656      JSR      PC,LDPCBB      ; LOAD FUNCTION -> PCBB
7076 050034 013737 020466 002304      MOV      MODE15,PCBB+2 ; LOAD MODE REGISTER
7077 050042 012777 004100 132156      MOV      #DNI!INTE,@PCSR0
7078 050050 112777 000102 132150      MOV      #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7079 050056 004737 030706      JSR      PC,CHKDNI      ; DNI ?

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F1

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7080 050062 103010          BCC      60$          ; YES
7081 050064          FTL
      050064 004737 031010          JSR      PC,CHKFTL      ; 'FATL' BIT SET?
7082 050070          ERRHRD 130.,ERR010,MSG003 ; NO, REPORT ERROR
      050070 104456          TRAP     C$ERHRD
      050072 000202          .WORD   130
      050074 025425          .WORD   ERR010
      050076 024032          .WORD   MSG003
7083 050100          ESCAPE  TST          ; AND ABORT TEST
      050100 104410          TRAP     C$ESCAPE
      050102 001122          .WORD   L10045-.
7084 050104 004737 032320          ; 60$: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
7085 050104 004737 032320          ; ERROR ?
7086 050110 103010          BCC      70$          ; NO
7087 050110 103010          FTL
7088 050112          JSR      PC,CHKFTL      ; 'FATL' BIT SET?
      050112 004737 031010          ERRHRD 131.,ERR006,MSG003 ; YES, REPORT ERROR
7089 050116          TRAP     C$ERHRD
      050116 104456          .WORD   131
      050120 000203          .WORD   ERR006
      050122 025124          .WORD   MSG003
      050124 024032          ESCAPE  TST          ; AND ABORT TEST
7090 050126          TRAP     C$ESCAPE
      050126 104410          .WORD   L10045-.
      050130 001074
7091 050132 012705 014542          ;WRITE RING FORMAT
7092 050136 004737 033656          70$:  MOV      #WTRNGS,R5      ; DEFAULT WRITE RING FORMAT FUNCTION
7093 050142 012705 014706          JSR      PC,LDPCCBB      ; LOAD FUNCTION -> PCBB
7094 050144 012700 000006          MOV      #RFRMT,R5      ; DEFAULT RING FORMAT
7095 050146 012700 000006          MOV      #6,R0          ; FORMAT = SIX WORDS
7096 050152 004737 034134          JSR      PC,LDUDBB      ; LOAD RING FORMAT -> UDBB
7097 050156 012777 004100 132042  MOV      #DNI!INTE,@PCSR0
7098 050164 112777 000102 132034  MOVB    #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7099 050172 004737 030706          JSR      PC,CHKDNI      ; DNI ?
7100 050176 103010          BCC      80$          ; YES
7101 050200          FTL
      050200 004737 031010          JSR      PC,CHKFTL      ; 'FATL' BIT SET?
7102 050204          ERRHRD 132.,ERR010,MSG003 ; NO, REPORT ERROR
7103 050204 104456          TRAP     C$ERHRD
      050206 000204          .WORD   132
      050210 025425          .WORD   ERR010
      050212 024032          .WORD   MSG003
7104 050214          ESCAPE  TST          ; AND ABORT TEST
      050214 104410          TRAP     C$ESCAPE
      050216 001006          .WORD   L10045-.
7105 050220 004737 032320          ; 80$: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
7106 050224 103010          BCC      90$          ; ERROR ?
7107 050224 103010          FTL          ; NO
7108 050224 103010
7109 050224 103010

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G1

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7110 050226          FTL
      050226 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
7111 050232          ERRHRD 133.,ERR006,MSG003      ; YES, REPORT ERROR
      050232 104456          TRAP  C$ERHRD
      050234 000205          .WORD 133
      050236 025124          .WORD ERR006
      050240 024032          .WORD MSG003
7112 050242          ESCAPE TST          ; AND ABORT TEST
      050242 104410          TRAP  C$ESCAPE
      050244 000760          .WORD L10045 .
7113
7114          ;WRITE PHYSICAL ADDRESS
7115
7116 050246          90$:
7117 050246 012705 002274      MOV    #DFault,R5          ; GET DEFAULT PHYSICAL ADDRESS
7118 050252 004737 033724      JSR    PC,LDPHYA          ; SAVE IT IN DEFAULT TABLE
7119 050256 012705 014502      MOV    #WTPHYA,R5        ; DEFAULT WRITE PHYSICAL ADDR FUNC
7120 050262 004737 033656      JSR    PC,LDPCCBB        ; LOAD FUNCTION > PCBB
7121 050266 012777 004100 131732  MOV    #DNI!INTE,@PCSR0
7122 050274 112777 000102 131724  MOVB  #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7123 050302 004737 030706      JSR    PC,CHKDNI        ; DNI ?
7124 050306 103010          BCC   100$              ; YES
7125 050310          FTL
      050310 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
7126 050314          ERRHRD 134.,ERR010,MSG003      ; NO, REPORT ERROR
      050314 104456          TRAP  C$ERHRD
      050316 000206          .WORD 134
      050320 025425          .WORD ERR010
      050322 024032          .WORD MSG003
7127 050324          ESCAPE TST          ; AND ABORT TEST
      050324 104410          TRAP  C$ESCAPE
      050326 000676          .WORD L10045 .
7128
7129 050330 004737 032320      100$: JSR    PC,CLRDN1        ; WRITE ONE TO CLEAR DNI
7130
7131 050334 103010          BCC   110$              ; ERROR ?
7132 050336          FTL          ; NO
      050336 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
7133 050342          ERRHRD 135.,ERR006,MSG003      ; YES, REPORT ERROR
      050342 104456          TRAP  C$ERHRD
      050344 000207          .WORD 135
      050346 025124          .WORD ERR006
      050350 024032          .WORD MSG003
7134 050352          ESCAPE TST          ; AND ABORT TEST
      050352 104410          TRAP  C$ESCAPE
      050354 000650          .WORD L10045-.
7135
7136          ;SET UP RINGS FOR ONE BUFFER LOOPBACK
7137
7138 050356 012705 016452      110$: MOV    #TDRB1B,R5        ; DEFAULT ONE BUFFER TRANSMIT RING
7139 050362 004737 034040      JSR    PC,LOTDRB        ; LOAD TDRB

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HL

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7140 050366 012705 014752          MOV    #RDRB1A,R5          ; DEFAULT ONE BUFFER RECEIVE RING
7141 050372 004737 033744          JSR    PC,LDRDRB          ; LOAD RDRB
7142
7143          ;SET UP BUFFERS AND START
7144
7145 050376 012705 002304          MOV    #PCBB+2,R5        ; POINT TO DESTINATION ADDRESS
7146 050402 004737 033560          JSR    PC,LDDDEST        ; LOAD DEST
7147 050406 012737 000001 020564  MOV    #1,DOCRC          ; APPEND CRC
7148 050414 012737 000006 020562  MOV    #6,BYTCNT        ; DATA BYTES/PACKET
7149 050422 004737 034662          JSR    PC,SETBUF         ; SET UP BUFFERS
7150 050426 012700 004440          MOV    #TBUF,R0         ; BASE ADDRESS
7151 050432 062700 000034          ADD    #34,R0           ; OFFET TO CRC
7152 050436 005020                    CLR    (R0)+            ; ALTER DATA TO CAUSE
7153 050440 005020                    CLR    (R0)+            ;   CRC ERROR W/CALCULATED
7154 050442 012777 004100 131556  MOV    #DNI!INTE,@PCSRO ; ISSUE START PORT COMMAND
7155 050450 112777 000104 131550  MOVB   #INTE!START,@PCSRO ; DNI?
7156 050456 004737 030706          JSR    PC,CHKDNI         ; YES
7157 050462 103010                    BCC    120$             ;
7158 050464
          050464 004737 031010          JSR    PC,CHKFTL        ; 'FATL' BIT SET?
7159 050470          ERRHRD 136.,ERR012,MSG003 ; NO, REPORT ERROR
          050470 104456                    TRAP   C$ERHRD
          050472 000210                    .WORD 136
          050474 025543                    .WORD ERR012
          050476 024032                    .WORD MSG003
7160 050500          ESCAPE TST            ; AND ABORT TEST
          050500 104410                    TRAP   C$ESCAPE
          050502 000522                    .WORD L10045 .
7161
7162 050504 004737 032320 120$: JSR    PC,CLRDN1        ; WRITE ONE TO CLEAR DNI
7163          BCC    130$             ; ERROR ?
7164 050510 103010                    ; NO
7165 050512
          050512 004737 031010          JSR    PC,CHKFTL        ; 'FATL' BIT SET?
7166 050516          ERRHRD 137.,ERR006,MSG003 ; YES, REPORT ERROR
          050516 104456                    TRAP   C$ERHRD
          050520 000211                    .WORD 137
          050522 025124                    .WORD ERR006
          050524 024032                    .WORD MSG003
7167 050526          ESCAPE TST            ; AND ABORT TEST
          050526 104410                    TRAP   C$ESCAPE
          050530 000474                    .WORD L10045-.
7168
7169 050532 004737 031724 130$: JSR    PC,CHKTXI        ; IXI ?
7170 050536 103010                    BCC    140$             ; YES
7171 050540
          050540 004737 031010          JSR    PC,CHKFTL        ; 'FATL' BIT SET?
7172 050544          ERRHRD 140.,ERR013,MSG003 ; NO, REPORT ERROR
          050544 104456                    TRAP   C$ERHRD
          050546 000214                    .WORD 140
          050550 025624                    .WORD ERR013

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	050552	024032							.WORD	MSG003
7173	050554			ESCAPE	TST			; AND ABORT TEST	TRAP	C\$ESCAPE
	050554	104410							.WORD	L10045
	050556	000446								
7174										
7175	050560	004737	032502	i40\$:	JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI		
7176								; ERROR ?		
7177	050564	103010			BCC	150\$; NO		
7178	050566				FTL					
	050566	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
7179	050572				ERRHRD	141.,ERR014,MSG003		; YES, REPORT ERROR	TRAP	C\$ERHRD
	050572	104456							.WORD	141
	050574	000215							.WORD	ERR014
	050576	025655							.WORD	MSG003
	050600	024032								
7180	050602				ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	050602	104410							.WORD	L10045-
	050604	000420								
7181										
7182	050606	012705	002622	i50\$:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP		
7183	050612	004737	031162		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?		
7184	050616	103010			BCC	160\$; YES		
7185	050620				FTL					
	050620	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
7186	050624				ERRHRD	142.,ERR018		; NO, REPORT ERROR	TRAP	C\$ERHRD
	050624	104456							.WORD	142
	050626	000216							.WORD	ERR018
	050630	026122							.WORD	0
	050632	000000								
7187	050634				ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	050634	104410							.WORD	L10045-
	050636	000366								
7188										
7189	050640	012705	020276	i60\$:	MOV	#TDR15A,R5		; POINT TO EXPECTED TDRB		
7190	050644	004737	034244		JSR	PC,LDXTDR		; LOAD INTO XTDRB0 TABLE		
7191	050650	012705	002622		MOV	#TDRB,R5		; CHECK TDRB		
7192	050654	004737	031636		JSR	PC,CHKTDR		; ERRORS ?		
7193	050660	103010			BCC	170\$; NO		
7194	050662				FTL					
	050662	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
7195	050666				ERRHRD	143.,ERR020,MSG005		; YES, REPORT ERROR	TRAP	C\$ERHRD
	050666	104456							.WORD	143
	050670	000217							.WORD	ERR020
	050672	026302							.WORD	MSG005
	050674	024136								
7196	050676				ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	050676	104410							.WORD	L10045-
	050700	000324								
7197										
7198	050702	004737	031454	i70\$:	JSR	PC,CHKRXI		; RXI ?		
7199	050706	103010			BCC	180\$; YES		

J1

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7200 050710          FTL
      050710 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
                                ERRHRD 144.,ERR015,MSG003      ; NO, REPORT ERROR
7201 050714          TRAP      C$ERHRD
      050714 104456          .WORD 144
      050716 000220          .WORD ERR015
      050720 025723          .WORD MSG003
      050722 024032
7202 050724          ESCAPE TST          ; AND ABORT TEST
      050724 104410          TRAP      C$ESCAPE
      050726 000276          .WORD  L10045-.
7203 050730          ;
7204 050730 004737 032434      ;180$: JSR    PC,CLRRXI          ; WRITE ONE TO CLEAR RXI
7205 050730          ;
7206 050734 103010          BCC    190$          ; ERROR ?
7207 050736          FTL          ; NO
      050736 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
                                ERRHRD 145.,ERR016,MSG003      ; YES, REPORT ERROR
7208 050742          TRAP      C$ERHRD
      050742 104456          .WORD 145
      050744 000221          .WORD ERR016
      050746 025754          .WORD MSG003
      050750 024032
7209 050752          ESCAPE TST          ; AND ABORT TEST
      050752 104410          TRAP      C$ESCAPE
      050754 000250          .WORD  L10045 .
7210 050756          ;
7211 050756 012705 002662      ;190$: MOV    #RDRB,R5          ; CHECK RDRB OWNERSHIP
7212 050762 004737 031162      JSR    PC,CHKOWN          ; OWN = PORT DRIVER ?
7213 050766 103010          BCC    200$          ; YES
7214 050770          FTL
      050770 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
                                ERRHRD 146.,ERR017          ; NO, REPORT ERROR
7215 050774          TRAP      C$ERHRD
      050774 104456          .WORD 146
      050776 000222          .WORD ERR017
      051000 026022          .WORD 0
      051002 000000
7216 051004          ESCAPE TST          ; AND ABORT TEST
      051004 104410          TRAP      C$ESCAPE
      051006 000216          .WORD  L10045-.
7217 051010          ;
7218 051010 012705 020406      ;200$: MOV    #RDR15A,R5          ; POINT TO EXPECTED RDRB
7219 051014 004737 034214      JSR    PC,LDXRDR          ; LOAD INTO XRDRB0 TABLE
7220 051020 012705 002662      MOV    #RDRB,R5          ; CHECK RDRB
7221 051024 004737 031344      JSR    PC,CHKRDR          ; ERRORS ?
7222 051030 103010          BCC    210$          ; NO
7223 051032          FTL
      051032 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
                                ERRHRD 147.,ERR021,MSG006      ; YES, REPORT ERROR
7224 051036          TRAP      C$ERHRD
      051036 104456          .WORD 147
      051040 000223

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K1

	051042	026363							.WORD	ERR021
	051044	024300							.WORD	MSG006
7225	051046				ESCAPE	TST				; AND ABORT TEST
	051046	104410							TRAP	C\$ESCAPE
	051050	000154							.WORD	L10045 .
7226										
7227										
7228										
7229	051052	013705	020562		210\$:	MOV	BYTCNT,R5			; COMPARE DATA
7230	051056	004737	032646			JSR	PC,CMPDAT			; DATA COMPARE ERROR ?
7231	051062	103006				BC	230\$; NO
7232	051064					ERRHRD	150.,ERR022,MSG007			; YES, REPORT ERROR
	051064	104456							TRAP	C\$ERHRD
	051066	000226							.WORD	150
	051070	026444							.WORD	ERR022
	051072	024442							.WORD	MSG007
7233	051074				ESCAPE	TST				; AND ABORT TEST
	051074	104410							TRAP	C\$ESCAPE
	051076	000126							.WORD	L10045-
7234										
7235	051100	012777	004100	131120	i	230\$:	MOV	#DNI!INTE,@PCSR0		
7236	051106	112777	000117	131112			MOVB	#INTE!STOP,@PCSR0		; ISSUE STOP PORT COMMAND
7237	051114	004737	030706				JSR	PC,CHKDNI		; DNI ?
7238	051120	103010					BCC	240\$; YES
7239	051122						FTL			
	051122	004737	031010				JSR	PC,CHKFTL		; 'FATL' BIT SET?
7240	051126						ERRHRD	151.,ERR019,MSG003		; NO, REPORT ERROR
	051126	104456							TRAP	C\$ERHRD
	051130	000227							.WORD	151
	051132	026222							.WORD	ERR019
	051134	024032							.WORD	MSG003
7241	051136				ESCAPE	TST				; AND ABORT TEST
	051136	104410							TRAP	C\$ESCAPE
	051140	000064							.WORD	L10045 .
7242										
7243	051142	004737	032320		i	240\$:	JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI
7244										; ERROR ?
7245	051146	103010					BCC	250\$; NO
7246	051150						FTL			
	051150	004737	031010				JSR	PC,CHKFTL		; 'FATL' BIT SET?
7247	051154						ERRHRD	161.,ERR006,MSG003		; YES, REPORT ERROR
	051154	104456							TRAP	C\$ERHRD
	051156	000241							.WORD	161
	051160	025124							.WORD	ERR006
	051162	024032							.WORD	MSG003
7248	051164				ESCAPE	TST				; AND ABORT TEST
	051164	104410							TRAP	C\$ESCAPE
	051166	000036							.WORD	L10045 .
7249	051170									
7250										
7251	051170				250\$:	EXIT	TST			
	051170	104432							TRAP	C\$EXIT
	051172	000032							.WORD	L10045 .

L1

7252
7253 ;LOCAL TEST MESSAGE
7254
7255 051174 104 105 114 T15TD:.ASCIZ 'DELUA FORCE CRC ERROR '
051177 125 101 040
051202 106 117 122
051205 103 105 040
051210 103 122 103
051213 040 105 122
051216 122 117 122
051221 040 000

7256 .EVEN

7257
7258 051224 ENDTST

051224
051224 104401

L10045: TRAP C\$ETST

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.SBTTL TEST 16: NO RECEIVE BUFFER TEST

```

*****
THIS TEST VERIFIES THAT A RCBI ERROR CAN BE DETECTED.
THIS ERROR WILL ONLY OCCUR AFTER 47. RECEIVE ENTRIES
(SIZE OF INTERNAL RECEIVE BUFFER), FOR CASE WHERE NO
RECEIVE BUFFERS ARE OWNED BY THE DELUA.

TEST SEQUENCE:
1. WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
2. WRITE RING FORMAT
3. WRITE PHYSICAL ADDRESS
4. SET UP RINGS AND BUFFERS WITH 49.
   TRANSMIT PACKETS, AND NO RECEIVE
   BUFFERS OWNED BY THE DELUA.
5. INSURE 'RECEIVE PACKET LOST' COUNTER IS CLEAR
6. ISSUE START
7. AFTER EACH OF THE FIRST 47. TRANSMISSION'S,
   'RECEIVE PACKET LOST' COUNTER SHOULD BE CLEAR,
   AND THERE SHOULD BE NO 'RCBI' ERROR
8. FOLLOWING NEXT (48TH) TRANSMISSION, 'RCBI' ERROR
   BIT IN PCSRO SHOULD SET AND, 'RECEIVE PACKET LOST'
   COUNTER SHOULD BE INCREMENTED TO A ONE.
9. ISSUE STOP
*****

```

7288 051226
051226
7289
7290 051226

BGNTST

T16::

PNTMAC T16ID

051226 012704 052274
051232 004737 034610

MOV #T16ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

END OF MACRO EXPANSION OF 'PNTMAC'

7291 051236 004737 035310
7292 051242 103034
7293 051244 012777 004100 130754
7294 051252 112777 000140 130746
7295 051260 004737 032034
7296 051264 103010
7297 051266

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSRO ; ENABLE INTERRUPTS
MOVB #INTE!RSET,@PCSRO ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

051266 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

7298 051272
051272 104456
051274 000242
051276 030105
051300 024032
7299 051302
051302 104410
051304 001022

ERRHRD 162.,ERR042,MSG003 ; NO, REPORT ERROR

TRAP ;B0
C\$ERHRD
.WORD 162
.WORD ERR042
.WORD MSG003

7300

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10046-

```

7301 051306 004737 032320      20$: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
7302                                ; ERROR ?
7303 051312 103010            BCC      30$
7304 051314                                FTL
                                ; NO
                                ; 'FATL' BIT SET?
                                ; YES, REPORT ERROR
                                TRAP      C$ERHRD
                                .WORD    163
                                .WORD    ERR006
                                .WORD    MSG003
                                ; AND ABORT TEST
                                TRAP      C$ESCAPE
                                .WORD    L10046 .
                                ; CLEAR XMIT, RECV BUFFERS
                                ; LOAD DEFAULT PHY.ADDRESS TABLES
                                ; ADDRESS OF PCBB -> PCSR2!3
                                ; ENABLE INTEPRUPTS
                                ; ISSUE GET_PCBB PORT COMMAND
                                ; DNI?
                                ; YES
7305 051320                                JSR      PC,CHKFTL
                                ; 'FATL' BIT SET?
                                ; YES, REPORT ERROR
                                TRAP      C$ERHRD
                                .WORD    163
                                .WORD    ERR006
                                .WORD    MSG003
                                ; AND ABORT TEST
                                TRAP      C$ESCAPE
                                .WORD    L10046 .
7306 051320 104456            ERRHRD   163.,ERR006,MSG003
7307 051320 000243            ;
7308 051322 025124            ;
7309 051324 024032            ;
7310 051330 004737 031010      JSR      PC,CHKFTL
7311 051330 104410            ; 'FATL' BIT SET?
7312 051332 000774            ; YES, REPORT ERROR
7313 051334 004737 032246      30$: JSR      PC,CLRBUF
7314 051334 004737 033606      JSR      PC,LDDFLT
7315 051340 004737 033706      JSR      PC,LDPCSR
7316 051350 012777 004100 130650 MOV      #DNI!INTE,@PCSR0
7317 051356 112777 000101 130642 MOVB    #INTE!GETPCB,@PCSR0
7318 051364 004737 030706      JSR      PC,CHKDNI
7319 051370 103010            BCC      40$
7320 051372 004737 031010      FTL
7321 051376 104456            JSR      PC,CHKFTL
7322 051400 000244            ; 'FATL' BIT SET?
7323 051402 025341            ; NO, REPORT ERROR
7324 051404 024032            TRAP      C$ERHRD
7325 051406 104410            .WORD    164
7326 051410 000715            .WORD    ERR009
7327 051412 004737 032320      ;
7328 051416 103010            .WORD    MSG003
7329 051420 004737 031010      ESCAPE  TST
7330 051424 004737 031010      ; AND ABORT TEST
7331 051426 104410            TRAP      C$ESCAPE
7332 051430 000670            .WORD    L10046-.
7333 051432 004737 032320      40$: JSR      PC,CLRDN1
7334 051434 103010            ; WRITE ONE TO CLEAR DNI
7335 051440 004737 032320      ; ERROR ?
7336 051442 103010            BCC      50$
7337 051444 004737 031010      FTL
7338 051446 004737 031010      ; NO
7339 051448 004737 031010      JSR      PC,CHKFTL
7340 051450 004737 031010      ; 'FATL' BIT SET?
7341 051452 004737 031010      ; YES, REPORT ERROR
7342 051454 004737 031010      TRAP      C$ERHRD
7343 051456 004737 031010      .WORD    165
7344 051458 004737 031010      .WORD    ERR006
7345 051460 004737 031010      .WORD    MSG003
7346 051462 004737 031010      ESCAPE  TST
7347 051464 004737 031010      ; AND ABORT TEST
7348 051466 004737 031010      TRAP      C$ESCAPE
7349 051468 004737 031010      .WORD    L10046-.
7350 051470 004737 031010      ;
7351 051472 004737 031010      ;WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
7352 051474 004737 031010      ;
7353 051476 004737 031010      ;
7354 051478 004737 031010      ;
7355 051480 004737 031010      ;
7356 051482 004737 031010      ;
7357 051484 004737 031010      ;
7358 051486 004737 031010      ;
7359 051488 004737 031010      ;
7360 051490 004737 031010      ;
7361 051492 004737 031010      ;
7362 051494 004737 031010      ;
7363 051496 004737 031010      ;
7364 051498 004737 031010      ;
7365 051500 004737 031010      ;
7366 051502 004737 031010      ;
7367 051504 004737 031010      ;
7368 051506 004737 031010      ;
7369 051508 004737 031010      ;
7370 051510 004737 031010      ;
7371 051512 004737 031010      ;
7372 051514 004737 031010      ;
7373 051516 004737 031010      ;
7374 051518 004737 031010      ;
7375 051520 004737 031010      ;
7376 051522 004737 031010      ;
7377 051524 004737 031010      ;
7378 051526 004737 031010      ;
7379 051528 004737 031010      ;
7380 051530 004737 031010      ;
7381 051532 004737 031010      ;
7382 051534 004737 031010      ;
7383 051536 004737 031010      ;
7384 051538 004737 031010      ;
7385 051540 004737 031010      ;
7386 051542 004737 031010      ;
7387 051544 004737 031010      ;
7388 051546 004737 031010      ;
7389 051548 004737 031010      ;
7390 051550 004737 031010      ;
7391 051552 004737 031010      ;
7392 051554 004737 031010      ;
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7397 051564 004737 031010      ;
7398 051566 004737 031010      ;
7399 051568 004737 031010      ;
7400 051570 004737 031010      ;
7401 051572 004737 031010      ;
7402 051574 004737 031010      ;
7403 051576 004737 031010      ;
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7405 051580 004737 031010      ;
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7411 051592 004737 031010      ;
7412 051594 004737 031010      ;
7413 051596 004737 031010      ;
7414 051598 004737 031010      ;
7415 051600 004737 031010      ;
7416 051602 004737 031010      ;
7417 051604 004737 031010      ;
7418 051606 004737 031010      ;
7419 051608 004737 031010      ;
7420 051610 004737 031010      ;
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7422 051614 004737 031010      ;
7423 051616 004737 031010      ;
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7427 051624 004737 031010      ;
7428 051626 004737 031010      ;
7429 051628 004737 031010      ;
7430 051630 004737 031010      ;
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7434 051638 004737 031010      ;
7435 051640 004737 031010      ;
7436 051642 004737 031010      ;
7437 051644 004737 031010      ;
7438 051646 004737 031010      ;
7439 051648 004737 031010      ;
7440 051650 004737 031010      ;
7441 051652 004737 031010      ;
7442 051654 004737 031010      ;
7443 051656 004737 031010      ;
7444 051658 004737 031010      ;
7445 051660 004737 031010      ;
7446 051662 004737 031010      ;
7447 051664 004737 031010      ;
7448 051666 004737 031010      ;
7449 051668 004737 031010      ;
7450 051670 004737 031010      ;
7451 051672 004737 031010      ;
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7463 051696 004737 031010      ;
7464 051698 004737 031010      ;
7465 051700 004737 031010      ;
7466 051702 004737 031010      ;
7467 051704 004737 031010      ;
7468 051706 004737 031010      ;
7469 051708 004737 031010      ;
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7474 051718 004737 031010      ;
7475 051720 004737 031010      ;
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7477 051724 004737 031010      ;
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7479 051728 004737 031010      ;
7480 051730 004737 031010      ;
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7484 051738 004737 031010      ;
7485 051740 004737 031010      ;
7486 051742 004737 031010      ;
7487 051744 004737 031010      ;
7488 051746 004737 031010      ;
7489 051748 004737 031010      ;
7490 051750 004737 031010      ;
7491 051752 004737 031010      ;
7492 051754 004737 031010      ;
7493 051756 004737 031010      ;
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7499 051768 004737 031010      ;
7500 051770 004737 031010      ;
7501 051772 004737 031010      ;
7502 051774 004737 031010      ;
7503 051776 004737 031010      ;
7504 051778 004737 031010      ;
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7512 051794 004737 031010      ;
7513 051796 004737 031010      ;
7514 051798 004737 031010      ;
7515 051800 004737 031010      ;
7516 051802 004737 031010      ;
7517 051804 004737 031010      ;
7518 051806 004737 031010      ;
7519 051808 004737 031010      ;
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7521 051812 004737 031010      ;
7522 051814 004737 031010      ;
7523 051816 004737 031010      ;
7524 051818 004737 031010      ;
7525 051820 004737 031010      ;
7526 051822 004737 031010      ;
7527 051824 004737 031010      ;
7528 051826 004737 031010      ;
7529 051828 004737 031010      ;
7530 051830 004737 031010      ;
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7536 051842 004737 031010      ;
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7538 051846 004737 031010      ;
7539 051848 004737 031010      ;
7540 051850 004737 031010      ;
7541 051852 004737 031010      ;
7542 051854 004737 031010      ;
7543 051856 004737 031010      ;
7544 051858 004737 031010      ;
7545 051860 004737 031010      ;
7546 051862 004737 031010      ;
7547 051864 004737 031010      ;
7548 051866 004737 031010      ;
7549 051868 004737 031010      ;
7550 051870 004737 031010      ;
7551 051872 004737 031010      ;
7552 051874 004737 031010      ;
7553 051876 004737 031010      ;
7554 051878 004737 031010      ;
7555 051880 004737 031010      ;
7556 051882 004737 031010      ;
7557 051884 004737 031010      ;
7558 051886 004737 031010      ;
7559 051888 004737 031010      ;
7560 051890 004737 031010      ;
7561 051892 004737 031010      ;
7562 051894 004737 031010      ;
7563 051896 004737 031010      ;
7564 051898 004737 031010      ;
7565 051900 004737 031010      ;
7566 051902 004737 031010      ;
7567 051904 004737 031010      ;
7568 051906 004737 031010      ;
7569 051908 004737 031010      ;
7570 051910 004737 031010      ;
7571 051912 004737 031010      ;
7572 051914 004737 031010      ;
7573 051916 004737 031010      ;
7574 051918 004737 031010      ;
7575 051920 004737 031010      ;
7576 051922 004737 031010      ;
7577 051924 004737 031010      ;
7578 051926 004737 031010      ;
7579 051928 004737 031010      ;
7580 051930 004737 031010      ;
7581 051932 004737 031010      ;
7582 051934 004737 031010      ;
7583 051936 004737 031010      ;
7584 051938 004737 031010      ;
7585 051940 004737 031010      ;
7586 051942 004737 031010      ;
7587 051944 004737 031010      ;
7588 051946 004737 031010      ;
7589 051948 004737 031010      ;
7590 051950 004737 031010      ;
7591 051952 004737 031010      ;
7592 051954 004737 031010      ;
7593 051956 004737 031010      ;
7594 051958 004737 031010      ;
7595 051960 004737 031010      ;
7596 051962 004737 031010      ;
7597 051964 004737 031010      ;
7598 051966 004737 031010      ;
7599 051968 004737 031010      ;
7600 051970 004737 031010      ;
7601 051972 004737 031010      ;
7602 051974 004737 031010      ;
7603 051976 004737 031010      ;
7604 051978 004737 031010      ;
7605 051980 004737 031010      ;
7606 051982 004737 031010      ;
7607 051984 004737 031010      ;
7608 051986 004737 031010      ;
7609 051988 004737 031010      ;
7610 051990 004737 031010      ;
7611 051992 004737 031010      ;
7612 051994 004737 031010      ;
7613 051996 004737 031010      ;
7614 051998 004737 031010      ;
7615 052000 004737 031010      ;
7616 052002 004737 031010      ;
7617 052004 004737 031010      ;
7618 052006 004737 031010      ;
7619 052008 004737 031010      ;
7620 052010 004737 031010      ;
7621 052012 004737 031010      ;
7622 052014 004737 031010      ;
7623 052016 004737 031010      ;
7624 052018 004737 031010      ;
7625 052020 004737 031010      ;
7626 052022 004737 031010      ;
7627 052024 004737 031010      ;
7628 052026 004737 031010      ;
7629 052028 004737 031010      ;
7630 052030 004737 031010      ;
7631 052032 004737 031010      ;
7632 052034 004737 031010      ;
7633 052036 004737 031010      ;
7634 052038 004737 031010      ;
7635 052040 004737 031010      ;
7636 052042 004737 031010      ;
7637 052044 004737 031010      ;
7638 052046 004737 031010      ;
7639 052048 004737 031010      ;
7640 052050 004737 031010      ;
7641 052052 004737 031010      ;
7642 052054 004737 031010      ;
7643 052056 004737 031010      ;
7644 052058 004737 031010      ;
7645 052060 004737 031010      ;
7646 052062 004737 031010      ;
7647 052064 004737 031010      ;
7648 052066 004737 031010      ;
7649 052068 004737 031010      ;
7650 052070 004737 031010      ;
7651 052072 004737 031010      ;
7652 052074 004737 031010      ;
7653 052076 004737 031010      ;
7654 052078 004737 031010      ;
7655 052080 004737 031010      ;
7656 052082 004737 031010      ;
7657 052084 004737 031010      ;
7658 052086 004737 031010      ;
7659 052088 004737 031010      ;
7660 052090 004737 031010      ;
7661 052092 004737 031010      ;
7662 052094 004737 031010      ;
7663 052096 004737 031010      ;
7664 052098 004737 031010      ;
7665 052100 004737 031010      ;
7666 052102 004737 031010      ;
7667 052104 004737 031010      ;
7668 052106 004737 031010      ;
7669 052108 004737 031010      ;
7670 052110 004737 031010      ;
7671 052112 004737 031010      ;
7672 052114 004737 031010      ;
7673 052116 004737 031010      ;
7674 052118 004737 031010      ;
7675 052120 004737 031010      ;
7676 052122 004737 031010      ;
7677 052124 004737 031010      ;
7678 052126 004737 031010      ;
7679 052128 004737 031010      ;
7680 052130 004737 031010      ;
7681 052132 004737 031010      ;
7682 052134 004737 031010      ;
7683 052136 004737 031010      ;
7684 052138 004737 031010      ;
7685 052140 004737 031010      ;
7686 052142 004737 031010      ;
7687 052144 004737 031010      ;
7688 052146 004737 031010      ;
7689 052148 004737 031010      ;
7690 052150 004737 031010      ;
7691 052152 004737 031010      ;
7692 052154 004737 031010      ;
7693 052156 004737 031010      ;
7694 052158 004737 031010      ;
7695 052160 004737 031010      ;
7696 052162 004737 031010      ;
7697 052164 004737 031010      ;
7698 052166 004737 031010      ;
7699 052168 004737 031010      ;
7700 052170 004737 031010      ;
7701 052172 004737 031010      ;
7702 052174 004737 031010      ;
7703 052176 004737 031010      ;
7704 052178 004737 031010      ;
7705 052180 004737 031010      ;
7706 052182 004737 031010      ;
7707 052184 004737 031010      ;
7708 052186 004737 031010      ;
7709 052188 004737 031010      ;
7710 052190 004737 031010      ;
7711 052192 004737 031010      ;
7712 052194 004737 031010      ;
7713 052196 004737 031010      ;
7714 052198 004737 031010      ;
7715 052200 004737 031010      ;
7716 052202 004737 031010      ;
7717 052204 004737 031010      ;
7718 052206 004737 031010      ;
7719 052208 004737 031010      ;
7720 052210 004737 031010      ;
7721 052212 004737 031010      ;
7722 052214 004737 031010      ;
7723 052216 004737 031010      ;
772
```

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7331 051450 012777 004100 130550      MOV    #DNI!INTE,@PCSR0      ; ENABLE INTERRUPTS
7332 051456 112777 000102 130542      MOVB   #INTE!GETCMD,@PCSR0   ; ISSUE GET_CMD PORT COMMAND
7333 051464 004737 030706              JSR    PC,CHKDNI             ; DNI ?
7334 051470 103010              BCC    60$                  ; YES
7335 051472              FTL

      051472 004737 031010              JSR    PC,CHKFTL            ; 'FATL' BIT SET?
7336 051476              ERRHRD 166.,ERR010,MSG003     ; NO, REPORT ERROR
      051476 104456              TRAP   C$ERHRD
      051500 000246              .WORD 166
      051502 025425              .WORD ERR010
      051504 024032              .WORD MSG003
7337 051506              ESCAPE TST                  ; AND ABORT TEST
      051506 104410              TRAP   C$ESCAPE
      051510 000616              .WORD L10046-.
7338
7339 051512 004737 032320      60$: JSR    PC,CLRDNI           ; WRITE ONE TO CLEAR DNI
7340
7341 051516 103010              BCC    70$                  ; ERROR ?
7342 051520              FTL                          ; NO

      051520 004737 031010              JSR    PC,CHKFTL            ; 'FATL' BIT SET?
7343 051524              ERRHRD 167.,ERR006,MSG003     ; YES, REPORT ERROR
      051524 104456              TRAP   C$ERHRD
      051526 000247              .WORD 167
      051530 025124              .WORD ERR006
      051532 024032              .WORD MSG003
7344 051534              ESCAPE TST                  ; AND ABORT TEST
      051534 104410              TRAP   C$ESCAPE
      051536 000570              .WORD L10046 .
7345
7346      ;WRITE RING FORMAT (41 TRANSMIT ENTRIES)
7347
7348 051540 012705 014542      70$: MOV    #WTRNGS,R5        ; DEFAULT WRITE RING FORMAT FUNCTION
7349 051544 004737 033656      JSR    PC,LDPCCB            ; LOAD FUNCTION -> PCBB
7350 051550 012705 014722      MOV    #RFRMTX,R5          ; DEFAULT RING FORMAT
7351 051554 012700 000006      MOV    #6,R0                ; FORMAT = SIX WORDS
7352 051560 004737 034134      JSR    PC,L'UDBB            ; LOAD RING FORMAT -> UDBB
7353 051564 012777 004100 130434      MOV    #DNI!INTE,@PCSR0     ; ENABLE INTERRUPTS
7354 051572 112777 000102 130426      MOVB   #INTE!GETCMD,@PCSR0   ; ISSUE GET_CMD PORT COMMAND
7355 051600 004737 030706      JSR    PC,CHKDNI             ; DNI ?
7356 051604 103010              BCC    80$                  ; YES
7357 051606              FTL

      051606 004737 031010              JSR    PC,CHKFTL            ; 'FATL' BIT SET?
7358 051612              ERRHRD 170.,ERR010,MSG003     ; NO, REPORT ERROR
      051612 104456              TRAP   C$ERHRD
      051614 000252              .WORD 170
      051616 025425              .WORD ERR010
      051620 024032              .WORD MSG003
7359 051622              ESCAPE TST                  ; AND ABORT TEST
      051622 104410              TRAP   C$ESCAPE
      051624 000502              .WORD L10046-.
7360

```

```

7361 051626 004737 032320      80$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
7362                                ; ERROR ?
7363 051632 103010            BCC    90$              ; NO
7364 051634                                FTL

                                JSR    PC,CHKFTL      ; 'FATL' BIT SET?
                                ERRHRD 171.,ERR006,MSG003 ; YES, REPORT ERROR
7365 051640                                TRAP  C$ERHRD
                                051640 104456          .WORD 171
                                051642 000253          .WORD ERR006
                                051644 025124          .WORD MSG003
                                051646 024032
7366 051650            ESCAPE TST      ; AND ABORT TEST
                                051650 104410          TRAP  C$ESCAPE
                                051652 000454          .WORD L10046-.

7367                                ;WRITE PHYSICAL ADDRESS
7368                                ;
7369                                ;
7370 051654            90$:
7371 051654 012705 002274      MOV    #DEFAULT,R5      ; GET DEFAULT PHYSICAL ADDRESS
7372 051660 004737 033724      JSR    PC,LDPHYA        ; SAVE IN DEFAULT TABLE
7373 051664 012705 014502      MOV    #WTPHYA,R5      ; DEFAULT WRITE PHYSICAL ADDR FUNC
7374 051670 004737 033656      JSR    PC,LDPCB8        ; LOAD FUNCTION -> PCB8
7375 051674 012777 004100 130324 MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
7376 051702 112777 000102 130316 MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7377 051710 004737 030706      JSR    PC,CHKDNI      ; DNI ?
7378 051714 103010            BCC    100$            ; YES
7379 051716                                FTL

                                JSR    PC,CHKFTL      ; 'FATL' BIT SET?
                                ERRHRD 172.,ERR010,MSG003 ; NO, REPORT ERROR
7380 051722                                TRAP  C$ERHRD
                                051722 104456          .WORD 172
                                051724 000254          .WORD ERR010
                                051726 025425          .WORD MSG003
                                051730 024032
7381 051732            ESCAPE TST      ; AND ABORT TEST
                                051732 104410          TRAP  C$ESCAPE
                                051734 000372          .WORD L10046-.

7382                                ;
7383 051736 004737 032320      100$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
7384                                ; ERROR ?
7385 051742 103010            BCC    110$            ; NO
7386 051744                                FTL

                                JSR    PC,CHKFTL      ; 'FATL' BIT SET?
                                ERRHRD 173.,ERR006,MSG003 ; YES, REPORT ERROR
7387 051750                                TRAP  C$ERHRD
                                051750 104456          .WORD 173
                                051752 000255          .WORD ERR006
                                051754 025124          .WORD MSG003
                                051756 024032
7388 051760            ESCAPE TST      ; AND ABORT TEST
                                051760 104410          TRAP  C$ESCAPE
                                051762 000344          .WORD L10046-.

7389                                ;
7390                                ;SET UP RINGS FOR 50. TRANSMIT PACKETS

```

```

7391 ;AND NO RECEIVE BUFFERS OWNED BY DELUA
7392
7393 051764 012705 016742 110$: MOV #TDRBXX,R5 ; TRANSMIT RING
7394 051770 004737 034076 JSR PC,LTDTRX ; LOAD TDRBX
7395 051774 012705 015012 MOV #RDRB1B,R5 ; DEFAULT RECEIVE RING (NO BUFFERS)
7396 052000 004737 034002 JSR PC,LDRDRX ; LOAD RDRX
7397
7398 ;SET UP BUFFERS AND START
7399
7400 052004 005037 020564 CLR DGCRC ; NO CRC
7401 052010 012737 000006 020562 MOV #6,BYTCNT ; BYTES/PACKET
7402 052016 004737 034662 JSR PC,SETBUF ; SET UP BUFFERS
7403 052022 012777 004100 130176 MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
7404 052030 112777 000104 130170 MOVB #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
7405 052036 004737 030706 JSR PC,CHKDNI ; DNI?
7406 052042 103010 BCC 130$ ; YES
7407 052044
052044 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
7408 052050 ERRHRD 174.,ERR012,MSG003 ; NO, REPORT ERROR
052050 104456 TRAP C$ERHRD
052052 000256 .WORD 174
052054 025543 .WORD ERR012
052056 024032 .WORD MSG003
7409 052060 ESCAPE TST ; AND ABORT TEST
052060 104410 TRAP C$ESCAPE
052062 000244 .WORD L10046 .
7410
7411 ;Don't use subroutine CLRDNI until check PCSRO upper byte status
7412
7413 ;WAIT FOR RCBI SET IN PCSRO
7414
7415 052064 130$: JSR PC,CHKRCE ; BUFFER AVAIL ERROR?
7416 052064 004737 031240 BCC 180$ ; YES, SKIP ERROR PRINTOUT
7417 052070 103016 MOV PCSROC,EPCSR0 ; SET UP DATA FOR
7418 052072 013737 002240 020516 MOV @PCSR1,EPCSR1 ; ERROR PRINTOUT
7419 052100 017737 130124 020520 FTL
7420 052106
052106 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
7421 052112 ERRHRD 175.,ERR025,MSG003 ; NO, REPORT ERROR
052112 104456 TRAP C$ERHRD
052114 000257 .WORD 175
052116 026602 .WORD ERR025
052120 024032 .WORD MSG003
7422 052122 ESCAPE TST ; AND ABORT TEST
052122 104410 TRAP C$ESCAPE
052124 000202 .WORD L10046 .
7423
7424 ;Now can clear PCSRO upper byte
7425
7426 052126 004737 032402 180$: JSR PC,CLINTR ; WRITE ONE'S TO CLEAR UPPER BYTE
7427 052132 017700 130070 MOV @PCSR0,R0 ; READ UPPER BYTE
7428 052136 032700 175400 BIT #CLINTB,R0 ; ANY INTERRUPT BITS STILL SET?
7429 052142 001416 BEQ 230$ ; IF NO ERROR, SKIP ERROR REPORT

```


F2

7458	052274	104	105	114	T16ID:.ASCIZ 'DELUA NO RECEIVE BUFFER '
	052277	125	101	040	
	052302	116	117	040	
	052305	122	105	103	
	052310	105	111	126	
	052313	105	040	102	
	052316	125	106	106	
	052321	105	122	040	
	052324	000			

7459

7460

7461

7462

052326

052326

052326 104401

.EVEN

ENDTST

L10046:

TRAP

C#ETST

7464
7465
7466
7467
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7483
7484

7485 052330
052330
7486
7487 052330

052330 012704 053700
052334 004737 034610

7488 052340 004737 035310
7489 052344 103034
7490 052346 012777 004100 127652
7491 052354 112777 000140 127644
7492 052362 004737 032034
7493 052366 103010
7494 052370

052370 004737 031010

7495 052374
052374 104456
052376 000312
052400 030105
052402 024032

7496 052404
052404 104410
052406 001332

7497
7498 052410 004737 032320
7499
7500 052414 103010
7501 052416

052416 004737 031010

.SBTTL TEST 17: DISABLE RECEIVE CHAINING TEST

```
*****
:
: THIS TEST VERIFIES DISABLE DATA CHAINING MODE.
: AN INTERNAL LOOPBACK IS PERFORMED WITH RECEIVE BUFFERS CHAINED
: WHILE IN DISABLE DATA CHAINING MODE.
: A NCHN ERROR IS EXPECTED IN THE RECEIVE DESCRIPTOR RING.
:
: TEST SEQUENCE:
: 1. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM,
: and DISABLE DATA CHAINING MODE
: 2. WRITE RING FORMAT
: 3. WRITE PHYSICAL ADDRESS
: 4. SET UP RINGS AND BUFFERS FOR RECEIVE DATA CHAINING
: 5. ISSUE START
: 6. CHECK FOR NCHN ERROR IN RDRB+6
: 7. ISSUE STOP
:
: *****
```

BGNTST

T17::

PNTMAC T17ID

MOV #T17ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

: END OF MACRO EXPANSION OF 'PNTMAC'

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSR0 ; PRECONDITION INTR EN.
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

JSR PC,CHKFTL ; 'FATL' BIT SET?

ERRHRD 202.,ERR042,MSG003 ; NO, REPORT ERROR

TRAP ;B0
.WORD C\$ERHRD
.WORD 202
.WORD ERR042
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10047-

20\$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
; ERROR ?
; NO

BCC 30\$
FTL

JSR PC,CHKFTL ; 'FATL' BIT SET?

H2

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TEST 17: DISABLE RECEIVE CHAINING TEST

SEQ 227

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7502 052422          ERRHRD 203.,ERR006,MSG003      ; YES, REPORT ERROR
      052422 104456
      052424 000313
      052426 025124
      052430 024032
      7503 052432          ESCAPE TST              ; AND ABORT TEST
      052432 104410
      052434 001304
      7504
      7505 052436          ; 30$:
      7506 052436 004737 032246          JSR    PC,CLRBUF      ; CLEAR XMIT,RCV BUFFERS
      7507 052442 004737 033606          JSR    PC,LDDFLT     ; LOAD DEFAULT PHY. ADDRESS TABLES
      7508 052446 004737 033706          JSR    PC,LDPCSR     ; ADDRESS OF PCBB -> PCSR2!3
      7509 052452 012777 004100 127546   MOV    #DNI!INTE,@PCSR0
      7510 052460 112777 000101 127540   MOVB  #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
      7511 052466 004737 030706          JSR    PC,CHKDNI    ; DNI?
      7512 052472 103010
      7513 052474          BCC    40$              ; YES
      7514 052474 004737 031010          JSR    PC,CHKFTL    ; 'FATL' BIT SET?
      7514 052500          ERRHRD 204.,ERR009,MSG003  ; NO, REPORT ERROR
      052500 104456
      052502 000314
      052504 025341
      052506 024032
      7515 052510          ESCAPE TST              ; AND ABORT TEST
      052510 104410
      052512 001226
      7516
      7517 052514 004737 032320          ; 40$: JSR    PC,CLRDN1    ; WRITE ONE TO CLEAR DNI
      7518
      7519 052520 103010          BCC    50$              ; ERROR ?
      7520 052522          FTL
      7521 052522 004737 031010          JSR    PC,CHKFTL    ; 'FATL' BIT SET?
      7521 052526          ERRHRD 205.,ERR006,MSG003  ; YES, REPORT ERROR
      052526 104456
      052530 000315
      052532 025124
      052534 024032
      7522 052536          ESCAPE TST              ; AND ABORT TEST
      052536 104410
      052540 001200
      7523
      7524          ; WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM AND
      7525          ; DISABLE RECEIVE DATA CHAINING MODE
      7526
      7527 052542 012705 014602          ; 50$: MOV    #WTHMODE,R5      ; DEFAULT WRITE MODE FUNCTION
      7528 052546 004737 033656          JSR    PC,LDPCBB    ; LOAD FUNCTION -> PCBB
      7529 052552 013737 020470 002304   MOV    MODE17,PCBB+2 ; LOAD MODE REGISTER
      7530 052560 012777 004100 127440   MOV    #DNI!INTE,@PCSR0
      7531 052566 112777 000102 127432   MOVB  #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
      7532 052574 004737 030706          JSR    PC,CHKDNI    ; DNI ?
      7533 052600 103010          BCC    60$              ; YES
      7534 052602          FTL

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052602 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
7535 052606      ERRHRD  206.,ERR010,MSG003 ; NO, REPORT ERROR
      052606      104456      TRAP      C$ERHRD
      052610      000316      .WORD    206
      052612      025425      .WORD    ERR010
      052614      024032      .WORD    MSG003
7536 052616      ESCAPE  TST      ; AND ABORT TEST
      052616      104410      TRAP      C$ESCAPE
      052620      001120      .WORD    L10047-.
7537
7538 052622 004737 032320      ; 60$: JSR      PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
7539
7540 052626 103010      BCC      70$           ; ERROR ?
7541 052630      FTL
      052630      004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
7542 052634      ERRHRD  207.,ERR006,MSG003 ; YES, REPORT ERROR
      052634      104456      TRAP      C$ERHRD
      052636      000317      .WORD    207
      052640      025124      .WORD    ERR006
      052642      024032      .WORD    MSG003
7543 052644      ESCAPE  TST      ; AND ABORT TEST
      052644      104410      TRAP      C$ESCAPE
      052646      001072      .WORD    L10047-.
7544
7545      ;WRITE RING FORMAT
7546
7547 052650 012705 014542      70$:  MOV      @WTRNGS,R5      ; DEFAULT WRITE RING FORMAT FUNCTION
7548 052654 004737 033656      JSR      PC,LDPCCB      ; LOAD FUNCTION -> PCBB
7549 052660 012705 014706      MOV      @RFRMT,R5      ; DEFAULT RING FORMAT
7550 052664 012700 000006      MOV      #6,R0          ; FORMAT = SIX WORDS
7551 052670 004737 034134      JSR      PC,LDUDBB      ; LOAD RING FORMAT -> UDBB
7552 052674 012777 004100 127324      MOV      @DNI!INTE,@PCSR0
7553 052702 112777 000102 127316      MOV      @INTE!GETCMD,@PCSR0
7554 052710 004737 030706      JSR      PC,CHKDNI      ; ISSUE GET_CMD PORT COMMAND
7555 052714 103010      BCC      80$           ; DNI ?
7556 052716      FTL
      052716      004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
7557 052722      ERRHRD  210.,ERR010,MSG003 ; NO, REPORT ERROR
      052722      104456      TRAP      C$ERHRD
      052724      000322      .WORD    210
      052726      025425      .WORD    ERR010
      052730      024032      .WORD    MSG003
7558 052732      ESCAPE  TST      ; AND ABORT TEST
      052732      104410      TRAP      C$ESCAPE
      052734      001004      .WORD    L10047-.
7559
7560 052736 004737 032320      ; 80$: JSR      PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
7561
7562 052742 103010      BCC      90$           ; ERROR ?
7563 052744      FTL
      052744      004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
      052744      210.,ERR010,MSG003 ; NO, REPORT ERROR
      052744      104456      TRAP      C$ERHRD
      052744      000322      .WORD    210
      052744      025425      .WORD    ERR010
      052744      024032      .WORD    MSG003
7564 052746      ESCAPE  TST      ; AND ABORT TEST
      052746      104410      TRAP      C$ESCAPE
      052746      001004      .WORD    L10047-.
7565
7566 052748 004737 032320      ; 90$: JSR      PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
7567
7568 052754 103010      BCC      90$           ; ERROR ?
7569 052756      FTL

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J2

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052744 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
7564 052750      ERRHRD 211.,ERR006,MSG003 ; YES, REPORT ERROR
052750 104456      TRAP   C$ERHRD
052752 000323      .WORD 211
052754 025124      .WORD ERR006
052756 024032      .WORD MSG003
7565 052760      ESCAPE TST           ; AND ABORT TEST
052760 104410      TRAP   C$ESCAPE
052762 000756      .WORD L10047-.

7566      ;
7567      ;WRITE PHYSICAL ADDRESS
7568
7569 052764      90$:
7570 052764 012705 002274      MOV      #DEFAULT,R5      ; GET DEFAULT PHYSICAL ADDRESS
7571 052770 004737 033724      JSR      PC,LDPHYA      ; SAVE IT IN DEFAULT TABLE
7572 052774 012705 014502      MOV      #WTPHYA,R5      ; DEFAULT WRITE PHYSICAL ADDR FUNC
7573 053000 004737 033656      JSR      PC,LDPCCB      ; LOAD FUNCTION -> PCBB
7574 053004 012777 004100 127214      MOV      #DNI!INTE,@PCSR0
7575 053012 112777 000102 127206      MOV      #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7576 053020 004737 030706      JSR      PC,CHKDNI      ; DNI ?
7577 053024 103010      BCC      100$          ; YES
7578 053026      FTL

053026 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
7579 053032      ERRHRD 212.,ERR010,MSG003 ; NO, REPORT ERROR
053032 104456      TRAP   C$ERHRD
053034 000324      .WORD 212
053036 025425      .WORD ERR010
053040 024032      .WORD MSG003
7580 053042      ESCAPE TST           ; AND ABORT TEST
053042 104410      TRAP   C$ESCAPE
053044 000674      .WORD L10047-.

7581      ;
7582 053046 004737 032320      100$: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
7583      ; ERROR ?
7584 053052 103010      BCC      110$          ; NO
7585 053054      FTL

053054 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
7586 053060      ERRHRD 213.,ERR006,MSG003 ; YES, REPORT ERROR
053060 104456      TRAP   C$ERHRD
053062 000325      .WORD 213
053064 025124      .WORD ERR006
053066 024032      .WORD MSG003
7587 053070      ESCAPE TST           ; AND ABORT TEST
053070 104410      TRAP   C$ESCAPE
053072 000646      .WORD L10047-.

7588      ;
7589      ;SET UP RINGS FOR LOOPBACK
7590
7591 053074 012705 016412      110$: MOV      #TDRB1A,R5      ; DEFAULT ONE BUFFER TRANSMIT RING
7592 053100 004737 034040      JSR      PC,LDTDRB      ; LOAD TDRB
7593 053104 012705 015052      MOV      #RDRB2A,R5      ; DEFAULT CHAINED RECEIVE RING
7594 053110 004737 033744      JSR      PC,LDRDRB      ; LOAD RDRB

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K2

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7595
7596          ;SET UP BUFFERS AND START
7597
7598 053114 005037 020564          CLR      DOCRC          ; NO CRC
7599 053120 012737 000006 020562  MOV      #6,BYTCNT     ; BYTES/PACKET
7600 053126 004737 034662          JSR      PC,SETBUF     ; SET UP BUFFERS
7601 053132 012777 004100 127066  MOV      #DNI!INTE,@PCSR0
7602 053140 112777 000104 127060  MOVB     #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
7603 053146 004737 030706          JSR      PC,CHKDNI    ; DNI?
7604 053152 103010          BCC      120$         ; YES
7605 053154
          053154 004737 031010          JSR      PC,CHKFTL    ; 'FATL' BIT SET?
7606 053160          ERRHRD 214.,ERR012,MSG003 ; NO, REPORT ERROR
          053160 104456          TRAP    C$ERHRD
          053162 000326          .WORD  214
          053164 025543          .WORD  ERR012
          053166 024032          .WORD  MSG003
7607 053170          ESCAPE  TST          ; AND ABORT TEST
          053170 104410          TRAP    C$ESCAPE
          053172 000546          .WORD  L10047-.
7608
7609 053174 004737 032320          i120$: JSR      PC,CLR DNI ; WRITE ONE TO CLEAR DNI
7610
7611 053200 103010          BCC      130$         ; ERROR ?
7612 053202          FTL
          053202 004737 031010          JSR      PC,CHKFTL    ; 'FATL' BIT SET?
7613 053206          ERRHRD 215.,ERR006,MSG003 ; YES, REPORT ERROR
          053206 104456          TRAP    C$ERHRD
          053210 000327          .WORD  215
          053212 025124          .WORD  ERR006
          053214 024032          .WORD  MSG003
7614 053216          ESCAPE  TST          ; AND ABORT TEST
          053216 104410          TRAP    C$ESCAPE
          053220 000520          .WORD  L10047-.
7615
7616 053222 004737 031724          i130$: JSR      PC,CHKTXI ; TXI ?
7617 053226 103010          BCC      140$         ; YES
7618 053230          FTL
          053230 004737 031010          JSR      PC,CHKFTL    ; 'FATL' BIT SET?
7619 053234          ERRHRD 216.,ERR013,MSG003 ; NO, REPORT ERROR
          053234 104456          TRAP    C$ERHRD
          053236 000330          .WORD  216
          053240 025624          .WORD  ERR013
          053242 024032          .WORD  MSG003
7620 053244          ESCAPE  TST          ; AND ABORT TEST
          053244 104410          TRAP    C$ESCAPE
          053246 000472          .WORD  L10047-.
7621
7622 053250 004737 032502          i140$: JSR      PC,CLR TXI ; WRITE ONE TO CLEAR TXI
7623
7624 053254 103010          BCC      150$         ; ERROR ?
          ; NO

```

L2

7625	053256			FTL					
	053256	004737	031010	JSR	PC,CHKFTL				
7626	053262			ERRHRD	217.,ERR014,MSG003				
	053262	104456						TRAP	C\$ERHRD
	053264	000331						.WORD	217
	053266	025655						.WORD	ERR014
	053270	024032						.WORD	MSG003
7627	053272			ESCAPE	TST				
	053272	104410						TRAP	C\$ESCAPE
	053274	000444						.WORD	L10047-.
7628									
7629	053276	012705	002622	i150\$:	MOV	#TDRB,R5			
7630	053302	004737	031162		JSR	PC,CHKOWN			
7631	053306	103010			BCC	160\$			
7632	053310				FTL				
	053310	004737	031010		JSR	PC,CHKFTL			
7633	053314			ERRHRD	220.,ERR018				
	053314	104456						TRAP	C\$ERHRD
	053316	000334						.WORD	220
	053320	026122						.WORD	ERR018
	053322	000000						.WORD	0
7634	053324			ESCAPE	TST				
	053324	104410						TRAP	C\$ESCAPE
	053326	000412						.WORD	L10047-.
7635									
7636	053330	012705	020266	i160\$:	MOV	#TDR14A,R5			
7637	053334	004737	034244		JSR	PC,LDXTDR			
7638	053340	012705	002622		MOV	#TDRB,R5			
7639	053344	004737	031636		JSR	PC,CHKTDR			
7640	053350	103010			BCC	170\$			
7641	053352				FTL				
	053352	004737	031010		JSR	PC,CHKFTL			
7642	053356			ERRHRD	221.,ERR020,MSG005				
	053356	104456						TRAP	C\$ERHRD
	053360	000335						.WORD	221
	053362	026302						.WORD	ERR020
	053364	024136						.WORD	MSG005
7643	053366			ESCAPE	TST				
	053366	104410						TRAP	C\$ESCAPE
	053370	000350						.WORD	L10047-.
7644									
7645	053372	004737	031454	i170\$:	JSR	PC,CHKRXI			
7646	053376	103010			BCC	180\$			
7647	053400				FTL				
	053400	004737	031010		JSR	PC,CHKFTL			
7648	053404			ERRHRD	222.,ERR015,MSG003				
	053404	104456						TRAP	C\$ERHRD
	053406	000336						.WORD	222
	053410	025723						.WORD	ERR015


```

7676                                     ;CHECK SECOND RING ENTRY
7677
7678 053542 012705 020426                210$: MOV    #RDR17B,R5                ; POINT TO EXPECTED RDRB
7679 053546 004737 034214                JSR    PC,LDXRDR                ; LOAD INTO XRDRBO TABLE
7680 053552 012705 002672                MOV    #RDRB+8.,R5             ; CHECK RDRB
7681 053556 004737 031344                JSR    PC,CHKRDR                ; ERRORS ?
7682 053562 103010                        BCC    230$                     ; NO
7683 053564
      053564 004737 031010                JSR    PC,CHKFTL                ; 'FATL' BIT SET?
7684 053570                                ERRHRD 226.,ERR037,MSG006        ; YES, REPORT ERROR
      053570 104456                                TRAP  C$ERHRD
      053572 000342                                .WORD 226
      053574 027527                                .WORD ERR037
      053576 024300                                .WORD MSG006
7685 053600                                ESCAPE TST                       ; AND ABORT TEST
      053600 104410                                TRAP  C$ESCAPE
      053602 000136                                .WORD L10047-.
7686
7687 053604 012777 004100 126414 230$: MOV    #DNI!INTE,@PCSR0        ; ISSUE STOP PORT COMMAND
7688 053612 112777 000117 126406        MOVB   #INTE!STOP,@PCSR0       ; DNI ?
7689 053620 004737 030706                JSR    PC,CHKDNI                ; YES
7690 053624 103010                        BCC    240$
7691 053626
      053626 004737 031010                JSR    PC,CHKFTL                ; 'FATL' BIT SET?
7692 053632                                ERRHRD 227.,ERR019,MSG003        ; NO, REPORT ERROR
      053632 104456                                TRAP  C$ERHRD
      053634 000343                                .WORD 227
      053636 026222                                .WORD ERR019
      053640 024032                                .WORD MSG003
7693 053642                                ESCAPE TST                       ; AND ABORT TEST
      053642 104410                                TRAP  C$ESCAPE
      053644 000074                                .WORD L10047-.
7694
7695 053646 004737 032320                240$: JSR    PC,CLRDN1           ; WRITE ONE TO CLEAR DNI
7696
7697 053652 103010                        BCC    250$                     ; ERROR ?
7698 053654
      053654 004737 031010                JSR    PC,CHKFTL                ; 'FATL' BIT SET?
7699 053660                                ERRHRD 230.,ERR006,MSG003        ; YES, REPORT ERROR
      053660 104456                                TRAP  C$ERHRD
      053662 000346                                .WORD 230
      053664 025124                                .WORD ERR006
      053666 024032                                .WORD MSG003
7700 053670                                ESCAPE TST                       ; AND ABORT TEST
      053670 104410                                TRAP  C$ESCAPE
      053672 000046                                .WORD L10047-.
7701
7702
7703 053674                                250$: EXIT  TST
      053674 104432                                TRAP  C$EXIT
      053676 000042                                .WORD L10047-.

```

B3

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7704
7705           ;LOCAL TEST MESSAGE
7706
7707 053700     104     105     114   T17ID:.ASCIZ 'DELUA DISABLE RECEIVE CHAINING '
      053703     125     101     040
      053706     104     111     123
      053711     101     102     114
      053714     105     040     122
      053717     105     103     105
      053722     111     126     105
      053725     040     103     110
      053730     101     111     116
      053733     111     116     107
      053736     040     000
7708           .EVEN
7709
7710           ENDTST
      053740     104401

```

L10047: TRAP C#ETST

7712
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.SBTTL TEST 18: TRANSMIT CHAINING ERROR TEST

```

*****
THIS TEST VERIFIES THAT A TRANSMIT BUFL ERROR CAN BE GENERATED.
AN INTERNAL LOOPBACK IS ATTEMPTED WITH TRANSMIT BUFFERS CHAINED
AND SUCCESSIVE OWNED RINGS HAVING STP SET.
A BUFL ERROR IS EXPECTED IN THE TRANSMIT DESCRIPTOR RING.

TEST SEQUENCE:
1. WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
2. WRITE RING FORMAT
3. WRITE PHYSICAL ADDRESS
4. SET UP RINGS AND BUFFERS
   TRANSMIT RING = CHAINED WITH SUCCESSIVE STPs
5. ISSUE START
6. CHECK FOR BUFL ERROR IN TDRB+6
7. ISSUE STOP
*****

```

7733 053742
053742
7734
7735 053742

BGNTST

T18::

PNTMAC T18ID

053742 012704 055166
053746 004737 034610

MOV #T18ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

; END OF MACRO EXPANSION OF 'PNTMAC'

7736 053752 004737 035310
7737 053756 103034
7738 053760 012777 004100 126240
7739 053766 112777 000140 126232
7740 053774 004737 032034
7741 054000 103010
7742 054002

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30# ; NO
MOV #DNI!INTE,#PCSR0 ; PRECONDITION INTR EN.
MOVB #INTE!RSET,#PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20# ; YES
FTL

054002 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

7743 054006
054006 104456
054010 000347
054012 030105
054014 024032
7744 054016
054016 104410
054020 001206

ERRHRD 231.,ERR042,MSG003 ; NO, REPORT ERROR

;B0
C\$ERRRD
.WORD 231
.WORD ERR042
.WORD MSG003

7745
7746 054022 004737 032320
7747
7748 054026 103010
7749 054030

; 20#:
JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 30# ; NO
FTL

TRAP C\$ESCAPE
.WORD L10050 .

054030 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

D3

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7750 054034          ERRHRD 232.,ERR006,MSG003      ; YES, REPORT ERROR
      054034 104456
      054036 000350
      054040 025124
      054042 024032
      054044          ESCAPE TST                    ; AND ABORT TEST
      054044 104410
      054046 001160
      054106 004737 031010
      054106 004737 031010
7751 054044          ESCAPE TST                    ; AND ABORT TEST
      054044 104410
      054046 001160
7752
7753 054050          ; 30$:
7754 054050 004737 032246      JSR      PC,CLRBUF      ; CLEAR XMIT,RECV BUFFERS
7755 054054 004737 033606      JSR      PC,LDDFLT     ; LOAD DEFAULT PHY.ADDRESS TABLES
7756 054060 004737 033706      JSR      PC,LDPCSR     ; ADDRESS OF PCBB -> PCSR2!3
7757 054064 012777 004100 126134  MOV     #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
7758 054072 112777 000101 126126  MOVB   #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
7759 054100 004737 030706      JSR      PC,CHKDNI    ; DNI?
7760 054104 103010          BCC     40$           ; YES
7761 054106          FTL
      054106 004737 031010      JSR      PC,CHKFTL    ; 'FATL' BIT SET?
7762 054112          ERRHRD 233.,ERR009,MSG003      ; NO, REPORT ERROR
      054112 104456
      054114 000351
      054116 025341
      054120 024032
      054122          ESCAPE TST                    ; AND ABORT TEST
      054122 104410
      054124 001102
7763 054122          ESCAPE TST                    ; AND ABORT TEST
      054122 104410
      054124 001102
7764
7765 054126 004737 032320      ; 40$:
7766
7767 054132 103010          BCC     50$           ; WRITE ONE TO CLEAR DNI
7768 054134          FTL
      054134 004737 031010      JSR      PC,CHKFTL    ; 'FATL' BIT SET?
7769 054140          ERRHRD 234.,ERR006,MSG003      ; YES, REPORT ERROR
      054140 104456
      054142 000352
      054144 025124
      054146 024032
      054150          ESCAPE TST                    ; AND ABORT TEST
      054150 104410
      054152 001054
7770 054150          ESCAPE TST                    ; AND ABORT TEST
      054150 104410
      054152 001054
7771
7772          ;WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
7773
7774 054154 012705 014602      ; 50$:
7775 054160 004737 033656      MOV     #WTHMODE,R5    ; DEFAULT WRITE MODE FUNCTION
7776 054164 012777 004100 126034  JSR      PC,LDPCCBB    ; LOAD FUNCTION -> PCBB
7777 054172 112777 000102 126026  MOV     #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
7778 054200 004737 030706      MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7779 054204 103010          JSR      PC,CHKDNI    ; DNI ?
7780 054206          BCC     60$           ; YES
      054206 004737 031010      JSR      PC,CHKFTL    ; 'FATL' BIT SET?

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054354 104456 TRAP C$ERHRD
054356 000360 .WORD 240
054360 025124 .WORD ERR006
054362 024032 .WORD MSG003
7810 054364 ESCAPE TST ; AND ABORT TEST
054364 104410 TRAP C$ESCAPE
054366 000640 .WORD L10050-.

7811 ;WRITE PHYSICAL ADDRESS
7812
7813
7814 054370 90$:
7815 054370 012705 002274 MOV #DEFAULT,R5 ; GET DEFAULT PHYSICAL ADDRESS
7816 054374 004737 033724 JSR PC,LDPHYA ; SAVE IT IN DEFAULT TABLE
7817 054400 012705 014502 MOV #WTPHYA,R5 ; DEFAULT WRITE PHYSICAL ADDR FUNC
7818 054404 004737 033656 JSR PC,LPCBB ; LOAD FUNCTION -> PCBB
7819 054410 012777 004100 125610 MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
7820 054416 112777 000102 125602 MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
7821 054424 004737 030706 JSR PC,CHKDNI ; DNI ?
7822 054430 103010 BCC 100$ ; YES
7823 054432 FTL

054432 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

7824 054436 ERRHRD 241.,ERR010,MSG003 ; NO, REPORT ERROR
054436 104456 TRAP C$ERHRD
054440 000361 .WORD 241
054442 025425 .WORD ERR010
054444 024032 .WORD MSG003
7825 054446 ESCAPE TST ; AND ABORT TEST
054446 104410 TRAP C$ESCAPE
054450 000556 .WORD L10050-.

7826 7827 054452 004737 032320 100$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
7828 BCC 110$ ; ERROR ?
7829 054456 103010 FTL ; NO
7830 054460 FTL

054460 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

7831 054464 ERRHRD 242.,ERR006,MSG003 ; YES, REPORT ERROR
054464 104456 TRAP C$ERHRD
054466 000362 .WORD 242
054470 025124 .WORD ERR006
054472 024032 .WORD MSG003
7832 054474 ESCAPE TST ; AND ABORT TEST
054474 104410 TRAP C$ESCAPE
054476 000530 .WORD L10050-.

7833 ;SET UP RINGS
7834 110$:
7835 054500 012705 016552 MOV #TDRB1E,R5 ; DEFAULT ERROR TRANSMIT RING
7836 054504 004737 034040 JSR PC,LDTDRB ; LOAD TDRB
7837 054510 012705 014752 MOV #RDRB1A,R5 ; DEFAULT ONE BUFFER RECEIVE RING
7838 054514 004737 033744 JSR PC,LDRDRB ; LOAD RDRB
7839
7840 ;SET UP BUFFERS AND START
7841
7842 054520 005037 020564 CLR DOCRC ; NO CRC
  
```

7843	054524	012737	000006	020562	MOV	#6,BYTCNT	; BYTES/PACKET		
7844	054532	004737	034662		JSR	PC,SETBUF	; SET UP BUFFERS		
7845	054536	012777	004100	125462	MOV	#DNI!INTE,@PCSR0	; ENABLE INTERRUPTS		
7846	054544	112777	000104	125454	MOVB	#INTE!START,@PCSR0	; ISSUE START PORT COMMAND		
7847	054552	004737	030706		JSR	PC,CHKDNI	; DNI?		
7848	054556	103010			BCC	120\$; YES		
7849	054560				FTL				
	054560	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
7850	054564				ERRHRD	243.,ERR012,MSG003	; NO, REPORT ERROR		
	054564	104456						TRAP	C\$ERHRD
	054566	000363						.WORD	243
	054570	025543						.WORD	ERR012
	054572	024032						.WORD	MSG003
7851	054574				ESCAPE	TST	; AND ABORT TEST		
	054574	104410						TRAP	C\$ESCAPE
	054576	000430						.WORD	L10050-.
7852									
7853	054600	004737	032320		JSR	PC,CLRDNI	; WRITE ONE TO CLEAR DNI		
7854				i120\$:			; ERROR ?		
7855	054604	103010			BCC	130\$; NO		
7856	054606				FTL				
	054606	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
7857	054612				ERRHRD	245.,ERR006,MSG003	; YES, REPORT ERROR		
	054612	104456						TRAP	C\$ERHRD
	054614	000365						.WORD	245
	054616	025124						.WORD	ERR006
	054620	024032						.WORD	MSG003
7858	054622				ESCAPE	TST	; AND ABORT TEST		
	054622	104410						TRAP	C\$ESCAPE
	054624	000402						.WORD	L10050-.
7859									
7860	054626	004737	031724		JSR	PC,CHKTXI	; TXI ?		
7861	054632	103010		i130\$:	BCC	140\$; YES		
7862	054634				FTL				
	054634	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
7863	054640				ERRHRD	246.,ERR013,MSG003	; NO, REPORT ERROR		
	054640	104456						TRAP	C\$ERHRD
	054642	000366						.WORD	246
	054644	025624						.WORD	ERR013
	054646	024032						.WORD	MSG003
7864	054650				ESCAPE	TST	; AND ABORT TEST		
	054650	104410						TRAP	C\$ESCAPE
	054652	000354						.WORD	L10050-.
7865									
7866	054654	004737	032502		JSR	PC,CLRTXI	; WRITE ONE TO CLEAR TXI		
7867				i140\$:			; ERROR ?		
7868	054660	103010			BCC	150\$; NO		
7869	054662				FTL				
	054662	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		

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7870 054666          ERRHRD 247.,ERR014,MSG003      ; YES, REPORT ERROR
      054666 104456
      054670 000367
      054672 025655
      054674 024032
      TRAP          C$ERHRD
      .WORD        247
      .WORD        ERR014
      .WORD        MSG003
7871 054676          ESCAPE TST                    ; AND ABORT TEST
      054676 104410
      054700 000326
      TRAP          C$ESCAPE
      .WORD        L10050-.
7872
7873                ;CHECK FIRST RING ENTRY
7874
7875 054702 012705 002622 150$: MOV      #TDRB,R5          ; CHECK TDRB OWNERSHIP
7876 054706 004737 031162   JSR      PC,CHKOWN      ; OWN = PORT DRIVER ?
7877 054712 103010          BCC      160$          ; YES
7878 054714          FTL
      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
      ERRHRD 250.,ERR027      ; NO, REPORT ERROR
      TRAP          C$ERHRD
      .WORD        250
      .WORD        ERR027
      .WORD        0
7879 054720          ESCAPE TST                    ; AND ABORT TEST
      054720 104456
      054722 000372
      054724 026634
      054726 000000
      TRAP          C$ESCAPE
      .WORD        L10050 .
7880 054730          ESCAPE TST                    ; AND ABORT TEST
      054730 104410
      054732 000274
      TRAP          C$ESCAPE
      .WORD        L10050 .
7881
7882 054734 012705 020306 160$: MOV      #TDR18A,R5      ; POINT TO EXPECTED TDRB
7883 054740 004737 034244   JSR      PC,LDXTDR      ; LOAD INTO XTDRBO TABLE
7884 054744 012705 002622   MOV      #TDRB,R5      ; CHECK TDRB
7885 054750 004737 031636   JSR      PC,CHKTDR      ; ERRORS ?
7886 054754 103010          BCC      162$          ; NO
7887 054756          FTL
      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
      ERRHRD 251.,ERR033,MSG005 ; YES, REPORT ERROR
      TRAP          C$ERHRD
      .WORD        251
      .WORD        ERR033
      .WORD        MSG005
7888 054762          ESCAPE TST                    ; AND ABORT TEST
      054762 104456
      054764 000373
      054766 027262
      054770 024136
      TRAP          C$ESCAPE
      .WORD        L10050 .
7889 054772          ESCAPE TST                    ; AND ABORT TEST
      054772 104410
      054774 000232
      TRAP          C$ESCAPE
      .WORD        L10050 .
7890
7891                ;CHECK SECOND RING ENTRY
7892
7893 054776 012705 002636 162$: MOV      #TDRB+12.,R5      ; CHECK TDRB OWNERSHIP
7894 055002 004737 031162   JSR      PC,CHKOWN      ; OWN = PORT DRIVER ?
7895 055006 103010          BCC      164$          ; YES
7896 055010          FTL
      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
      ERRHRD 252.,ERR028      ; NO, REPORT ERROR
      TRAP          C$ERHRD
      .WORD        252
7897 055014          ESCAPE TST                    ; AND ABORT TEST
      055014 104456
      055016 000374
      TRAP          C$ESCAPE
      .WORD        L10050 .
  
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	055020	026741									.WORD	ERR028
	055022	000000									.WORD	0
7898	055024					ESCAPE	TST			; AND ABORT TEST		
	055024	104410									TRAP	C\$ESCAPE
	055026	000200									.WORD	L10050-
7899												
7900	055030	012705	020316		i164\$:	MOV	#TDR18B,R5			; POINT TO EXPECTED TDRB		
7901	055034	004737	034244			JSR	PC,LDXTDR			; LOAD INTO XTDRBO TABLE		
7902	055040	012705	002632			MOV	#TDRB+8.,R5			; CHECK TDRB		
7903	055044	004737	031636			JSR	PC,CHKTDR			; ERRORS ?		
7904	055050	103010				BCC	230\$; NO		
7905	055052					FTL						
	055052	004737	031010			JSR	PC,CHKFTL			; 'FATL' BIT SET?		
7906	055056					ERRHRD	253.,ERR034,MSG005			; YES, REPORT ERROR		
	055056	104456									TRAP	C\$ERHRD
	055060	000375									.WORD	253
	055062	027351									.WORD	ERR034
	055064	024136									.WORD	MSG005
7907	055066					ESCAPE	TST			; AND ABORT TEST		
	055066	104410									TRAP	C\$ESCAPE
	055070	000136									.WORD	L10050-
7908												
7909	055072	012777	004100	125126	i230\$:	MOV	#DNI!INTE,@PCSR0			; ENABLE INTERRUPTS		
7910	055100	112777	000117	125120		MOVB	#INTE!STOP,@PCSR0			; ISSUE STOP PORT COMMAND		
7911	055106	004737	030706			JSR	PC,CHKDNI			; DNI ?		
7912	055112	103010				BCC	240\$; YES		
7913	055114					FTL						
	055114	004737	031010			JSR	PC,CHKFTL			; 'FATL' BIT SET?		
7914	055120					ERRHRD	254.,ERR019,MSG003			; NO, REPORT ERROR		
	055120	104456									TRAP	C\$ERHRD
	055122	000376									.WORD	254
	055124	026222									.WORD	ERR019
	055126	024032									.WORD	MSG003
7915	055130					ESCAPE	TST			; AND ABORT TEST		
	055130	104410									TRAP	C\$ESCAPE
	055132	000074									.WORD	L10050-
7916												
7917	055134	004737	032320		i240\$:	JSR	PC,CLRDNI			; WRITE ONE TO CLEAR DNI		
7918										; ERROR ?		
7919	055140	103010				BCC	250\$; NO		
7920	055142					FTL						
	055142	004737	031010			JSR	PC,CHKFTL			; 'FATL' BIT SET?		
7921	055146					ERRHRD	255.,ERR006,MSG003			; YES, REPORT ERROR		
	055146	104456									TRAP	C\$ERHRD
	055150	000377									.WORD	255
	055152	025124									.WORD	ERR006
	055154	024032									.WORD	MSG003
7922	055156					ESCAPE	TST			; AND ABORT TEST		
	055156	104410									TRAP	C\$ESCAPE
	055160	000046									.WORD	L10050-
7923	055162				i250\$:							

J3

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7924
7925 055162          EXIT  TST
      055162 104432
      055164 000042          TRAP  C$EXIT
                                .WORD L10050-.

7926
7927          ;LOCAL TEST MESSAGE
7928
7929 055166      104      105      114  T18ID: .ASCIZ 'DELUA TRANSMIT CHAINING ERROR '
      055171      125      101      040
      055174      124      122      101
      055177      116      123      115
      055202      111      124      040
      055205      103      110      101
      055210      111      116      111
      055213      116      107      040
      055216      105      122      122
      055221      117      122      040
      055224      000

7930          .EVEN
7931
7932 055226          ENDTST
      055226
      055226 104401          L10050: TRAP  C$ETST

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7954 055230
055230
7955
7956 055230

055230 012704 057004
055234 004737 034610

7957
7958 055240 004737 035310
7959 055244 103034
7960 055246 012777 004100 124752
7961 055254 112777 000140 124744
7962 055262 004737 032034
7963 055266 103010
7964 055270

055270 004737 031010

7965 055274
055274 104456
055276 000400
055300 030105
055302 024032

7966 055304
055304 104410
055306 001524

7967
7968 055310 004737 032320
7969
7970 055314 103010
7971 055316

055316 004737 031010

.SBTTL TEST 19: DATA CHAINING TEST

THIS TEST VERIFIES TRANSMIT AND RECEIVE DATA CHAINING.
AN INTERNAL WITH TWO TRANSMIT AND TWO RECEIVE BUFFERS CHAINED.

TEST SEQUENCE:

1. WRITE MODE REGISTER = PROM MODE INTERNAL LOOPBACK MODE
2. WRITE RING FORMAT
3. WRITE PHYSICAL ADDRESS
4. SET UP RINGS AND BUFFERS
TWO TRANSMIT AND RECEIVE BUFFERS
5. ISSUE START
6. CHECK FOR ERRORS
7. ISSUE STOP

BGNTST

T19::

PNTMAC T19ID

MOV #T19ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

END OF MACRO EXPANSION OF 'PNTMAC'

1\$: JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

JSR PC,CHKFTL ; 'FATL' BIT SET?

ERRHRD 256.,ERR042,MSG003 ; NO, REPORT ERROR

TRAP ;B0
C\$ERRHRD
.WORD 256
.WORD ERR042
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10051-

20\$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 30\$; NO
FTL

JSR PC,CHKFTL ; 'FATL' BIT SET?

L3

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7972 055322          ERRHRD 257.,ERR006,MSG003      ; YES, REPORT ERROR
      055322 104456
      055324 000401
      055326 025124
      055330 024032
7973 055332          ESCAPE TST                    ; AND ABORT TEST
      055332 104410
      055334 001476
7974
7975 055336          ; 30$:
7976 055336 004737 032246      JSR      PC,CLRBUF          ; CLEAR XMIT,RECV BUFFERS
7977 055342 004737 033606      JSR      PC,LDDFLT         ; LOAD DEFAULT PHY.ADDRESS TABLES
7978 055346 004737 033706      JSR      PC,LDPCSR        ; ADDRESS OF PCBB -> PCSR2!3
7979 055352 012777 004100 124646  MOV      #DNI!INTE,@PCSR0  ; ENABLE INTERRUPTS
7980 055360 112777 000101 124640  MOVB     #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
7981 055366 004737 030706      JSR      PC,CHKDNI        ; DNI?
7982 055372 103010
7983 055374          BCC      40$              ; YES
                          FTL
                          JSR      PC,CHKFTL          ; 'FATL' BIT SET?
055374 004737 031010
7984 055400          ERRHRD 260.,ERR009,MSG003      ; NO, REPORT ERROR
      055400 104456
      055402 000404
      055404 025341
      055406 024032
7985 055410          ESCAPE TST                    ; AND ABORT TEST
      055410 104410
      055412 001420
7986
7987 055414 004737 032320      ; 40$: JSR      PC,CLRDN1        ; WRITE ONE TO CLEAR DNI
7988
7989 055420 103010          BCC      50$              ; ERROR ?
7990 055422          FTL
                          ; NO
                          JSR      PC,CHKFTL          ; 'FATL' BIT SET?
055422 004737 031010
7991 055426          ERRHRD 261.,ERR006,MSG003      ; YES, REPORT ERROR
      055426 104456
      055430 000405
      055432 025124
      055434 024032
7992 055436          ESCAPE TST                    ; AND ABORT TEST
      055436 104410
      055440 001372
7993
7994 055442          ; 50$:
7995
7996 055442 012705 014602      ;WRITE MODE REGISTER = INTERNAL LOOPBACK, CRC, AND PROM MODE
7997 055446 004737 033656      MOV      #WTMODE,R5        ; DEFAULT WRITE MODE FUNCTION
7998 055452 012777 004100 124546  JSR      PC,LDPCCB        ; LOAD FUNCTION -> PCBB
7999 055460 112777 000102 124540  MOV      #DNI!INTE,@PCSR0  ; ENABLE INTERRUPTS
8000 055466 004737 030706      MOVB     #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
8001 055472 103010          JSR      PC,CHKDNI        ; DNI ?
8002 055474          BCC      60$              ; YES
                          FTL
                          JSR      PC,CHKFTL          ; 'FATL' BIT SET?
055474 004737 031010

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8003 055500          ERRHRD 262.,ERR010,MSG003      ; NO, REPORT ERROR
      055500 104456          TRAP C$ERHRD
      055502 000406          .WORD 262
      055504 025425          .WORD ERR010
      055506 024032          .WORD MSG003
8004 055510          ESCAPE TST                    ; AND ABORT TEST
      055510 104410          TRAP C$ESCAPE
      055512 001320          .WORD L10051 .
8005
8006 055514 004737 032320      ;60$: JSR PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
8007                                     ; ERROR ?
8008 055520 103010          BCC 70$           ; NO
8009 055522          FTL
      055522 004737 031010          JSR PC,CHKFTL          ; 'FATL' BIT SET?
8010 055526          ERRHRD 263.,ERR006,MSG003      ; YES, REPORT ERROR
      055526 104456          TRAP C$ERHRD
      055530 000407          .WORD 263
      055532 025124          .WORD ERR006
      055534 024032          .WORD MSG003
8011 055536          ESCAPE TST                    ; AND ABORT TEST
      055536 104410          TRAP C$ESCAPE
      055540 001272          .WORD L10051-.
8012
8013                                     ;WRITE RING FORMAT
8014 055542 012705 014542      ;70$: MOV #WTRNGS,R5          ; DEFAULT WRITE RING FORMAT FUNCTION
8015 055546 004737 033656          JSR PC,LDP CBB          ; LOAD FUNCTION -> PCBB
8016 055552 012705 014706          MOV #RFRMT,R5          ; DEFAULT RING FORMAT
8017 055556 012700 000006          MOV #6,R0             ; FORMAT = SIX WORDS
8018 055562 004737 034134          JSR PC,LDUDBB          ; LOAD RING FORMAT -> UDBB
8019 055566 012777 004100 124432      MOV #DNI!INTE,@PCSRO  ; ENABLE INTERRUPTS
8020 055574 112777 000102 124424      MOVB #INTE!GETCMD,@PCSRO ; ISSUE GET_CMD PORT COMMAND
8021 055602 004737 030706          JSR PC,CHKDNI          ; DNI ?
8022 055606 103010          BCC 80$           ; YES
8023 055610          FTL
      055610 004737 031010          JSR PC,CHKFTL          ; 'FATL' BIT SET?
8024 055614          ERRHRD 264.,ERR010,MSG003      ; NO, REPORT ERROR
      055614 104456          TRAP C$ERHRD
      055616 000410          .WORD 264
      055620 025425          .WORD ERR010
      055622 024032          .WORD MSG003
8025 055624          ESCAPE TST                    ; AND ABORT TEST
      055624 104410          TRAP C$ESCAPE
      055626 001204          .WORD L10051-.
8026
8027 055630 004737 032320      ;80$: JSR PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
8028                                     ; ERROR ?
8029 055634 103010          BCC 90$           ; NO
8030 055636          FTL
      055636 004737 031010          JSR PC,CHKFTL          ; 'FATL' BIT SET?
8031 055642          ERRHRD 265.,ERR006,MSG003      ; YES, REPORT ERROR
    
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055642 104456
055644 000411
055646 025124
055650 024032
8032 055652          ESCAPE TST          ; AND ABORT TEST
055652 104410          TRAP          C$ERHRD
055654 001156          .WORD          265
                                           .WORD          ERR006
                                           .WORD          MSG003
8033
8034          ;WRITE PHYSICAL ADDRESS
8035
8036 055656          90$:
8037 055656 012705 002274          MOV          #DEFAULT,R5          ; GET DEFAULT PHYSICAL ADDRESS
8038 055662 004737 033724          JSR          PC,LDPHYA          ; SAVE IN DEFAULT TABLE
8039 055666 012705 014502          MOV          #WTPHYA,R5          ; DEFAULT WRITE PHYSICAL ADDR FUNC
8040 055672 004737 033656          JSR          PC,LDPCBB          ; LOAD FUNCTION -> PCBB
8041 055676 012777 004100 124322          MOV          #DNI!INTE,@PCSR0          ; ENABLE INTERRUPTS
8042 055704 112777 000102 124314          MOVB         #INTE!GETCMD,@PCSR0          ; ISSUE GET_CMD PORT COMMAND
8043 055712 004737 030706          JSR          PC,CHKDNI          ; DNI ?
8044 055716 103010          BCC          100$          ; YES
8045 055720          FTL
                                           ; 'FATL' BIT SET?
055720 004737 031010          JSR          PC,CHKFTL
                                           ; NO, REPORT ERROR
8046 055724          ERRHRD 266.,ERR010,MSG003
                                           TRAP          C$ERHRD
055724 104456          .WORD          266
055726 000412          .WORD          ERR010
055730 025425          .WORD          MSG003
055732 024032
8047 055734          ESCAPE TST          ; AND ABORT TEST
055734 104410          TRAP          C$ESCAPE
055736 001074          .WORD          L10051-.
8048
8049 055740 004737 032320          ;100$: JSR          PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
8050          .WORD          ; ERROR ?
8051 055744 103010          BCC          110$          ; NO
8052 055746          FTL
                                           ; 'FATL' BIT SET?
055746 004737 031010          JSR          PC,CHKFTL
                                           ; YES, REPORT ERROR
8053 055752          ERRHRD 267.,ERR006,MSG003
                                           TRAP          C$ERHRD
055752 104456          .WORD          267
055754 000413          .WORD          ERR006
055756 025124          .WORD          MSG003
055760 024032
8054 055762          ESCAPE TST          ; AND ABORT TEST
055762 104410          TRAP          C$ESCAPE
055764 001046          .WORD          L10051-.
8055
8056          ;SET UP RINGS FOR TWO BUFFERS CHAINED LOOPBACK
8057
8058 055766 012705 017572          110$: MOV          #TDRB4A,R5          ; DEFAULT TWO BUFFER TRANSMIT RING
8059 055772 004737 034040          JSR          PC,LDTDRB          ; LOAD TDRB
8060 055776 012705 015542          MOV          #RDRB4A,R5          ; DEFAULT TWO BUFFER RECEIVE RING
8061 056002 004737 033744          JSR          PC,LDRDRB          ; LOAD RDRB
8062
8063          ;SET UP BUFFERS AND START
8064

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8093 056154          ERRHRD 273.,ERR014,MSG003      ; YES, REPORT ERROR
      056154 104456
      056156 000421
      056160 025655
      056162 024032
      8094 056164          ESCAPE TST                ; AND ABORT TEST
      056164 104410
      056166 000644
      8095
      8096          ;CHECK FIRST RING ENTRY
      8097
      8098 056170 012705 002622      150$: MOV    #TDRB,R5          ; CHECK TDRB OWNERSHIP
      8099 056174 004737 031162      JSR    PC,CHKOWN          ; OWN = PORT DRIVER ?
      8100 056200 103010              BCC    160$              ; YES
      8101 056202
      056202 004737 031010              JSR    PC,CHKFTL          ; 'FATL' BIT SET?
      8102 056206          ERRHRD 274.,ERR027          ; NO, REPORT ERROR
      056206 104456
      056210 000422
      056212 026634
      056214 000000
      8103 056216          ESCAPE TST                ; AND ABORT TEST
      056216 104410
      056220 000612
      8104
      8105 056222 012705 020326      160$: MOV    #TDR20A,R5      ; POINT TO EXPECTED TDRB
      8106 056226 004737 034244      JSR    PC,LDXTDR          ; LOAD INTO XTDRBO TABLE
      8107 056232 012705 002622      MOV    #TDRB,R5          ; CHECK TDRB
      8108 056236 004737 031636      JSR    PC,CHKTDR          ; ERRORS ?
      8109 056242 103010              BCC    162$              ; NO
      8110 056244
      056244 004737 031010              JSR    PC,CHKFTL          ; 'FATL' BIT SET?
      8111 056250          ERRHRD 275.,ERR033,MSG005      ; YES, REPORT ERROR
      056250 104456
      056252 000423
      056254 027262
      056256 024136
      8112 056260          ESCAPE TST                ; AND ABORT TEST
      056260 104410
      056262 000550
      8113
      8114          ;CHECK SECOND RING ENTRY
      8115
      8116 056264 012705 002632      162$: MOV    #TDRB+8.,R5     ; CHECK TDRB OWNERSHIP
      8117 056270 004737 031162      JSR    PC,CHKOWN          ; OWN = PORT DRIVER ?
      8118 056274 103010              BCC    164$              ; YES
      8119 056276
      056276 004737 031010              JSR    PC,CHKFTL          ; 'FATL' BIT SET?
      8120 056302          ERRHRD 276.,ERR028          ; NO, REPORT ERROR
      056302 104456
      TRAP    C$ERHRD
      .WORD   273
      .WORD   ERR014
      .WORD   MSG003
      TRAP    C$ESCAPE
      .WORD   L10051-.
      TRAP    C$ERHRD
      .WORD   274
      .WORD   ERR027
      .WORD   C
      TRAP    C$ESCAPE
      .WORD   L10051 .
      TRAP    C$ERHRD
      .WORD   275
      .WORD   ERR033
      .WORD   MSG005
      TRAP    C$ESCAPE
      .WORD   L10051-.
      TRAP    C$ERHRD

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      056304 000424                                .WORD 276
      056306 026741                                .WORD ERR028
      056310 000000                                .WORD 0
8121 056312                                ESCAPE TST                                ; AND ABORT TEST
      056312 104410                                TRAP C$ESCAPE
      056314 000516                                .WORD L10051-.

8122
8123 056316 012705 020336          i164$: MOV #TDR208,R5                                ; POINT TO EXPECTED TDRB
8124 056322 004737 034244          JSR PC,LDXTDR                                ; LOAD INTO XTDRBO TABLE
8125 056326 012705 002632          MOV #TDRB+8.,R5                             ; CHECK TDRB
8126 056332 004737 031636          JSR PC,CHKTDR                                ; ERRORS ?
8127 056336 103010          BCC 170$                                     ; NO
8128 056340
      056340 004737 031010          JSR PC,CHKFTL                                ; 'FATL' BIT SET?
      ERRHRD 277.,ERR034,MSG005          ; YES, REPORT ERROR
8129 056344                                TRAP C$ERHRD
      056344 104456                                .WORD 277
      056346 000425                                .WORD ERR034
      056350 027351                                .WORD MSG005
      056352 024136
8130 056354                                ESCAPE TST                                ; AND ABORT TEST
      056354 104410                                TRAP C$ESCAPE
      056356 000454                                .WORD L10051-.

8131
8132 056360 004737 031454          i170$: JSR PC,CHKRXI                                ; RXI ?
8133 056364 103010          BCC 180$                                     ; YES
8134 056366
      056366 004737 031010          JSR PC,CHKFTL                                ; 'FATL' BIT SET?
      ERRHRD 280.,ERR015,MSG003          ; NO, REPORT ERROR
8135 056372                                TRAP C$ERHRD
      056372 104456                                .WORD 280
      056374 000430                                .WORD ERR015
      056376 025723                                .WORD MSG003
      056400 024032
8136 056402                                ESCAPE TST                                ; AND ABORT TEST
      056402 104410                                TRAP C$ESCAPE
      056404 000426                                .WORD L10051.

8137
8138 056406 004737 032434          i180$: JSR PC,CLRRXI                                ; WRITE ONE TO CLEAR RXI
8139
8140 056412 103010          BCC 190$                                     ; ERROR ?
8141 056414
      056414 004737 031010          JSR PC,CHKFTL                                ; NO
      056414 004737 031010          JSR PC,CHKFTL                                ; 'FATL' BIT SET?
      ERRHRD 281.,ERR016,MSG003          ; YES, REPORT ERROR
8142 056420                                TRAP C$ERHRD
      056420 104456                                .WORD 281
      056422 000431                                .WORD ERR016
      056424 025754                                .WORD MSG003
      056426 024032
8143 056430                                ESCAPE TST                                ; AND ABORT TEST
      056430 104410                                TRAP C$ESCAPE
      056432 000400                                .WORD L10051-.

8144
8145
      ;
      ;

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8146                                     ;CHECK FIRST RING ENTRY
8147
8148 056434 012705 002662          190$: MOV    #RDRB,R5          ; CHECK RDRB OWNERSHIP
8149 056440 004737 031162          JSR    PC,CHKOWN        ; OWN = PORT DRIVER ?
8150 056444 103010                  BCC    200$             ; YES
8151 056446                          FTL
                                     ;
      056446 004737 031010          JSR    PC,CHKFTL        ; 'FATL' BIT SET?
8152 056452                          ERRHRD 282.,ERR030      ; NO, REPORT ERROR
      056452 104456                                     TRAP   C$ERHRD
      056454 000432                                     .WORD 282
      056456 027047                                     .WORD ERR030
      056460 000000                                     .WORD 0
8153 056462                          ESCAPE TST          ; AND ABORT TEST
      056462 104410                                     TRAP   C$ESCAPE
      056464 000346                                     .WORD L10051-.
8154
8155 056466 012705 020436          ;200$: MOV    #RDR20A,R5      ; POINT TO EXPECTED RDRB
8156 056472 004737 034214          JSR    PC,LDXRDR        ; LOAD INTO XRDRBO TABLE
8157 056476 012705 002662          MOV    #RDRB,R5        ; CHECK RDRB
8158 056502 004737 031344          JSR    PC,CHKRDR        ; ERRORS ?
8159 056506 103010                  BCC    202$             ; NO
8160 056510                          FTL
                                     ;
      056510 004737 031010          JSR    PC,CHKFTL        ; 'FATL' BIT SET?
8161 056514                          ERRHRD 283.,ERR036,MSG006 ; YES, REPORT ERROR
      056514 104456                                     TRAP   C$ERHRD
      056516 000433                                     .WORD 283
      056520 027441                                     .WORD ERR036
      056522 024300                                     .WORD MSG006
8162 056524                          ESCAPE TST          ; AND ABORT TEST
      056524 104410                                     TRAP   C$ESCAPE
      056526 000304                                     .WORD L10051 .
8163
8164                                     ;CHECK SECOND RING ENTRY
8165
8166 056530 012705 002672          202$: MOV    #RDRB+8.,R5    ; CHECK RDRB OWNERSHIP
8167 056534 004737 031162          JSR    PC,CHKOWN        ; OWN = PORT DRIVER ?
8168 056540 103010                  BCC    204$             ; YES
8169 056542                          FTL
                                     ;
      056542 004737 031010          JSR    PC,CHKFTL        ; 'FATL' BIT SET?
8170 056546                          ERRHRD 284.,ERR031      ; NO, REPORT ERROR
      056546 104456                                     TRAP   C$ERHRD
      056550 000434                                     .WORD 284
      056552 027154                                     .WORD ERR031
      056554 000000                                     .WORD 0
8171 056556                          ESCAPE TST          ; AND ABORT TEST
      056556 104410                                     TRAP   C$ESCAPE
      056560 000252                                     .WORD L10051-.
8172
8173 056562 012705 020446          ;204$: MOV    #RDR20B,R5    ; POINT TO EXPECTED RDRB
8174 056566 004737 034214          JSR    PC,LDXRDR        ; LOAD INTO XRDRBO TABLE
8175 056572 012705 002672          MOV    #RDRB+8.,R5    ; CHECK RDRB

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8176 056576 004737 031344      JSR    PC,CHKRDR      ; ERRORS ?
8177 056602 103010              BCC    210$          ; NO
8178 056604                      FTL

      056604 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?
8179 056610 104456              ERRHRD 285.,ERR037,MSG006 ; YES, REPORT ERROR
      056610 000435              TRAP  C$ERHRD
      056612 027527              .WORD 285
      056614 024300              .WORD ERR037
      056616 000210              .WORD MSG006
8180 056620 104410              ESCAPE TST          ; AND ABORT TEST
      056620 000210              TRAP  C$ESCAPE
      056622 000210              .WORD L10051-.

8181
8182
8183 056624 012705 011056      ; 210$:
8184 056624 022725 152120      MOV    #RBUF2+14,R5 ; POINT TO CRC ADDRESS
8185 056630 001003              CMP    #152120,(R5)+ ; 1ST CRC WORD BAD?
8186 056634 022715 136614      BNE    222$          ; YES
8187 056636 001422              CMP    #136614,(R5) ; 2ND CRC WORD BAD?
8188 056642 001422              BEQ    230$          ; NO, SKIP ERROR REPORT
8189 056644
8190 056644 012703 020576      ; 222$:
8191 056650 012704 011056      MOV    #XCRC,R3     ; POINT TO ERROR TABLE
8192 056654 012324              MOV    #RBUF2+14,R4 ; POINT TO ACTUAL CRC RECEIVED
8193 056656 011314              MOV    (R3)+,(R4)+ ; LOAD CRC ERROR TABLE
8194 056660 012703 020576      MOV    (R3),(R4)    ;
8195 056664 012723 152120      MOV    #XCRC,R3     ; POINT TO EXPECTED CRC TABLE
8196 056670 012713 136614      MOV    #152120,(R3)+ ; LOAD TABLE
8197 056674 001422              MOV    #136614,(R3) ;
      056674 104456              ERRHRD 286.,ERR023,MSG008 ; YES, REPORT ERROR
      056676 000436              TRAP  C$ERHRD
      056700 026513              .WORD 286
      056702 024474              .WORD ERR023
      056702 024474              .WORD MSG008
8198 056704 104410              ESCAPE TST          ; AND ABORT TEST
      056704 000124              TRAP  C$ESCAPE
      056706 000124              .WORD L10051-.

8199
8200 056710 012777 004100 123310 ; 230$:
8201 056710 112777 000117 123302 MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
8202 056716 004737 030706      MOV    #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
8203 056724 103010              JSR    PC,CHKDNI    ; DNI ?
8204 056730 004737 030706      BCC    240$          ; YES
8205 056732                      FTL

      056732 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?
8206 056736 104456              ERRHRD 287.,ERR019,MSG003 ; NO, REPORT ERROR
      056736 000437              TRAP  C$ERHRD
      056740 026222              .WORD 287
      056742 024032              .WORD ERR019
      056744 000062              .WORD MSG003
8207 056746 104410              ESCAPE TST          ; AND ABORT TEST
      056746 000062              TRAP  C$ESCAPE
      056750 000062              .WORD L10051-.

8208

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G4

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8209 056752 004737 032320      240$: JSR    PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
8210                               ; ERROR ?
8211 056756 103010             BCC    250$      ; NO
8212 056760                               FTL
                                JSR    PC,CHKFTL      ; 'FATL' BIT SET?
                                ERRHRD 290.,ERR006,MSG003 ; YES, REPORT ERROR
8213 056764                               TRAP  C$ERHRD
056764 104456                               .WORD 290
056766 000442                               .WORD ERR006
056770 025124                               .WORD MSG003
056772 024032
8214 056774             ESCAPE TST      ; AND ABORT TEST
056774 104410             TRAP  C$ESCAPE
056776 000034             .WORD  L10051-.
8215 057000      250$:
8216
8217 057000             EXIT  TST      TRAP  C$EXIT
057000 104432             .WORD  L10051-.
057002 000030
8218
8219             ;LOCAL TEST MESSAGE
8220
8221 057004      104      105      114  T19ID:.ASCIZ 'DELUA DATA CHAINING '
057007      125      101      040
057012      104      101      124
057015      101      040      103
057020      110      101      111
057023      116      111      116
057026      107      040      000
8222             .EVEN
8223
8224 057032             ENDTST
057032
057032 104401             L10051: TRAP  C$ETST

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.SBTTL TEST 20: PHYSICAL ADDRESS TEST

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*****
:
: THIS TEST VERIFIES THAT PHYSICAL ADDRESS DETECTION
: IS OPERATIONAL.
: A WRITE PHYSICAL ADDRESS FUNCTION IS USED TO SET
: THE DELUA'S PHYSICAL ADDRESS.
: INTERNAL LOOPBACKS ARE THEN PERFORMED WITH A
: CURRENTLY ENABLED AND THEN A CURRENTLY DISABLED
: DESTINATION ADDRESS.
: THE PHYSICAL ADDRESS IS THEN COMPLEMENTED AND THE
: TEST IS REPEATED.
:
: TEST SEQUENCE:
: 1. WRITE MODE REGISTER = INTERNAL LOOPBACK
: 2. WRITE RING FORMAT
: 3. WRITE PHYSICAL ADDRESS
: 4. SET UP RINGS AND BUFFERS
: WITH DESTINATION ADDRESS = PHYSICAL ADDRESS
: 5. ISSUE START
: 6. CHECK FOR ERRORS
: 7. ISSUE STOP
: 8. SET UP RINGS AND BUFFERS
: WITH DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
: 9. ISSUE START
: 10. CHECK FOR NO RXI
: 11. ISSUE STOP
: 12. WRITE PHYSICAL ADDRESS WITH COMPLEMENTED VAULE
: 13. REPEAT STEPS 4 - 11
:
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8259 057034
057034
8260
8261 057034

BGNTST

T20:.

PNTMAC T20ID

057034 012704 062460
057040 004737 034610

MOV #T20ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

END OF MACRO EXPANSION OF 'PNTMAC'

8262 057044 004737 035310
8263 057050 103034
8264 057052 012777 004100 123146
8265 057060 112777 000140 123140
8266 057066 004737 032034
8267 057072 103010
8268 057074

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

057074 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

8269 057100
057100 104456
057102 000443
057104 030105

ERRHRD 291.,ERR042,MSG003 ; NO, REPORT ERROR

TRAP :B0
.WORD C\$ERHRD
.WORD 291
.WORD ERR042

8270	057106	024032			ESCAPE TST		; AND ABORT TEST	.WORD	MSG003
	057110							TRAP	C\$ESCAPE
	057110	104410						.WORD	L10052-
	057112	003376							
8271									
8272	057114	004737	032320	i	JSR	PC,CLRDN1	; WRITE ONE TO CLEAR DNI		
8273				20\$:			; ERROR ?		
8274	057120	103010			BCC	30\$; NO		
8275	057122				FTL				
	057122	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
8276	057126				ERRHRD	292.,ERR006,MSG003	; YES, REPORT ERROR	TRAP	C\$ERHRD
	057126	104456						.WORD	292
	057130	000444						.WORD	ERR006
	057132	025124						.WORD	MSG003
	057134	024032							
8277	057136				ESCAPE TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	057136	104410						.WORD	L10052-
	057140	003350							
8278									
8279	057142			i					
8280	057142	004737	032246	30\$:	JSR	PC,CLRBUF	; CLEAR XMIT,RECV BUFFERS		
8281	057146	004737	033606		JSR	PC,LDDFLT	; LOAD DEFAULT PHY.ADDRESS TABLES		
8282	057152	004737	033706		JSR	PC,LDPCSR	; ADDRESS OF PCBB -> PCSR2!3		
8283	057156	012777	004100	123042	MOV	#DNI!INTE,@PCSR0	; ENABLE INTERRUPTS		
8284	057164	112777	000101	123034	MOVB	#INTE!GETPCB,@PCSR0	; ISSUE GET PCBB PORT COMMAND		
8285	057172	004737	030706		JSR	PC,CHKDNI	; DNI?		
8286	057176	103010			BCC	40\$; YES		
8287	057200				FTL				
	057200	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
8288	057204				ERRHRD	293.,ERR009,MSG003	; NO, REPORT ERROR	TRAP	C\$ERHRD
	057204	104456						.WORD	293
	057206	000445						.WORD	ERR009
	057210	025341						.WORD	MSG003
	057212	024032							
8289	057214				ESCAPE TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	057214	104410						.WORD	L10052 .
	057216	003272							
8290									
8291	057220	004737	032320	i	JSR	PC,CLRDN1	; WRITE ONE TO CLEAR DNI		
8292				40\$:			; ERROR ?		
8293	057224	103010			BCC	50\$; NO		
8294	057226				FTL				
	057226	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
8295	057232				ERRHRD	294.,ERR006,MSG003	; YES, REPORT ERROR	TRAP	C\$ERHRD
	057232	104456						.WORD	294
	057234	000446						.WORD	ERR006
	057236	025124						.WORD	MSG003
	057240	024032							
8296	057242				ESCAPE TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	057242	104410						.WORD	L10052-
	057244	003244							

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8297
8298 ;WRITE MODE REGISTER = INTERNAL LOOPBACK
8299
8300 057246 012705 014602 50$: MOV #WTMODE,R5 ; DEFAULT WRITE MODE FUNCTION
8301 057252 004737 033656 JSR PC,LDPCCB ; LOAD FUNCTION -> PCBB
8302 057256 013737 020474 002304 MOV MODE21,PCBB+2 ; MODE = INTL LOOPBACK ONLY
8303 057264 012777 004100 122734 MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
8304 057272 112777 000102 122726 MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
8305 057300 004737 030706 JSR PC,CHKDNI ; DNI ?
8306 057304 103010 BCC 60$ ; YES
8307 057306 FTL

057306 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

8308 057312 ERRHRD 295.,ERR010,MSG003 ; NO, REPORT ERROR
057312 104456 TRAP C$ERHRD
057314 000447 .WORD 295
057316 025425 .WORD ERR010
057320 024032 .WORD MSG003

8309 057322 ESCAPE TST ; AND ABORT TEST
057322 104410 TRAP C$ESCAPE
057324 003164 .WORD L10052-.

8310
8311 057326 004737 032320 60$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
8312 BCC 70$ ; ERROR ?
8313 057332 103010 FTL ; NO
8314 057334

057334 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

8315 057340 ERRHRD 296.,ERR006,MSG003 ; YES, REPORT ERROR
057340 104456 TRAP C$ERHRD
057342 000450 .WORD 296
057344 025124 .WORD ERR006
057346 024032 .WORD MSG003

8316 057350 ESCAPE TST ; AND ABORT TEST
057350 104410 TRAP C$ESCAPE
057352 003136 .WORD L10052-.

8317
8318 ;WRITE RING FORMAT
8319
8320 057354 012705 014542 70$: MOV #WTRNGS,R5 ; DEFAULT WRITE RING FORMAT FUNCTION
8321 057360 004737 033656 JSR PC,LDPCCB ; LOAD FUNCTION -> PCBB
8322 057364 012705 014706 MOV #RFRMT,R5 ; DEFAULT RING FORMAT
8323 057370 012700 000006 MOV #6,R0 ; FORMAT = SIX WORDS
8324 057374 004737 034134 JSR PC,LDUDBB ; LOAD RING FORMAT -> UDBB
8325 057400 012777 004100 122620 MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
8326 057406 112777 000102 122612 MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
8327 057414 004737 030706 JSR PC,CHKDNI ; DNI ?
8328 057420 103010 BCC 80$ ; YES
8329 057422 FTL

057422 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

8330 057426 ERRHRD 297.,ERR010,MSG003 ; NO, REPORT ERROR
057426 104456 TRAP C$ERHRD
057430 000451 .WORD 297

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      057432 025425
      057434 024032
8331 057436          ESCAPE TST          ; AND ABORT TEST          .WORD  ERR010
      057436 104410          ;                               .WORD  MSG003
      057440 003050          TRAP   C$ESCAPE
      ;                               .WORD  L10052-.
8332
8333 057442 004737 032320      ;80$: JSR    PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
8334
8335 057446 103010          BCC    90$          ; ERROR ?
8336 057450          FTL          ; NO
      ;
      057450 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
8337 057454          ERRHRD 300.,ERR006,MSG003 ; YES, REPORT ERROR          TRAP   C$ERHRD
      057454 104456          .WORD  300
      057456 000454          .WORD  ERR006
      057460 025124          .WORD  MSG003
      057462 024032          ;
8338 057464          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
      057464 104410          ;                               .WORD  L10052-.
      057466 003022          ;
8339
8340      ;WRITE PHYSICAL ADDRESS
8341
8342 057470      90$:
8343 057470 012705 020062      MOV    #ADR21,R5          ; GET NEW PHYSICAL ADDRESS
8344 057474 004737 033724      JSR    PC,LDPHYA          ; SAVE IT IN DEFAULT TABLE
8345 057500 012705 014502      MOV    #WTPHYA,R5        ; DEFAULT WRITE PHYSICAL ADDR FUNC
8346 057504 004737 033656      JSR    PC,LPCBB          ; LOAD FUNCTION -> PCBB
8347 057510 012701 020062      MOV    #ADR21,R1        ; GET PHYSICAL ADDRESS
8348 057514 010102          MOV    R1,R2            ; SOURCE = DESTINATION
8349 057516 004737 035062      JSR    PC,SRCDST         ; LOAD PHY ADR IN ADR TABLES
8350 057522 012777 004100 122476 MOV    #DNI!INTE,@PCSR0  ; ENABLE INTERRUPTS
8351 057530 112777 000102 122470 MOV    #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
8352 057536 004737 030706      JSR    PC,CHKDNI        ; DNI ?
8353 057542 103010          BCC    100$          ; YES
8354 057544          FTL
      ;
      057544 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
8355 057550          ERRHRD 301.,ERR010,MSG003 ; NO, REPORT ERROR          TRAP   C$ERHRD
      057550 104456          .WORD  301
      057552 000455          .WORD  ERR010
      057554 025425          .WORD  MSG003
      057556 024032          ;
8356 057560          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
      057560 104410          ;                               .WORD  L10052-.
      057562 002726          ;
8357
8358 057564 004737 032320      ;100$: JSR    PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
8359
8360 057570 103010          BCC    110$          ; ERROR ?
8361 057572          FTL          ; NO
      ;
      057572 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
8362 057576          ERRHRD 302.,ERR006,MSG003 ; YES, REPORT ERROR

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	057576	104456				TRAP	C\$ERHRD
	057600	000456				.WORD	302
	057602	025124				.WORD	ERR006
	057604	024032				.WORD	MSG003
8363	057606			ESCAPE TST			
	057606	104410				TRAP	C\$ESCAPE
	057610	002700				.WORD	L10052-
8364							
8365							
8366							
8367	057612	012705	016412	110\$: MOV	#TDRB1A,R5		; DEFAULT ONE BUFFER TRANSMIT RING
8368	057616	004737	034040		JSR PC,LDTDRB		; LOAD TDRB
8369	057622	012705	014752		MOV #RDRB1A,R5		; DEFAULT ONE BUFFER RECEIVE RING
8370	057626	004737	033744		JSR PC,LDRDRB		; LOAD RDRB
8371							
8372							
8373							
8374	057632	005037	020564		CLR DDCRC		; NO CRC
8375	057636	012737	000006	020562	MOV #6,BYTCNT		; BYTES/PACKET
8376	057644	004737	034662		JSR PC,SETBUF		; SET UP BUFFERS
8377	057650	012777	004100	122350	MOV #DNI!INTE,@PCSR0		; ENABLE INTERRUPTS
8378	057656	112777	000104	122342	MOVB #INTE!START,@PCSR0		; ISSUE START PORT COMMAND
8379	057664	004737	030706		JSR PC,CHKDNI		; DNI?
8380	057670	103010			BCC 120\$; YES
8381	057672				FTL		
	057672	004737	031010		JSR PC,CHKFTL		; 'FATL' BIT SET?
8382	057676				ERRHRD 303.,ERR012,MSG003		; NO, REPORT ERROR
	057676	104456				TRAP	C\$ERHRD
	057700	000457				.WORD	303
	057702	025543				.WORD	ERR012
	057704	024032				.WORD	MSG003
8383	057706			ESCAPE TST			
	057706	104410				TRAP	C\$ESCAPE
	057710	002600				.WORD	L10052-
8384							
8385	057712	004737	032320	i120\$: JSR	PC,CLR DNI		; WRITE ONE TO CLEAR DNI
8386							; ERROR ?
8387	057716	103010			BCC 130\$; NO
8388	057720				FTL		
	057720	004737	031010		JSR PC,CHKFTL		; 'FATL' BIT SET?
8389	057724				ERRHRD 304.,ERR006,MSG003		; YES, REPORT ERROR
	057724	104456				TRAP	C\$ERHRD
	057726	000460				.WORD	304
	057730	025124				.WORD	ERR006
	057732	024032				.WORD	MSG003
8390	057734			ESCAPE TST			
	057734	104410				TRAP	C\$ESCAPE
	057736	002552				.WORD	L10052-
8391							
8392	057740	004737	031724	i130\$: JSR	PC,CHKTXI		; TXI ?
8393	057744	103010			BCC 140\$; YES
8394	057746				FTL		

8419	060104			ESCAPE	TST		; AND ABORT TEST		
	060104	104410						TRAP	C\$ESCAPE
	060106	002402						.WORD	L10052 .
8420									
8421	060110	004737	031454	i170\$:	JSR	PC,CHKRXI	; RXI ?		
8422	060114	103010			BCC	180\$; YES		
8423	060116				FTL				
	060116	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
8424	060122				ERRHRD	311.,ERR015,MSG003	; NO, REPORT ERROR		
	060122	104456						TRAP	C\$ERHRD
	060124	000467						.WORD	311
	060126	025723						.WORD	ERR015
	060130	024032						.WORD	MSG003
8425	060132				ESCAPE	TST	; AND ABORT TEST		
	060132	104410						TRAP	C\$ESCAPE
	060134	002354						.WORD	L10052-.
8426									
8427	060136	004737	032434	i180\$:	JSR	PC,CLRRXI	; WRITE ONE TO CLEAR RXI		
8428							; ERROR ?		
8429	060142	103010			BCC	190\$; NO		
8430	060144				FTL				
	060144	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
8431	060150				ERRHRD	312.,ERR016,MSG003	; YES, REPORT ERROR		
	060150	104456						TRAP	C\$ERHRD
	060152	000470						.WORD	312
	060154	025754						.WORD	ERR016
	060156	024032						.WORD	MSG003
8432	060160				ESCAPE	TST	; AND ABORT TEST		
	060160	104410						TRAP	C\$ESCAPE
	060162	002326						.WORD	L10052-.
8433									
8434	060164	012705	002662	i190\$:	MOV	#RDRB,R5	; CHECK RDRB OWNERSHIP		
8435	060170	004737	031162		JSR	PC,CHKOWN	; OWN = PORT DRIVER ?		
8436	060174	103010			BCC	200\$; YES		
8437	060176				FTL				
	060176	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
8438	060202				ERRHRD	313.,ERR017	; NO, REPORT ERROR		
	060202	104456						TRAP	C\$ERHRD
	060204	000471						.WORD	313
	060206	026022						.WORD	ERR017
	060210	000000						.WORD	0
8439	060212				ESCAPE	TST	; AND ABORT TEST		
	060212	104410						TRAP	C\$ESCAPE
	060214	002274						.WORD	L10052-.
8440									
8441	060216	012705	020456	i200\$:	MOV	#RDR20C,R5	; POINT TO EXPECTED RDRB		
8442	060222	004737	034214		JSR	PC,LDXRDR	; LOAD INTO XRDRBO TABLE		
8443	060226	012705	002662		MOV	#RDRB,R5	; CHECK RDRB		
8444	060232	004737	031344		JSR	PC,CHKRDR	; ERRORS ?		
8445	060236	103010			BCC	210\$; NO		
8446	060240				FTL				

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060240 004737 031010          JSR      PC,CHKFTL          ; 'FATL' BIT SET?
8447 060244          ERRHRD   314.,ERR021,MSG006 ; YES, REPORT ERROR
      060244 104456          TRAP      C$ERHRD
      060246 000472          .WORD    314
      060250 026363          .WORD    ERR021
      060252 024300          .WORD    MSG006
8448 060254          ESCAPE   TST              ; AND ABORT TEST
      060254 104410          TRAP      C$ESCAPE
      060256 002232          .WORD    L10052-.

;COMPARE RBUF WITH TBUF
8449
8450
8451
8452 060260 013705 020562 210$: MOV      BYTCNT,R5          ; COMPARE DATA
8453 060264 004737 032646      JSR      PC,CMPDAT          ; DATA COMPARE ERROR ?
8454 060270 103006          BCC     220$              ; NO
8455 060272          ERRHRD   315.,ERR022,MSG007 ; YES, REPORT ERROR
      060272 104456          TRAP      C$ERHRD
      060274 000473          .WORD    315
      060276 026444          .WORD    ERR022
      060300 024442          .WORD    MSG007
8456 060302          ESCAPE   TST              ; AND ABORT TEST
      060302 104410          TRAP      C$ESCAPE
      060304 002204          .WORD    L10052.

;
8457
8458 060306 012705 010474 220$: MOV      #RBUF+32,R5          ; POINT TO EXPECTED CRC
8459 060312 004737 032576      JSR      PC,CMPCRC          ; ERRORS ?
8460 060316 103006          BCC     230$              ; NO
8461 060320          ERRHRD   316.,ERR023,MSG008 ; YES, REPORT ERROR
      060320 104456          TRAP      C$ERHRD
      060322 000474          .WORD    316
      060324 026513          .WORD    ERR023
      060326 024474          .WORD    MSG008
8462 060330          ESCAPE   TST              ; AND ABORT TEST
      060330 104410          TRAP      C$ESCAPE
      060332 002156          .WORD    L10052-.

;
8463
8464 060334          230$: MOV      #DNI!INTE,&PCSR0          ; ENABLE INTERRUPTS
8465 060334 012777 004100 121664  MOVB     #INTE!STOP,&PCSR0 ; ISSUE STOP PORT COMMAND
8466 060342 112777 000117 121656      JSR      PC,CHKDNI          ; DNI ?
8467 060350 004737 030706      BCC     240$              ; YES
8468 060354 103010          FTL
8469 060356          JSR      PC,CHKFTL          ; 'FATL' BIT SET?
      060356 004737 031010          ERRHRD   317.,ERR019,MSG003 ; NO, REPORT ERROR
8470 060362          TRAP      C$ERHRD
      060362 104456          .WORD    317
      060364 000475          .WORD    ERR019
      060366 026222          .WORD    MSG003
      060370 024032          .WORD
8471 060372          ESCAPE   TST              ; AND ABORT TEST
      060372 104410          TRAP      C$ESCAPE
      060374 002114          .WORD    L10052-.
8472
8473 060376 004737 032320 240$: JSR      PC,CLRDN1          ; WRITE ONE TO CLEAR DNI

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C5

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TEST 20: PHYSICAL ADDRESS TEST

SEQ 261

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8474                                     ; ERROR ?
8475 060402 103010                      BCC 250$ ; NO
8476 060404                               FTL
                                     ;
      060404 004737 031010              JSR PC,CHKFTL ; 'FATL' BIT SET?
8477 060410                               ERRHRD 320.,ERR006,MSG003 ; YES, REPORT ERROR
      060410 104456                      TRAP C$ERHRD
      060412 000500                      .WORD 320
      060414 025124                      .WORD ERR006
      060416 024032                      .WORD MSG003
8478 060420                               ESCAPE TST ; AND ABORT TEST
      060420 104410                      TRAP C$ESCAPE
      060422 002066                      .WORD L10052 .
8479                                     ;
8480                                     ; DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
8481                                     ;
8482                                     ; SET UP RINGS FOR ONE BUFFER LOOPBACK
8483                                     ;
8484 060424                               250$:
8485 060424 004737 032272              JSR PC,CLRCV ; CLEAR RECEIVE BUFFER
8486 060430 012705 016412              MOV #TDRB1A,R5 ; DEFAULT ONE BUFFER TRANSMIT RING
8487 060434 004737 034040              JSR PC,LDTDRB ; LOAD TDRB
8488 060440 012705 014752              MOV #RDRB1A,R5 ; DEFAULT ONE BUFFER RECEIVE RING
8489 060444 004737 033744              JSR PC,LDRDRB ; LOAD RDRB
8490                                     ;
8491                                     ; SET UP BUFFERS AND START
8492                                     ;
8493 060450 012701 020062              MOV #ADR21,R1 ; SET SOURCE = PHYSICAL ADDRESS
8494 060454 012702 020070              MOV #ADR21C,R2 ; DEST = COMPLEMENTED ADDRESS
8495 060460 004737 035062              JSR PC,SRCDST ; LOAD PACKET ADDRESSES
8496 060464 005037 020564              CLR DOCRC ; NO CRC
8497 060470 012737 000006 020562      MOV #6,BYTCNT ; BYTES/PACKET
8498 060476 004737 034662              JSR PC,SETBUF ; SET UP BUFFERS
8499 060502 012777 004100 121516      MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
8500 060510 112777 000104 121510      MOVB #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
8501 060516 004737 030706              JSR PC,CHKDNI ; DNI?
8502 060522 103010                      BCC 260$ ; YES
8503 060524                               FTL
                                     ;
      060524 004737 031010              JSR PC,CHKFTL ; 'FATL' BIT SET?
8504 060530                               ERRHRD 321.,ERR012,MSG003 ; NO, REPORT ERROR
      060530 104456                      TRAP C$ERHRD
      060532 000501                      .WORD 321
      060534 025543                      .WORD ERR012
      060536 024032                      .WORD MSG003
8505 060540                               ESCAPE TST ; AND ABORT TEST
      060540 104410                      TRAP C$ESCAPE
      060542 001746                      .WORD L10052 .
8506                                     ;
8507 060544 004737 032320              260$: JSR PC,CLR DNI ; WRITE ONE TO CLEAR DNI
8508                                     ;
8509 060550 103010                      BCC 270$ ; ERROR ?
8510 060552                               FTL ; NO
                                     ;
      060552 004737 031010              JSR PC,CHKFTL ; 'FATL' BIT SET?

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F5

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8562 061044          ERRHRD  331.,ERR006,MSG003      ; YES, REPORT ERROR
      061044 104456
      061046 000513
      061050 025124
      061052 024032
      TRAP      C$ERHRD
      .WORD     331
      .WORD     ERR006
      .WORD     MSG003
8563 061054          ESCAPE  TST                    ; AND ABORT TEST
      061054 104410
      061056 001432
      TRAP      C$ESCAPE
      .WORD     L10052-.
8564
8565      ;REPEAT WITH COMPLEMENTED PHYSICAL ADDRESS
8566
8567      ;WRITE PHYSICAL ADDRESS
8568
8569 061060          340$:
8570 061060 004737 032272      JSR      PC,CLRCV      ; CLEAR RECEIVE BUFFER
8571 061064 012705 020070      MOV      #ADR21C,R5   ; GET NEW PHYSICAL ADDRESS
8572 061070 004737 033724      JSR      PC,LDPHYA    ; SAVE IT IN DEFAULT TABLE
8573 061074 012705 014502      MOV      #WTPHYA,R5  ; DEFAULT WRITE PHYSICAL ADDR FUNC
8574 061100 004737 033656      JSR      PC,LDPCCBB   ; LOAD FUNCTION -> PCBB
8575 061104 012701 020070      MOV      #ADR21C,R1  ; GET NEW SOURCE ADDRESS
8576 061110 010102
8577 061112 004737 035062      MOV      R1,R2       ; SOURCE = DESTINATION
8578 061116 012777 004100 121102 JSR      PC,SRCDST    ; SAVE PACKET ADDRESSES
8579 061124 112777 000102 121074 MOV      #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
8580 061132 004737 030706      MOV      #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
8581 061136 103010
8582 061140          JSR      PC,CHKDNI      ; DNI ?
      BCC     350$      ; YES
      FTL
      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
      ERRHRD  332.,ERR010,MSG003      ; NO, REPORT ERROR
      TRAP      C$ERHRD
      .WORD     332
      .WORD     ERR010
      .WORD     MSG003
8583 061144          ESCAPE  TST                    ; AND ABORT TEST
      061144 104456
      061146 000514
      061150 025425
      061152 024032
      TRAP      C$ESCAPE
      .WORD     L10052-.
8584 061154          350$:
      061154 104410
      061156 001332
      JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
8585
8586 061160 004737 032320      ; ERROR ?
8587
8588 061164 103010
8589 061166          BCC     360$      ; NO
      FTL
      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
      ERRHRD  333.,ERR006,MSG003      ; YES, REPORT ERROR
      TRAP      C$ERHRD
      .WORD     333
      .WORD     ERR006
      .WORD     MSG003
8590 061172          ESCAPE  TST                    ; AND ABORT TEST
      061172 104456
      061174 000515
      061176 025124
      061200 024032
      TRAP      C$ESCAPE
      .WORD     L10052-.
8591 061202          360$:
      061202 104410
      061204 001304
      JSR      PC,CLRDN1      ; SET UP RINGS FOR ONE BUFFER LOOPBACK
8592
8593

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8594
8595 061206 012705 016412      360$:  MOV    #TDRB1A,R5      ; DEFAULT ONE BUFFER TRANSMIT RING
8596 061212 004737 034040      JSR    PC,LDTDRB        ; LOAD TDRB
8597 061216 012705 014752      MOV    #RDRB1A,R5      ; DEFAULT ONE BUFFER RECEIVE RING
8598 061222 004737 033744      JSR    PC,LDRDRB        ; LOAD RDRB
8599
8600      ;SET UP BUFFERS AND START
8601
8602 061226 005037 020564      CLR    DOCRC            ; NO CRC
8603 061232 012737 000006 020562  MOV    #6,BYTCNT        ; BYTES/PACKET
8604 061240 004737 034662      JSR    PC,SETBUF        ; SET UP BUFFERS
8605 061244 012777 004100 120754  MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
8606 061252 112777 000104 120746  MOVB  #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
8607 061260 004737 030706      JSR    PC,CHKDNI        ; DNI?
8608 061264 103010      BCC    370$            ; YES
8609 061266
      061266 004737 031010      JSR    PC,CHKFTL        ; 'FATL' BIT SET?
8610 061272      ERRHRD  334.,ERR012,MSG003 ; NO, REPORT ERROR
      061272 104456      TRAP   C$ERHRD
      061274 000516      .WORD  334
      061276 025543      .WORD  ERR012
      061300 024032      .WORD  MSG003
8611 061302      ESCAPE  TST            ; AND ABORT TEST
      061302 104410      TRAP   C$ESCAPE
      061304 001204      .WORD  L10052 .
8612
8613 061306 004737 032320      ;370$: JSR    PC,CLRDN1        ; WRITE ONE TO CLEAR DNI
8614      BCC    380$            ; ERROR ?
8615 061312 103010      FTL
8616 061314
      061314 004737 031010      JSR    PC,CHKFTL        ; 'FATL' BIT SET?
8617 061320      ERRHRD  335.,ERR006,MSG003 ; YES, REPORT ERROR
      061320 104456      TRAP   C$ERHRD
      061322 000517      .WORD  335
      061324 025124      .WORD  ERR006
      061326 024032      .WORD  MSG003
8618 061330      ESCAPE  TST            ; AND ABORT TEST
      061330 104410      TRAP   C$ESCAPE
      061332 001156      .WORD  L10052-.
8619
8620 061334 004737 031724      ;380$: JSR    PC,CHKTXI        ; TXI ?
8621 061340 103010      BCC    390$            ; YES
8622 061342
      061342 004737 031010      JSR    PC,CHKFTL        ; 'FATL' BIT SET?
8623 061346      ERRHRD  336.,ERR013,MSG003 ; NO, REPORT ERROR
      061346 104456      TRAP   C$ERHRD
      061350 000520      .WORD  336
      061352 025624      .WORD  ERR013
      061354 024032      .WORD  MSG003
8624 061356      ESCAPE  TST            ; AND ABORT TEST
      061356 104410      TRAP   C$ESCAPE

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H5

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TEST 20: PHYSICAL ADDRESS TEST

SEQ 266

	061360	001130						.WORD	L10052-.
8625									
8626	061362	004737	032502	i390\$:	JSR	PC,CLRTXI			; WRITE ONE TO CLEAR TXI
8627									; ERROR ?
8628	061366	103010			BCC	400\$; NO
8629	061370				FTL				
	061370	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
8630	061374				ERRHRD	337.,ERR014,MSG003			; YES, REPORT ERROR
	061374	104456						TRAP	C\$ERHRD
	061376	000521						.WORD	337
	061400	025655						.WORD	ERR014
	061402	024032						.WORD	MSG003
8631	061404				ESCAPE	TST			; AND ABORT TEST
	061404	104410						TRAP	C\$ESCAPE
	061406	001102						.WORD	L10052-.
8632									
8633	061410	012705	002622	i400\$:	MOV	#TDRB,R5			; CHECK TDRB OWNERSHIP
8634	061414	004737	031162		JSR	PC,CHKOWN			; OWN = PORT DRIVER ?
8635	061420	103010			BCC	410\$; YES
8636	061422				FTL				
	061422	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
8637	061426				ERRHRD	340.,ERR018			; NO, REPORT ERROR
	061426	104456						TRAP	C\$ERHRD
	061430	000524						.WORD	340
	061432	026122						.WORD	ERR018
	061434	000000						.WORD	0
8638	061436				ESCAPE	TST			; AND ABORT TEST
	061436	104410						TRAP	C\$ESCAPE
	061440	001050						.WORD	L10052-.
8639									
8640	061442	012705	020266	i410\$:	MOV	#TDR14A,R5			; POINT TO EXPECTED TDRB
8641	061446	004737	034244		JSR	PC,LDXTDR			; LOAD INTO XTDRBO TABLE
8642	061452	012705	002622		MOV	#TDRB,R5			; CHECK TDRB
8643	061456	004737	031636		JSR	PC,CHKTDR			; ERRORS ?
8644	061462	103010			BCC	420\$; NO
8645	061464				FTL				
	061464	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
8646	061470				ERRHRD	341.,ERR020,MSG005			; YES, REPORT ERROR
	061470	104456						TRAP	C\$ERHRD
	061472	000525						.WORD	341
	061474	026302						.WORD	ERR020
	061476	024136						.WORD	MSG005
8647	061500				ESCAPE	TST			; AND ABORT TEST
	061500	104410						TRAP	C\$ESCAPE
	061502	001006						.WORD	L10052-.
8648									
8649	061504	004737	031454	i420\$:	JSR	PC,CHKRXI			; RXI ?
8650	061510	103010			BCC	430\$; YES
8651	061512				FTL				
	061512	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?

8652	061516			ERRHRD	342.,ERR015,MSG003	; NO, REPORT ERROR		
	061516	104456					TRAP	C\$ERHRD
	061520	000526					.WORD	342
	061522	025723					.WORD	ERR015
	061524	024032					.WORD	MSG003
8653	061526			ESCAPE	TST	; AND ABORT TEST		
	061526	104410					TRAP	C\$ESCAPE
	061530	000760					.WORD	L10052-.
8654								
8655	061532	004737	032434	i	430\$: JSR	PC,CLRRXI	; WRITE ONE TO CLEAR RXI	
8656								; ERROR ?
8657	061536	103010			BCC	440\$; NO
8658	061540				FTL			
	061540	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
8659	061544			ERRHRD	343.,ERR016,MSG003	; YES, REPORT ERROR		
	061544	104456					TRAP	C\$ERHRD
	061546	000527					.WORD	343
	061550	025754					.WORD	ERR016
	061552	024032					.WORD	MSG003
8660	061554			ESCAPE	TST	; AND ABORT TEST		
	061554	104410					TRAP	C\$ESCAPE
	061556	000732					.WORD	L10052-.
8661								
8662	061560	012705	002662	i	440\$: MOV	#RDRB,R5	; CHECK RDRB OWNERSHIP	
8663	061564	004737	031162		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
8664	061570	103010			BCC	450\$; YES
8665	061572				FTL			
	061572	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
8666	061576			ERRHRD	344.,ERR017	; NO, REPORT ERROR		
	061576	104456					TRAP	C\$ERHRD
	061600	000530					.WORD	344
	061602	026022					.WORD	ERR017
	061604	000000					.WORD	0
8667	061606			ESCAPE	TST	; AND ABORT TEST		
	061606	104410					TRAP	C\$ESCAPE
	061610	000700					.WORD	L10052-.
8668								
8669	061612	012705	020456	i	450\$: MOV	#RDR20C,R5	; POINT TO EXPECTED RDRB	
8670	061616	004737	034214		JSR	PC,LDXRDR		; LOAD INTO XRDRB0 TABLE
8671	061622	012705	002662		MOV	#RDRB,R5		; CHECK RDRB
8672	061626	004737	031344		JSR	PC,CHKRDR		; ERRORS ?
8673	061632	103010			BCC	460\$; NO
8674	061634				FTL			
	061634	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
8675	061640			ERRHRD	345.,ERR021,MSG006	; YES, REPORT ERROR		
	061640	104456					TRAP	C\$ERHRD
	061642	000531					.WORD	345
	061644	026363					.WORD	ERR021
	061646	024300					.WORD	MSG006
8676	061650			ESCAPE	TST	; AND ABORT TEST		

J5

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061650 104410
061652 000636
8677
8678 ;COMPARE RBUF WITH TBUF
8679
8680 061654 013705 020562 460$: MOV BYTCNT,R5 ; COMPARE DATA
8681 061660 004737 032646 JSR PC,CMPDAT ; DATA COMPARE ERROR ?
8682 061664 103006 BCC 470$ ; NO
8683 061666 ERRHRD 346.,ERR022,MSG007 ; YES, REPORT ERROR
061666 104456 TRAP C$ERHRD
061670 000532 .WORD 346
061672 026444 .WORD ERR022
061674 024442 .WORD MSG007
8684 061676 ESCAPE TST ; AND ABORT TEST
061676 104410 TRAP C$ESCAPE
061700 000610 .WORD L10052-.

8685
8686 ;
8687 061702 012705 010474 470$: MOV #RBUF+26.,R5 ; CHECK CRC
8688 061706 004737 032576 JSR PC,CMPCRC ; ERRORS ?
8689 061712 103006 BCC 480$ ; NO
8690 061714 ERRHRD 347.,ERR023,MSG008 ; YES, REPORT ERROR
061714 104456 TRAP C$ERHRD
061716 000533 .WORD 347
061720 026513 .WORD ERR023
061722 024474 .WORD MSG008
8691 061724 ESCAPE TST ; AND ABORT TEST
061724 104410 TRAP C$ESCAPE
061726 000562 .WORD L10052-.

8692
8693 ;
8694 061730 012777 004100 120270 480$: MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
8695 061736 112777 000117 120262 MOVB #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
8696 061744 004737 030706 JSR PC,CHKDNI ; DNI ?
8697 061750 103010 BCC 490$ ; YES
8698 061752 FTL
061752 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
8699 061756 ERRHRD 350.,ERR019,MSG003 ; NO, REPORT ERROR
061756 104456 TRAP C$ERHRD
061760 000536 .WORD 350
061762 026222 .WORD ERR019
061764 024032 .WORD MSG003
8700 061766 ESCAPE TST ; AND ABORT TEST
061766 104410 TRAP C$ESCAPE
061770 000520 .WORD L10052-.

8701
8702 061772 004737 032320 490$: JSR PC,CLR DNI ; WRITE ONE TO CLEAR DNI
8703 BCC 500$ ; ERROR ?
8704 061776 103010 FTL ; NO
8705 062000
062000 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
8706 062004 ERRHRD 351.,ERR006,MSG003 ; YES, REPORT ERROR
062004 104456 TRAP C$ERHRD

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K5

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      062006 000537
      062010 025124
      062012 024032
8707 062014          ESCAPE TST          ; AND ABORT TEST
      062014 104410
      062016 000472
      8708
      8709          ;DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
      8710
      8711          ;SET UP RINGS FOR ONE BUFFER LOOPBACK
      8712
      8713 062020          500$:
      8714 062020 004737 032272          JSR      PC,CLRCV          ; CLEAR RECEIVE BUFFER
      8715 062024 012705 016412          MOV      #TDRB1A,R5          ; DEFAULT ONE BUFFER TRANSMIT RING
      8716 062030 004737 034040          JSR      PC,LDTDRB          ; LOAD TDRB
      8717 062034 012705 014752          MOV      #RDRB1A,R5          ; DEFAULT ONE BUFFER RECEIVE RING
      8718 062040 004737 033744          JSR      PC,LDRDRB          ; LOAD RDRB
      8719
      8720          ;SET UP BUFFERS AND START
      8721
      8722 062044 012701 020070          MOV      #ADR21C,R1          ; GET PHYSICAL ADDRESS FOR SOURCE
      8723 062050 012702 020062          MOV      #ADR21,R2          ; COMPLIMENT = DESTINATION ADDRESS
      8724 062054 004737 035062          JSR      PC,SRCDST          ; SAVE FOR PACKET ASSEMBLY
      8725 062060 005037 020564          CLR      D0CRC          ; NO CRC
      8726 062064 012737 000006 020562          MOV      #6,BYTCNT          ; BYTES/PACKET
      8727 062072 004737 034662          JSR      PC,SETBUF          ; SET UP BUFFERS
      8728 062076 012777 004100 120122          MOV      #DNI!INTE,@PCSR0    ; ENABLE INTERRUPTS
      8729 062104 112777 000104 120114          MOVB    #INTE!START,@PCSR0  ; ISSUE START PORT COMMAND
      8730 062112 004737 030706          JSR      PC,CHKDNI          ; DNI?
      8731 062116 103010          BCC     510$          ; YES
      8732 062120
      062120 004737 031010          JSR      PC,CHKFTL          ; 'FATL' BIT SET?
      8733 062124          ERRHRD 352.,ERR012,MSG003          ; NO, REPORT ERROR
      062124 104456
      062126 000540
      062130 025543
      062132 024032
      8734 062134          ESCAPE TST          ; AND ABORT TEST
      062134 104410
      062136 000352
      8735
      8736 062140 004737 032320          510$: JSR      PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
      8737
      8738 062144 103010          BCC     520$          ; ERROR ?
      8739 062146
      062146 004737 031010          JSR      PC,CHKFTL          ; 'FATL' BIT SET?
      8740 062152          ERRHRD 353.,ERR006,MSG003          ; YES, REPORT ERROR
      062152 104456
      062154 000541
      062156 025124
      062160 024032
      8741 062162          ESCAPE TST          ; AND ABORT TEST
      062162 104410

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      .WORD 351
      .WORD ERR006
      .WORD MSG003
      TRAP C$ESCAPE
      .WORD L10052
      TRAP C$ERHRD
      .WORD 352
      .WORD ERR012
      .WORD MSG003
      TRAP C$ESCAPE
      .WORD L10052-.
      TRAP C$ERHRD
      .WORD 353
      .WORD ERR006
      .WORD MSG003
      TRAP C$ESCAPE

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L5

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 TEST 20: PHYSICAL ADDRESS TEST

SEQ 270

	062164	000324					.WORD	L10052 .
8742								
8743	062166	004737	031724	520\$:	JSR	PC,CHKTXI		; TXI ?
8744	062172	103010			BCC	530\$; YES
8745	062174				FTL			
	062174	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
8746	062200				ERRHRD	354.,ERR013,MSG003		; NO, REPORT ERROR
	062200	104456					TRAP	C\$ERHRD
	062202	000542					.WORD	354
	062204	025624					.WORD	ERR013
	062206	024032					.WORD	MSG003
8747	062210				ESCAPE	TST		; AND ABORT TEST
	062210	104410					TRAP	C\$ESCAPE
	062212	000276					.WORD	L10052-.
8748								
8749	062214	004737	032502	530\$:	JSR	PC,CLRXTI		; WRITE ONE TO CLEAR TXI
8750								; ERROR ?
8751	062220	103010			BCC	540\$; NO
8752	062222				FTL			
	062222	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
8753	062226				ERRHRD	355.,ERR014,MSG003		; YES, REPORT ERROR
	062226	104456					TRAP	C\$ERHRD
	062230	000543					.WORD	355
	062232	025655					.WORD	ERR014
	062234	024032					.WORD	MSG003
8754	062236				ESCAPE	TST		; AND ABORT TEST
	062236	104410					TRAP	C\$ESCAPE
	062240	000250					.WORD	L10052-.
8755								
8756	062242	012705	002622	540\$:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP
8757	062246	004737	031162		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
8758	062252	103010			BCC	550\$; YES
8759	062254				FTL			
	062254	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
8760	062260				ERRHRD	356.,ERR018		; NO, REPORT ERROR
	062260	104456					TRAP	C\$ERHRD
	062262	000544					.WORD	356
	062264	026122					.WORD	ERR018
	062266	000000					.WORD	0
8761	062270				ESCAPE	TST		; AND ABORT TEST
	062270	104410					TRAP	C\$ESCAPE
	062272	000216					.WORD	L10052-.
8762								
8763	062274	012705	020346	550\$:	MOV	#TDR21X,R5		; POINT TO EXPECTED TDRB
8764	062300	004737	034244		JSR	PC,LDXTDR		; LOAD INTO XTURBO TABLE
8765	062304	012705	002622		MOV	#TDRB,R5		; CHECK TDRB
8766	062310	004737	031636		JSR	PC,CHKTDR		; ERRORS ?
8767	062314	103010			BCC	560\$; NO
8768	062316				FTL			
	062316	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?

M5

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TEST 20: PHYSICAL ADDRESS TEST

SEQ 271

8769	062322				ERRHRD	357.,ERR020,MSG005		; YES, REPORT ERROR		
	062322	104456							TRAP	C\$ERHRD
	062324	000545							.WORD	357
	062326	026302							.WORD	ERR020
	062330	024136							.WORD	MSG005
8770	062332				ESCAPE	TST		; AND ABORT TEST		
	062332	104410							TRAP	C\$ESCAPE
	062334	000154							.WORD	L10052-.
8771										
8772	062336	004737	034276		560\$:	JSR	PC,NORXI		; RXI ?	
8773	062342	103010				BCC	570\$; NO	
8774	062344					FTL				
	062344	004737	031010			JSR	PC,CHKFTL		; 'FATL' BIT SET?	
8775	062350				ERRHRD	360.,ERR039		; YES, REPORT ERROR		
	062350	104456							TRAP	C\$ERHRD
	062352	000550							.WORD	360
	062354	027671							.WORD	ERR039
	062356	000000							.WORD	0
8776	062360				ESCAPE	TST		; AND ABORT TEST		
	062360	104410							TRAP	C\$ESCAPE
	062362	000126							.WORD	L10052-.
8777										
8778	062364				570\$:					
8779	062364	012777	004100	117634		MOV	#DNI!INTE,@PCSR0		; ENABLE INTERRUPTS	
8780	062372	112777	000117	117626		MOVB	#INTE!STOP,@PCSR0		; ISSUE STOP PORT COMMAND	
8781	062400	004737	030706			JSR	PC,CHKDNI		; DNI ?	
8782	062404	103010				BCC	580\$; YES	
8783	062406					FTL				
	062406	004737	031010			JSR	PC,CHKFTL		; 'FATL' BIT SET?	
8784	062412				ERRHRD	361.,ERR019,MSG003		; NO, REPORT ERROR		
	062412	104456							TRAP	C\$ERHRD
	062414	000551							.WORD	361
	062416	026222							.WORD	ERR019
	062420	024032							.WORD	MSG003
8785	062422				ESCAPE	TST		; AND ABORT TEST		
	062422	104410							TRAP	C\$ESCAPE
	062424	000064							.WORD	L10052-.
8786										
8787	062426	004737	032320		580\$:	JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI	
8788									; ERROR ?	
8789	062432	103010				BCC	590\$; NO	
8790	062434					FTL				
	062434	004737	031010			JSR	PC,CHKFTL		; 'FATL' BIT SET?	
8791	062440				ERRHRD	362.,ERR006,MSG003		; YES, REPORT ERROR		
	062440	104456							TRAP	C\$ERHRD
	062442	000552							.WORD	362
	062444	025124							.WORD	ERR006
	062446	024032							.WORD	MSG003
8792	062450				ESCAPE	TST		; AND ABORT TEST		
	062450	104410							TRAP	C\$ESCAPE

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062512

062512 012704 066412
062516 004737 034610

062522 004737 035310
062526 103034
062530 012777 004100 117470
062536 112777 000140 117462
062544 004737 032034
062550 103010
062552 004737 031010
062556

.SBTTL TEST 21: MULTICAST ADDRESS TEST

```
*****
:
: THIS TEST VERIFIES THAT MULTICAST ADDRESSING
: IS OPERATIONAL.
: A WRITE MULTICAST ADDRESS LIST FUNCTION IS USED TO SET
: THE DELUA'S MULTICAST ADDRESS LIST.
: INTERNAL LOOPBACKS ARE THEN PERFORMED WITH
: CURRENTLY ENABLED AND THEN CURRENTLY DISABLED
: MULTICAST DESTINATION ADDRESSES.
: THE MULTICAST ADDRESS LIST IS THEN COMPLEMENTED AND THE
: TEST IS REPEATED.
:
: TEST SEQUENCE:
: 1. WRITE MODE REGISTER = INTERNAL LOOPBACK
: 2. WRITE RING FORMAT
: 3. WRITE PHYSICAL ADDRESS
: 4. WRITE MULTICAST ADDRESS LIST
: 5. SET UP RINGS AND BUFFERS
: WITH DESTINATION ADDRESS = MULTICAST ADDRESS
: 6. ISSUE START
: 7. CHECK FOR ERRORS
: 8. ISSUE STOP
: 9. REPEAT STEPS 5 - 8 FOR ALL TEN LIST ENTRIES
: 10. SET UP RINGS AND BUFFERS
: WITH DESTINATION ADDRESS = COMPLIMENTED MULTICAST ADDRESS
: 11. ISSUE START
: 12. CHECK FOR NO RXI
: 13. ISSUE STOP
: 14. REPEAT STEPS 10 - 13 FOR ALL TEN ENTRIES
: 15. WRITE MULTICAST ADDRESS LIST WITH COMPLEMENTED VAULES
: 16. REPEAT STEPS 5 - 14
:
: *****
```

```
BGNTST
T21::
PNTMAC T21ID
MOV #T21ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME
;
END OF MACRO EXPANSION OF 'PNTMAC'
JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30$ ; NO
MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20$ ; YES
FTL
JSR PC,CHKFTL ; 'FATL' BIT SET?
ERRHRD 363.,ERR042,MSG003 ; NO, REPORT ERROR ;80
```


D6

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8877 062720          ESCAPE TST          ; AND ABORT TEST          TRAP      C$ESCAPE
      062720 104410          ;                               .WORD     L10053 .
      062722 003522
8878
8879          ;WRITE MODE REGISTER = INTERNAL LOOPBACK
8880
8881 062724 012705 014602 50$:  MOV    #WTMODE,R5          ; DEFAULT WRITE MODE FUNCTION
8882 062730 004737 033656      JSR    PC,LDPCBB          ; LOAD FUNCTION -> PCBB
8883 062734 013737 020474 002304  MOV    MODE21,PCBB+2      ; MODE = INTL LOOPBACK ONLY
8884 062742 012777 004100 117256  MOV    #DNI!INTE,@PCSR0  ; ENABLE INTERRUPTS
8885 062750 112777 000102 117250  MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
8886 062756 004737 030706      JSR    PC,CHKDNI         ; DNI ?
8887 062762 103010          BCC    60$              ; YES
8888 062764          FTL
      062764 004737 031010      JSR    PC,CHKFTL         ; 'FATL' BIT SET?
8889 062770          ERRHRD 367.,ERR010,MSG003 ; NO, REPORT ERROR
      062770 104456          ;                               TRAP      C$ERHRD
      062772 000557          ;                               .WORD     367
      062774 025425          ;                               .WORD     ERR010
      062776 024032          ;                               .WORD     MSG003
8890 063000          ESCAPE TST          ; AND ABORT TEST          TRAP      C$ESCAPE
      063000 104410          ;                               .WORD     L10053-.
      063002 003442
8891
8892 063004 004737 032320 60$:  JSR    PC,CLRDN1         ; WRITE ONE TO CLEAR DNI
8893          ;                               ; ERROR ?
8894 063010 103010          BCC    70$              ; NO
8895 063012          FTL
      063012 004737 031010      JSR    PC,CHKFTL         ; 'FATL' BIT SET?
8896 063016          ERRHRD 370.,ERR006,MSG003 ; YES, REPORT ERROR
      063016 104456          ;                               TRAP      C$ERHRD
      063020 000562          ;                               .WORD     370
      063022 025124          ;                               .WORD     ERR006
      063024 024032          ;                               .WORD     MSG003
8897 063026          ESCAPE TST          ; AND ABORT TEST          TRAP      C$ESCAPE
      063026 104410          ;                               .WORD     L10053 .
      063030 003414
8898
8899          ;WRITE RING FORMAT
8900
8901 063032 012705 014542 70$:  MOV    #WTRNGS,R5          ; DEFAULT WRITE RING FORMAT FUNCTION
8902 063036 004737 033656      JSR    PC,LDPCBB          ; LOAD FUNCTION -> PCBB
8903 063042 012705 014706      MOV    #RFRMT,R5         ; DEFAULT RING FORMAT
8904 063046 012700 000006      MOV    #6,R0             ; FORMAT = SIX WORDS
8905 063052 004737 034134      JSR    PC,LDUDBB         ; LOAD RING FORMAT -> UDBB
8906 063056 012777 004100 117142  MOV    #DNI!INTE,@PCSR0  ; ENABLE INTERRUPTS
8907 063064 112777 000102 117134  MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
8908 063072 004737 030706      JSR    PC,CHKDNI         ; DNI ?
8909 063076 103010          BCC    80$              ; YES
8910 063100          FTL
      063100 004737 031010      JSR    PC,CHKFTL         ; 'FATL' BIT SET?

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TEST 21: MULTICAST ADDRESS TEST

SEQ 276

```

8911 063104          ERRHRD 371.,ERR010,MSG003      ; NO, REPORT ERROR
      063104 104456
      063106 000563
      063110 025425
      063112 024032
      8912 063114          ESCAPE TST                ; AND ABORT TEST
      063114 104410
      063116 003326
      8913
      8914 063120 004737 032320      ;80$: JSR PC,CLRDN1          ; WRITE ONE TO CLEAR DNI ERROR?
      8915 063124 103010
      8916 063126          FTL                      ; NO
      063126 004737 031010
      8917 063132          ERRHRD 372.,ERR006,MSG003  ; YES, REPORT ERROR
      063132 104456
      063134 000564
      063136 025124
      063140 024032
      8918 063142          ESCAPE TST                ; AND ABORT TEST
      063142 104410
      063144 003300
      8919
      8920
      8921
      8922 063146 012705 002274      ;WRITE PHYSICAL ADDRESS
      8923 063152 004737 033724      90$: MOV #DEFAULT,R5          ; GET DEFAULT PHYSICAL ADDRESS
      8924 063156 012705 014502      JSR PC,LDPHYA          ; SAVE IN DEFAULT TABLE
      8925 063162 004737 033656      MOV #WTPHYA,R5        ; DEFAULT WRITE PHYSICAL ADDR FUNC
      8926 063166 012777 004100 117032 JSR PC,LPCBB          ; LOAD FUNCTION -> PCBB
      8927 063174 112777 000102 117024 MOV #DNI!INTE,@PCSR0  ; ENABLE INTERRUPTS
      8928 063202 004737 030706      MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
      8929 063206 103010
      8930 063210          FTL                      ; DNI ?
      063210 004737 031010
      8931 063214          ERRHRD 373.,ERR010,MSG003  ; NO, REPORT ERROR
      063214 104456
      063216 000565
      063220 025425
      063222 024032
      8932 063224          ESCAPE TST                ; AND ABORT TEST
      063224 104410
      063226 003216
      8933
      8934 063230 004737 032320      ;100$: JSR PC,CLRDN1        ; WRITE ONE TO CLEAR DNI
      8935
      8936 063234 103010
      8937 063236          FTL                      ; ERROR ?
      063236 004737 031010
      8938 063242          ERRHRD 374.,ERR006,MSG003  ; YES, REPORT ERROR
      063242 104456
      063244 000566

```

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TEST 21: MULTICAST ADDRESS TEST

SEQ 277

```

      063246 025124
      063250 024032
8939 063252          ESCAPE TST          ; AND ABORT TEST          .WORD  ERR006
      063252 104410          ;                               .WORD  MSG003
      063254 003170          ;                               TRAP   C$ESCAPE
                                          .WORD  L10053-.

8940          ;
8941          ;WRITE MULTICAST ADDRESS LIST
8942          ;
8943 063256 012705 014522 102$: MOV    #WTMULA,R5          ; DEFAULT WRITE MULTICAST ADDR FUNC
8944 063262 004737 033656      JSR    PC,LDPDBB          ; LOAD FUNCTION -> PCBB
8945 063266 012705 020076      MOV    #MULTL,R5          ; LOAD LIST INTO UDBB
8946 063272 012700 000036      MOV    #30.,R0           ; LOAD 30 ENTRIES
8947 063276 004737 034134      JSR    PC,LDUDBB          ; MULTICAST LIST -> UDBB
8948 063302 012777 004100 116716  MOV    #DNI!INTE,@PCSR0   ; ENABLE INTERRUPTS
8949 063310 112777 000102 116710  MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
8950 063316 004737 030706      JSR    PC,CHKDNI         ; DNI ?
8951 063322 103010          BCC    104$              ; YES
8952 063324          FTL

      063324 004737 031010      JSR    PC,CHKFTL         ; 'FATL' BIT SET?

8953 063330          ERRHRD 375.,ERR010,MSG003      ; NO, REPORT ERROR
      063330 104456          TRAP   C$ERHRD
      063332 000567          .WORD  375
      063334 025425          .WORD  ERR010
      063336 024032          .WORD  MSG003

8954 063340          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
      063340 104410          ;                               .WORD  L10053 .
      063342 003102          ;

8955          ;
8956 063344 004737 032320 104$: JSR    PC,CLRDN1         ; WRITE ONE TO CLEAR DNI ERROR?
8957 063350 103010          BCC    106$              ; NO
8958 063352          FTL

      063352 004737 031010      JSR    PC,CHKFTL         ; 'FATL' BIT SET?

8959 063356          ERRHRD 376.,ERR006,MSG003      ; YES, REPORT ERROR
      063356 104456          TRAP   C$ERHRD
      063360 000570          .WORD  376
      063362 025124          .WORD  ERR006
      063364 024032          .WORD  MSG003

8960 063366          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
      063366 104410          ;                               .WORD  L10053 .
      063370 003054          ;

8961          ;
8962          ;DO TEN LOOPS WITH DEST ADDR = MULTICAST ADDRESS
8963          ;
8964          ;
8964 063372          ;
8965 063372 012704 000012 106$: MOV    #10.,R4          ; DO LOOP = TEN
8966 063376 012702 020076      MOV    #MULTL,R2          ; R2 POINTS TO MULTICAST LIST
8967 063402 012701 002274      MOV    #DEFAULT,R1        ; SOURCE = PHYSICAL ADDRESS
8968 063406 004737 035062      JSR    PC,SRCDST          ; STORE THIS IN TABLES
8969          ;
8970          ;SET UP RINGS FOR ONE BUFFER LOOPBACK
8971          ;
8972 063412 012705 016412 110$: MOV    #TDRB1A,R5        ; DEFAULT ONE BUFFER TRANSMIT RING
8973 063416 004737 034040      JSR    PC,LDTDRB         ; LOAD TDRB

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8974 063422 012705 014752      MOV      #RDRB1A,R5      ; DEFAULT ONE BUFFER RECEIVE RING
8975 063426 004737 033744      JSR      PC,LDRDRB      ; LOAD RDRB
8976
8977      ;SET UP BUFFERS AND START
8978
8979 063432 012701 002274      MOV      #DEFAULT,R1    ; POINT TO SOURCE ADDRESS
8980 063436 004737 035062      JSR      PC,SRCDST      ; R2 IS MULTICAST ADR LIST POINTER
8981 063442 005037 020564      CLR      D0CRC          ; NO CRC APPENDED
8982 063446 012737 000006 020562      MOV      #6,BYTCNT      ; BYTES/PACKET
8983 063454 004737 034662      JSR      PC,SETBUF      ; SET UP BUFFERS
8984 063460 012777 004100 116540      MOV      #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
8985 063466 112777 000104 116532      MOV      #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
8986 063474 004737 030706      JSR      PC,CHKDNI      ; DNI?
8987 063500 103010      BCC      120$           ; YES
8988 063502
      063502 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
8989 063506      ERRHRD  377.,ERR012,MSG003 ; NO, REPORT ERROR
      063506 104456      TRAP      C$ERHRD
      063510 000571      .WORD    377
      063512 025543      .WORD    ERR012
      063514 024032      .WORD    MSG003
8990 063516      ESCAPE  TST             ; AND ABORT TEST
      063516 104410      TRAP      C$ESCAPE
      063520 002724      .WORD    L10053 .
8991
8992 063522 004737 032320      ;120$: JSR      PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
8993
8994 063526 103010      BCC      130$           ; ERROR ?
8995 063530      FTL
      063530 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
8996 063534      ERRHRD  380.,ERR006,MSG003 ; YES, REPORT ERROR
      063534 104456      TRAP      C$ERHRD
      063536 000574      .WORD    380
      063540 025124      .WORD    ERR006
      063542 024032      .WORD    MSG003
8997 063544      ESCAPE  TST             ; AND ABORT TEST
      063544 104410      TRAP      C$ESCAPE
      063546 002676      .WORD    L10053-.
8998
8999 063550 004737 031724      ;130$: JSR      PC,CHKTXI ; TXI ?
9000 063554 103010      BCC      140$           ; YES
9001 063556      FTL
      063556 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
9002 063562      ERRHRD  381.,ERR013,MSG003 ; NO, REPORT ERROR
      063562 104456      TRAP      C$ERHRD
      063564 000575      .WORD    381
      063566 025624      .WORD    ERR013
      063570 024032      .WORD    MSG003
9003 063572      ESCAPE  TST             ; AND ABORT TEST
      063572 104410      TRAP      C$ESCAPE
      063574 002650      .WORD    L10053 .

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	063732	104456						TRAP	C\$ERHRD
	063734	000601						.WORD	385
	063736	025723						.WORD	ERR015
	063740	024032						.WORD	MSG003
9031	063742			ESCAPE	TST				; AND ABORT TEST
	063742	104410						TRAP	C\$ESCAPE
	063744	002500						.WORD	L10053-.
9032									
9033	063746	004737	032434	i180\$:	JSR	PC,CLRRXI			; WRITE ONE TO CLEAR RXI
9034									; ERROR ?
9035	063752	103010			BCC	190\$; NO
9036	063754				FTL				
	063754	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
9037	063760				ERRHRD	386.,ERR016,MSG003			; YES, REPORT ERROR
	063760	104456						TRAP	C\$ERHRD
	063762	000602						.WORD	386
	063764	025754						.WORD	ERR016
	063766	024032						.WORD	MSG003
9038	063770			ESCAPE	TST				; AND ABORT TEST
	063770	104410						TRAP	C\$ESCAPE
	063772	002452						.WORD	L10053-.
9039									
9040	063774	012705	002662	i190\$:	MOV	#RDRB,R5			; CHECK RDRB OWNERSHIP
9041	064000	004737	031162		JSR	PC,CHKOWN			; OWN = PORT DRIVER ?
9042	064004	103010			BCC	200\$; YES
9043	064006				FTL				
	064006	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
9044	064012				ERRHRD	387.,ERR017			; NO, REPORT ERROR
	064012	104456						TRAP	C\$ERHRD
	064014	000603						.WORD	387
	064016	026022						.WORD	ERR017
	064020	000000						.WORD	0
9045	064022			ESCAPE	TST				; AND ABORT TEST
	064022	104410						TRAP	C\$ESCAPE
	064024	002420						.WORD	L10053-.
9046									
9047	064026	012705	020456	i200\$:	MOV	#RDR20C,R5			; POINT TO EXPECTED RDRB
9048	064032	004737	034214		JSR	PC,LDXRDR			; LOAD INTO XRDRBO TABLE
9049	064036	012705	002662		MOV	#RDRB,R5			; CHECK RDRB
9050	064042	004737	031344		JSR	PC,CHKRDR			; ERRORS ?
9051	064046	103010			BCC	210\$; NO
9052	064050				FTL				
	064050	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
9053	064054				ERRHRD	390.,ERR021,MSG006			; YES, REPORT ERROR
	064054	104456						TRAP	C\$ERHRD
	064056	000606						.WORD	390
	064060	026363						.WORD	ERR021
	064062	024300						.WORD	MSG006
9054	064064			ESCAPE	TST				; AND ABORT TEST
	064064	104410						TRAP	C\$ESCAPE
	064066	002356						.WORD	L10053-.

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9055
9056          ;COMPARE RBUF WITH TBUF
9057
9058 064070 013705 020562
9059 064074 004737 032646
9060 064100 103006
9061 064102
          064102 104456
          064104 000607
          064106 026444
          064110 024442
9062 064112
          064112 104410
          064114 002330
9063
9064 064116
9065 064116 012705 010474
9066 064122 004737 032576
9067 064126 103006
9068 064130
          064130 104456
          064132 000610
          064134 026513
          064136 024474
9069 064140
          064140 104410
          064142 002302
9070
9071 064144
9072 064144 012777 004100 116054
9073 064152 112777 000117 116046
9074 064160 004737 030706
9075 064164 103010
9076 064166
          064166 004737 031010
9077 064172
          064172 104456
          064174 000611
          064176 026222
          064200 024032
9078 064202
          064202 104410
          064204 002240
9079
9080 064206 004737 032320
9081
9082 064212 103010
9083 064214
          064214 004737 031010
9084 064220
          064220 104456
          064222 000612
          064224 025124

          ;
          210$: MOV BYTCNT,R5          ; COMPARE DATA
          JSR PC,CMPDAT          ; DATA COMPARE ERROR ?
          BCC 220$                ; NO
          ERRHRD 391.,ERR022,MSG007 ; YES, REPORT ERROR
          TRAP C$ERHRD
          .WORD 391
          .WORD ERR022
          .WORD MSG007
          ESCAPE TST              ; AND ABORT TEST
          TRAP C$ESCAPE
          .WORD L10053-.

          ;
          220$: MOV #RBUF+26.,R5    ; CHECK CRC
          JSR PC,CMPCRC          ; ERRORS ?
          BCC 230$                ; NO
          ERRHRD 392.,ERR023,MSG008 ; YES, REPORT ERROR
          TRAP C$ERHRD
          .WORD 392
          .WORD ERR023
          .WORD MSG008
          ESCAPE TST              ; AND ABORT TEST
          TRAP C$ESCAPE
          .WORD L10053-.

          ;
          230$: MOV #DNI!INTE,@PCSR0 ;ENABLE INTERRUPTS
          MOVB #INTE!STOP,@PCSR0  ; ISSUE STOP PORT COMMAND
          JSR PC,CHKDNI          ; DNI ?
          BCC 240$                ; YES
          FTL
          JSR PC,CHKFTL          ; 'FATL' BIT SET?
          ERRHRD 393.,ERR019,MSG003 ; NO, REPORT ERROR
          TRAP C$ERHRD
          .WORD 393
          .WORD ERR019
          .WORD MSG003
          ESCAPE TST              ; AND ABORT TEST
          TRAP C$ESCAPE
          .WORD L10053-.

          ;
          240$: JSR PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
          BCC 245$                ; ERROR ?
          FTL                      ; NO
          JSR PC,CHKFTL          ; 'FATL' BIT SET?
          ERRHRD 394.,ERR006,MSG003 ; YES, REPORT ERROR
          TRAP C$ERHRD
          .WORD 394
          .WORD ERR006
  
```

K6

```

9085 064226 024032          ESCAPE TST          ; AND ABORT TEST          .WORD  MSG003
      064230          ;                                TRAP    C$ESCAPE
      064230 104410          ;                                .WORD  L10053-.
      064232 002212          ;                                ;

9086          ;
9087 064234          ;245$: JSR    PC,CLRCV          ; CLEAR RECEIVE BUFFER
9088 064234 004737 032272  ADD    #6,R2          ; UPDATE R2
9089 064240 062702 000006  ADD    #4,R3          ; UPDATE R3
9090 064244 062703 000004  DEC    R4             ; DONE TEN LOOPBACKS?
9091 064250 005304          BEQ    246$          ; YES
9092 064252 001402          JMP    110$          ; NO
9093 064254 000137 063412          ;
9094          ;
9095          ;
9096          ;DO TEN LOOPS WITH DEST ADDRESS = COMPLIMENTED MULTICAST ADDRESS
9097          ;
9098          ;
9099 064260 012704 000012 246$: MOV    #10.,R4          ; DO LOOP = TEN
9100 064264 012702 020172  MOV    #MULTLC,R2     ; R2 POINTS TO COMPLIMENTED LIST
9101          ;
9102          ;SET UP RINGS FOR ONE BUFFER LOOPBACK
9103          ;
9104 064270 012705 016412 250$: MOV    #TDRB1A,R5          ; DEFAULT ONE BUFFER TRANSMIT RING
9105 064274 004737 034040  JSR    PC,LDTDRB      ; LOAD TDRB
9106 064300 012705 014752  MOV    #RDRB1A,R5     ; DEFAULT ONE BUFFER RECEIVE RING
9107 064304 004737 033744  JSR    PC,LDRDRB      ; LOAD RDRB
9108          ;
9109          ;SET UP BUFFERS AND START
9110          ;
9111 064310 012701 002266  MOV    #SRC,R1         ; SOURCE = PHY ADDR
9112 064314 004737 035062  JSR    PC,SRCDST      ; DEST = COMPLIMENTED MULTICAST ADDR
9113 064320 005037 020564  CLR    D0CRC          ; NO APPEND CRC
9114 064324 012737 000006 020562 MOV    #6,BYTCNT      ; BYTES/PACKET
9115 064332 004737 034662  JSR    PC,SETBUF      ; SET UP BUFFERS
9116 064336 012777 004100 115662 MOV    #DNI!INTE,@PCSRO ; ENABLE INTERRUPTS
9117 064344 112777 000104 115654 MOVB  #INTE!START,@PCSRO ; ISSUE START PORT COMMAND
9118 064352 004737 030706  JSR    PC,CHKDNI      ; DNI?
9119 064356 103010          BCC    260$          ; YES
9120 064360          FTL
      064360 004737 031010  JSR    PC,CHKFTL      ; 'FATL' BIT SET?
9121 064364          ERRHRD 395.,ERR012,MSG003 ; NO, REPORT ERROR
      064364 104456          TRAP    C$ERRRD
      064366 000613          .WORD  395
      064370 025543          .WORD  ERR012
      064372 024032          .WORD  MSG003
9122 064374          ESCAPE TST          ; AND ABORT TEST          TRAP    C$ESCAPE
      064374 104410          ;                                .WORD  L10053-.
      064376 002046          ;                                ;

9123          ;
9124 064400 004737 032320  ;260$: JSR    PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
9125          ;                                ; ERROR ?
9126 064404 103010          BCC    270$          ; NO
9127 064406          FTL
      064406 004737 031010  JSR    PC,CHKFTL      ; 'FATL' BIT SET?

```

L6

```

9128 064412          ERRHRD  396.,ERR006,MSG003      ; YES, REPORT ERROR
      064412 104456
      064414 000614
      064416 025124
      064420 024032
9129 064422          ESCAPE  TST              ; AND ABORT TEST
      064422 104410
      064424 002020
9130
9131 064426 004737 031724      ;270$: JSR    PC,CHKTXI          ; TXI ?
9132 064432 103010
9133 064434          BCC      280$           ; YES
      064434 004737 031010          FTL
      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
9134 064440          ERRHRD  397.,ERR013,MSG003  ; NO, REPORT ERROR
      064440 104456
      064442 000615
      064444 025624
      064446 024032
9135 064450          ESCAPE  TST              ; AND ABORT TEST
      064450 104410
      064452 001772
9136
9137 064454 004737 032502      ;280$: JSR    PC,CLRTXI         ; WRITE ONE TO CLEAR TXI
9138
9139 064460 103010          BCC      290$           ; ERROR ?
9140 064462          FTL
      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
9141 064466          ERRHRD  400.,ERR014,MSG003  ; YES, REPORT ERROR
      064466 104456
      064470 000620
      064472 025655
      064474 024032
9142 064476          ESCAPE  TST              ; AND ABORT TEST
      064476 104410
      064500 001744
9143
9144 064502 012705 002622      ;290$: MOV    #TDRB,R5         ; CHECK TDRB OWNERSHIP
9145 064506 004737 031162      JSR    PC,CHKOWN          ; OWN = PORT DRIVER ?
9146 064512 103010          BCC      300$           ; YES
9147 064514          FTL
      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
      JSR    PC,CHKFTL          ; 'FATL' BIT SET?
9148 064520          ERRHRD  401.,ERR018          ; NO, REPORT ERROR
      064520 104456
      064522 000621
      064524 026122
      064526 000000
9149 064530          ESCAPE  TST              ; AND ABORT TEST
      064530 104410
      064532 001712
9150

```

```

TRAP  C$ERHRD
.WORD 396
.WORD ERRO0
.WORD MSG003

```

```

TRAP  C$ESCAPE
.WORD L10053-

```

```

TRAP  C$ERHRD
.WORD 397
.WORD ERRO13
.WORD MSG003

```

```

TRAP  C$ESCAPE
.WORD L10053

```

```

TRAP  C$ERHRD
.WORD 400
.WORD ERRO14
.WORD MSG003

```

```

TRAP  C$ESCAPE
.WORD L10053

```

```

TRAP  C$ERHRD
.WORD 401
.WORD ERRO18
.WORD 0

```

```

TRAP  C$ESCAPE
.WORD L10053-

```

M6

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TEST 21: MULTICAST ADDRESS TEST

SEQ 284

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9151 064534 012705 020346      300$:  MOV    #TDR21X,R5      ; POINT TO EXPECTED TDRB
9152 064540 004737 034244      JSR    PC,LDXTDR      ; LOAD INTO XTDRBO TABLE
9153 064544 012705 002622      MOV    #TDRB,R5      ; CHECK TDRB
9154 064550 004737 031636      JSR    PC,CHKTDR      ; ERRORS ?
9155 064554 103010                BCC    310$           ; NO
9156 064556                FTL

      064556 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?

9157 064562                ERRHRD 402.,ERR020,MSG005 ; YES, REPORT ERROR
      064562 104456                TRAP   C$ERH(0)
      064564 000622                .WORD 402
      064566 026302                .WORD ERR020
      064570 024136                .WORD MSG005

9158 064572                ESCAPE TST           ; AND ABORT TEST
      064572 104410                TRAP   C$ESCAPE
      064574 001650                .WORD L10053 .

9159 064576 004737 034276      i310$: JSR    PC,NORXI      ; RXI ?
9160 064576 004737 034276      BCC    320$           ; NO
9161 064602 103010                FTL

      064604 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?

9163 064610                ERRHRD 403.,ERR039   ; YES, REPORT ERROR
      064610 104456                TRAP   C$ERHRD
      064612 000623                .WORD 403
      064614 027671                .WORD ERR039
      064616 000000                .WORD 0

9164 064620                ESCAPE TST           ; AND ABORT TEST
      064620 104410                TRAP   C$ESCAPE
      064622 001622                .WORD L10053-.

9165 064624 012777 004100 115374 i320$: MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
9166 064624 012777 004100 115374 MOVB   #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
9167 064624 012777 004100 115374 JSR    PC,CHKDNI      ; DNI ?
9168 064632 112777 000117 115366 BCC    330$           ; YES
9169 064640 004737 030706      FTL

      064646 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?

9172 064652                ERRHRD 404.,ERR019,MSG003 ; NO, REPORT ERROR
      064652 104456                TRAP   C$ERHRD
      064654 000624                .WORD 404
      064656 026222                .WORD ERR019
      064660 024032                .WORD MSG003

9173 064662                ESCAPE TST           ; AND ABORT TEST
      064662 104410                TRAP   C$ESCAPE
      064664 001560                .WORD L10053-.

9174 064666 004737 032320      i330$: JSR    PC,CLRDNI ; WRITE ONE TO CLEAR DNI
9175 064666 004737 032320      BCC    335$           ; ERROR ?
9176 064672 103010                FTL
9177 064672 103010                FTL
9178 064674                FTL

      064674 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?

```

N6

```

9179 064700          ERRHRD  405.,ERR006,MSG003      ; YES, REPORT ERROR
      064700 104456
      064702 000625
      064704 025124
      064706 024032
      TRAP      C$ERHRD
      .WORD    405
      .WORD    ERR006
      .WORD    MSG003
9180 064710          ESCAPE  TST                    ; AND ABORT TEST
      064710 104410
      064712 001532
      TRAP      C$ESCAPE
      .WORD    L10053-.
9181
9182 064714          ;335$:
9183 064714 004737 032272      JSR      PC,CLRCV          ; CLEAR RECEIVER
9184 064720 062702 000006      ADD      #6,R2            ; UPDATE R2
9185 064724 005304          DEC      R4                ; DONE 10 LOOPBACKS?
9186 064726 001402          BEQ      340$             ; YES, EXIT LOOP
9187 064730 000137 064270      JMP      250$             ; NO, LOOP AGAIN
9188
9189          ;REPEAT WITH COMPLEMENTED MULTICAST ADDRESS LIST
9190
9191          ;WRITE MULTICAST ADDRESS LIST
9192
9193 064734          340$:
9194 064734 012705 014522      MOV      #WTMULA,R5       ; DEFAULT WRITE MULTICAST ADDR FUNC
9195 064740 004737 033656      JSR      PC,LDPCCB        ; LOAD FUNCTION -> PCBB
9196 064744 012705 020172      MOV      #MULTLC,R5       ; LOAD LIST INTO UDBB
9197 064750 012700 000036      MOV      #30.,R0         ; LOAD 30 ENTRIES
9198 064754 004737 034134      JSR      PC,LDUDBB        ; MULTICAST LIST -> UDBB
9199 064760 012777 004100 115240  MOV      #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
9200 064766 112777 000102 115232  MOVB     #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
9201 064774 004737 030706      JSR      PC,CHKDNI        ; DNI ?
9202 065000 103010          BCC      350$             ; YES
9203 065002
      065002 004737 031010      JSR      PC,CHKFTL        ; 'FATL' BIT SET?
9204 065006          ERRHRD  406.,ERR010,MSG003      ; NO, REPORT ERROR
      065006 104456
      065010 000626
      065012 025425
      065014 024032
      TRAP      C$ERHRD
      .WORD    406
      .WORD    ERR010
      .WORD    MSG003
9205 065016          ESCAPE  TST                    ; AND ABORT TEST
      065016 104410
      065020 001424
      TRAP      C$ESCAPE
      .WORD    L10053-.
9206
9207 065022 004737 032320      ;350$: JSR      PC,CLRDN1        ; WRITE ONE TO CLEAR DNI
9208          BCC      355$             ; ERROR ?
9209 065026 103010          BCC      355$             ; NO
9210 065030
      065030 004737 031010      JSR      PC,CHKFTL        ; 'FATL' BIT SET?
9211 065034          ERRHRD  407.,ERR006,MSG003      ; YES, REPORT ERROR
      065034 104456
      065036 000627
      065040 025124
      065042 024032
      TRAP      C$ERHRD
      .WORD    407
      .WORD    ERR006
      .WORD    MSG003
9212 065044          ESCAPE  TST                    ; AND ABORT TEST
  
```

```

065044 104410
065046 001376
9213
9214
9215
9216
9217 065050 012704 000012
9218 065054 012702 020172
9219
9220
9221
9222 065060 012705 016412
9223 065064 004737 034040
9224 065070 012705 014752
9225 065074 004737 033744
9226
9227
9228
9229 065100 012701 002266
9230 065104 004737 035062
9231 065110 005037 020564
9232 065114 012737 000006 020562
9233 065122 004737 034662
9234 065126 012777 004100 115072
9235 065134 112777 000104 115064
9236 065142 004737 030706
9237 065146 103010
9238 065150
065150 004737 031010
9239 065154
065154 104456
065156 000632
065160 025543
065162 024032
9240 065164
065164 104410
065166 001256
9241
9242 065170 004737 032320
9243
9244 065174 103010
9245 065176
065176 004737 031010
9246 065202
065202 104456
065204 000633
065206 025124
065210 024032
9247 065212
065212 104410
065214 001230
9248
9249 065216 004737 031724

```

```

;DO TEN LOOPS WITH DEST ADDR = NEW COMPLEMENTED MULTICAST ADDRESS
;
355$: MOV #10.,R4 ; DO LOOP = TEN
MOV #MULTLC,R2 ; R2 = COMPLEMENTED ADDRESS LIST
;SET UP RINGS FOR ONE BUFFER LOOPBACK
360$: MOV #TDRB1A,R5 ; DEFAULT ONE BUFFER TRANSMIT RING
JSR PC,LDTDRB ; LOAD TDRB
MOV #RDRB1A,R5 ; DEFAULT ONE BUFFER RECEIVE RING
JSR PC,LDRDRB ; LOAD RDRB
;SET UP BUFFERS AND START
MOV #SRC,R1 ; SOURCE = PHYSICAL ADDRESS
JSR PC,SRCDST ; R2 = NEW COMPLEMENTED MULTICAST ADR
CLR DOCRC ; NO APPEND CRC
MOV #6,BYTCNT ; BYTES/PACKET
JSR PC,SETBUF ; SET UP BUFFERS
MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
MOVB #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
JSR PC,CHKDNI ; DNI?
BCC 370$ ; YES
FTL
JSR PC,CHKFTL ; 'FATL' BIT SET?
ERRHRD 410.,ERR012,MSG003 ; NO, REPORT ERROR
TRAP .WORD C$ERHRD 410
. WORD ERR012
. WORD MSG003
ESCAPE TST ; AND ABORT TEST
TRAP .WORD C$ESCAPE L10053 .
; WRITE ONE TO CLEAR DNI
; ERROR ?
; NO
370$: JSR PC,CLRDN1
BCC 380$
FTL
JSR PC,CHKFTL ; 'FATL' BIT SET?
ERRHRD 411.,ERR006,MSG003 ; YES, REPORT ERROR
TRAP .WORD C$ERHRD 411
. WORD ERR006
. WORD MSG003
ESCAPE TST ; AND ABORT TEST
TRAP .WORD C$ESCAPE L10053 .
; TXI ?
380$: JSR PC,CHKTXI

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9250	065222	103010		BCC	390\$; YES		
9251	065224			FTL					
	065224	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9252	065230			ERRHRD	412.,ERR013,MSG003		; NO, REPORT ERROR	TRAP	C\$ERHRD
	065230	104456						.WORD	412
	065232	000634						.WORD	ERR013
	065234	025624						.WORD	MSG003
	065236	024032							
9253	065240			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	065240	104410						.WORD	L10053-
	065242	001202							
9254									
9255	065244	004737	032502	JSR	PC,CLRTXI	390\$:	; WRITE ONE TO CLEAR TXI		
9256							; ERROR ?		
9257	065250	103010		BCC	400\$; NO		
9258	065252			FTL					
	065252	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9259	065256			ERRHRD	413.,ERR014,MSG003		; YES, REPORT ERROR	TRAP	C\$ERHRD
	065256	104456						.WORD	413
	065260	000635						.WORD	ERR014
	065262	025655						.WORD	MSG003
	065264	024032							
9260	065266			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	065266	104410						.WORD	L10053-
	065270	001154							
9261									
9262	065272	012705	002622	MOV	#TDRB,R5	400\$:	; CHECK TDRB OWNERSHIP		
9263	065276	004737	031162	JSR	PC,CHKOWN		; OWN = PORT DRIVER ?		
9264	065302	103010		BCC	410\$; YES		
9265	065304			FTL					
	065304	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9266	065310			ERRHRD	414.,ERR018		; NO, REPORT ERROR	TRAP	C\$ERHRD
	065310	104456						.WORD	414
	065312	000636						.WORD	ERR018
	065314	026122						.WORD	0
	065316	000000							
9267	065320			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	065320	104410						.WORD	L10053 .
	065322	001122							
9268									
9269	065324	012705	020266	MOV	#TDR14A,R5	410\$:	; POINT TO EXPECTED TDRB		
9270	065330	004737	034244	JSR	PC,LDXTDR		; LOAD INTO XTDRB0 TABLE		
9271	065334	012705	002622	MOV	#TDRB,R5		; CHECK TDRB		
9272	065340	004737	031636	JSR	PC,CHKTDR		; ERRORS ?		
9273	065344	103010		BCC	420\$; NO		
9274	065346			FTL					
	065346	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9275	065352			ERRHRD	415.,ERR020,MSG005		; YES, REPORT ERROR	TRAP	C\$ERHRD
	065352	104456							

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 TEST 21: MULTICAST ADDRESS TEST

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	065354	000637					.WORD	415
	065356	026302					.WORD	ERR020
	065360	024136					.WORD	MSG005
9276	065362			ESCAPE	TST			; AND ABORT TEST
	065362	104410					TRAP	C\$ESCAPE
	065364	001060					.WORD	L10053-
9277								
9278	065366	004737	031454	i420\$:	JSR	PC,CHKRXI		; RXI ?
9279	065372	103010			BCC	430\$; YES
9280	065374				FTL			
	065374	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
9281	065400				ERRHRD	416.,ERR015,MSG003		; '0, REPORT ERROR
	065400	104456					TRAP	C\$ERHRD
	065402	000640					.WORD	416
	065404	025723					.WORD	ERR015
	065406	024032					.WORD	MSG003
9282	065410				ESCAPE	TST		; AND ABORT TEST
	065410	104410					TRAP	C\$ESCAPE
	065412	001032					.WORD	L10053-
9283								
9284	065414	004737	032434	i430\$:	JSR	PC,CLRRXI		; WRITE ONE TO CLEAR RXI
9285								; ERROR ?
9286	065420	103010			BCC	440\$; NO
9287	065422				FTL			
	065422	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
9288	065426				ERRHRD	417.,ERR016,MSG003		; YES, REPORT ERROR
	065426	104456					TRAP	C\$ERHRD
	065430	000641					.WORD	417
	065432	025754					.WORD	ERR016
	065434	024032					.WORD	MSG003
9289	065436				ESCAPE	TST		; AND ABORT TEST
	065436	104410					TRAP	C\$ESCAPE
	065440	001004					.WORD	L10053-
9290								
9291	065442	012705	002662	i440\$:	MOV	#RDRB,R5		; CHECK RDRB OWNERSHIP
9292	065446	004737	031162		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
9293	065452	103010			BCC	450\$; YES
9294	065454				FTL			
	065454	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
9295	065460				ERRHRD	420.,ERR017		; NO, REPORT ERROR
	065460	104456					TRAP	C\$ERHRD
	065462	000644					.WORD	420
	065464	026022					.WORD	ERR017
	065466	000000					.WORD	0
9296	065470				ESCAPE	TST		; AND ABORT TEST
	065470	104410					TRAP	C\$ESCAPE
	065472	000752					.WORD	L10053-
9297								
9298	065474	012705	020456	i450\$:	MOV	#RDR20C,R5		; POINT TO EXPECTED RDRB
9299	065500	004737	034214		JSR	PC,LDXRDR		; LOAD INTO XRDRBO TABLE
9300	065504	012705	002662		MOV	#RDRB,R5		; CHECK RDRB

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TEST 21: MULTICAST ADDRESS TEST

SEQ 289

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9301 065510 004737 031344      JSR    PC,CHKRDR      ; ERRORS ?
9302 065514 103010      BCC    460$          ; NO
9303 065516      FTL

      065516 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?
9304 065522      ERRHRD 421.,ERR021,MSG006 ; YES, REPORT ERROR
      065522 104456      TRAP  C$ERHRD
      065524 000645      .WORD 421
      065526 026363      .WORD ERR021
      065530 024300      .WORD MSG006
9305 065532      ESCAPE TST          ; AND ABORT TEST
      065532 104410      TRAP  C$ESCAPE
      065534 000710      .WORD L10053 .

9306      ;
9307      ;COMPARE RBUF WITH TBUF
9308
9309 065536 013705 020562      460$: MOV    BYTCNT,R5      ; COMPARE DATA
9310 065542 004737 032646      JSR    PC,CMPDAT     ; DATA COMPARE ERROR ?
9311 065546 103006      BCC    470$          ; NO
9312 065550      ERRHRD 422.,ERR022,MSG007 ; YES, REPORT ERROR
      065550 104456      TRAP  C$ERHRD
      065552 000646      .WORD 422
      065554 026444      .WORD ERR022
      065556 024442      .WORD MSG007
9313 065560      ESCAPE TST          ; AND ABORT TEST
      065560 104410      TRAP  C$ESCAPE
      065562 000662      .WORD L10053-.

9314      ;
9315 065564      470$:
9316 065564 012705 010474      MOV    #RBUF+26.,R5  ; CHECK CRC
9317 065570 004737 032576      JSR    PC,CMPCRC     ; ERRORS ?
9318 065574 103006      BCC    480$          ; NO
9319 065576      ERRHRD 423.,ERR023,MSG008 ; YES, REPORT ERROR
      065576 104456      TRAP  C$ERHRD
      065600 000647      .WORD 423
      065602 026513      .WORD ERR023
      065604 024474      .WORD MSG008
9320 065606      ESCAPE TST          ; AND ABORT TEST
      065606 104410      TRAP  C$ESCAPE
      065610 000634      .WORD L10053 .

9321      ;
9322 065612      480$:
9323 065612 012777 004100 114406      MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
9324 065620 112777 000117 114400      MOVB  #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
9325 065626 004737 030706      JSR    PC,CHKDNI     ; DNI ?
9326 065632 103010      BCC    490$          ; YES
9327 065634      FTL

      065634 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?
9328 065640      ERRHRD 424.,ERR019,MSG003 ; NO, REPORT ERROR
      065640 104456      TRAP  C$ERHRD
      065642 000650      .WORD 424
      065644 026222      .WORD ERR019
      065646 024032      .WORD MSG003
9329 065650      ESCAPE TST          ; AND ABORT TEST

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065650 104410 TRAP C$ESCAPE
065652 000572 .WORD L10053-.

9330
9331 065654 004737 032320 490$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
9332 ; ERROR ?
9333 065660 103010 BCC 495$ ; NO
9334 065662 FTL

065662 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

9335 065666 ERRHRD 425.,ERR006,MSG003 ; YES, REPORT ERROR TRAP C$ERHRD
065666 104456 .WORD 425
065670 000651 .WORD ERR006
065672 025124 .WORD MSG003
065674 024032

9336 065676 ESCAPE TST ; AND ABORT TEST TRAP C$ESCAPE
065676 104410 .WORD L10053-.
065700 000544

9337
9338 065702 495$:
9339 065702 004737 032272 JSR PC,CLRCV ; CLEAR RECEIVE BUFFER
9340 065706 062702 000006 ADD #6,R2 ; UPDATE R2
9341 065712 062703 000004 ADD #4,R3 ; UPDATE R3
9342 065716 005304 DEC R4 ; DONE TEN LOOPBACKS ?
9343 065720 001402 BEQ 496$ ; YES
9344 065722 000137 065060 JMP 360$ ; NO
9345
9346 ;DO TEN LOOPS WITH DEST ADDR = COMPLIMENT OF NEW COMPLIMENTED ADDRESS LIST
9347 ;
9348
9349 065726 012704 000012 496$: MOV #10,R4 ; DO LOOP = TEN
9350 065732 012702 020076 MOV #MULTL,R2 ; POINT TO MULTICAST LIST
9351
9352 ;SET UP RINGS FOR ONE BUFFER LOOPBACK
9353
9354 065736 012705 016412 500$: MOV #TDRB1A,R5 ; DEFAULT ONE BUFFER TRANSMIT RING
9355 065742 004737 034040 JSR PC,LDTDRB ; LOAD TDRB
9356 065746 012705 014752 MOV #RDRB1A,R5 ; DEFAULT ONE BUFFER RECEIVE RING
9357 065752 004737 033744 JSR PC,LDRDRB ; LOAD RDRB
9358
9359 ;SET UP BUFFERS AND START
9360
9361 065756 012701 002266 MOV #SRC,R1 ; SOURCE = PHYSICAL ADDRESS
9362 065762 004737 035062 JSR PC,SRCDST ; R2 = COMPLIMENT DESTINATION ADDR
9363 065766 005037 020564 CLR DOCRC ; NO APPEND CRC
9364 065772 012737 000006 020562 MOV #6,BYTCNT ; BYTES/PACKET
9365 066000 004737 034662 JSR PC,SETBUF ; SET UP BUFFERS
9366 066004 012777 004100 114214 MOV #DNI!INTE,@PCSRO ; ENABLE INTERRUPTS
9367 066012 112777 000104 114206 MOVB #INTE!START,@PCSRO ; ISSUE START PORT COMMAND
9368 066020 004737 030706 JSR PC,CHKDNI ; DNI?
9369 066024 103010 BCC 510$ ; YES
9370 066026 FTL

066026 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

9371 066032 ERRHRD 426.,ERR012,MSG003 ; NO, REPORT ERROR TRAP C$ERHRD
066032 104456 .WORD
  
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	066034	000652						.WORD	426
	066036	025543						.WORD	ERR012
	066040	024032						.WORD	MSG003
9372	066042			ESCAPE	TST				; AND ABORT TEST
	066042	104410						TRAP	C\$ESCAPE
	066044	000400						.WORD	L10053 .
9373									
9374	066046	004737	032320	510\$:	JSR	PC,CLRDNI			; WRITE ONE TO CLEAR DNI
9375									; ERROR ?
9376	066052	103010			BCC	520\$; NO
9377	066054				FTL				
	066054	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
9378	066060				ERRHRD	427.,ERR006,MSG003			; YES, REPORT ERROR
	066060	104456						TRAP	C\$ERHRD
	066062	000653						.WORD	427
	066064	025124						.WORD	ERR006
	066066	024032						.WORD	MSG003
9379	066070				ESCAPE	TST			; AND ABORT TEST
	066070	104410						TRAP	C\$ESCAPE
	066072	000352						.WORD	L10053-.
9380									
9381	066074	004737	031724	520\$:	JSR	PC,CHKTXI			; TXI ?
9382	066100	103010			BCC	530\$; YES
9383	066102				FTL				
	066102	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
9384	066106				ERRHRD	430.,ERR013,MSG003			; NO, REPORT ERROR
	066106	104456						TRAP	C\$ERHRD
	066110	000656						.WORD	430
	066112	025624						.WORD	ERR013
	066114	024032						.WORD	MSG003
9385	066116				ESCAPE	TST			; AND ABORT TEST
	066116	104410						TRAP	C\$ESCAPE
	066120	000324						.WORD	L10053-.
9386									
9387	066122	004737	032502	530\$:	JSR	PC,CLRTXI			; WRITE ONE TO CLEAR TXI
9388									; ERROR
9389	066126	103010			BCC	540\$; NO
9390	066130				FTL				
	066130	004737	031010		JS	PC,CHKFTL			; 'FATL' BIT SET?
9391	066134				ER	431.,ERR014,MSG003			; YES, REPORT ERROR
	066134	104456						TRAP	C\$ERHRD
	066136	000657						.WORD	431
	066140	025655						.WORD	ERR014
	066142	024032						.WORD	MSG003
9392	066144				ESCAPE	TST			; AND ABORT TEST
	066144	104410						TRAP	C\$ESCAPE
	066146	000276						.WORD	L10053 .
9393									
9394	066150	012705	002622	540\$:	MOV	#TDRB,R5			; CHECK TDRB OWNERSHIP
9395	066154	004737	031162		JSR	PC,CHKOWN			; OWN = PORT DRIVER ?
9396	066160	103010			BCC	550\$; YES

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 TEST 21: MULTICAST ADDRESS TEST

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9397	066162				FTL						
	066162	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?			
9398	066166				ERRHRD	432.,ERR018		; NO, REPORT FRROR			
	066166	104456							TRAP	C\$ERHRD	
	066170	000660							.WORD	432	
	066172	026122							.WORD	ERR018	
	066174	000000							.WORD	0	
9399	066176				ESCAPE	TST		; AND ABORT TEST			
	066176	104410							TRAP	C\$ESCAPE	
	066200	000244							.WORD	L10053-.	
9400											
9401	066202	012705	020346	i	MOV	#TDR21X,R5		; POINT TO EXPECTED TDRB			
9402	066206	004737	034244	550\$:	JSR	PC,LDXTDR		; LOAD INTO XTDRBO TABLE			
9403	066212	012705	002622		MOV	#TDRB,R5		; CHECK TDRB			
9404	066216	004737	031636		JSR	PC,CHKTDR		; ERRORS ?			
9405	066222	103010			BCC	560\$; NO			
9406	066224				FTL						
	066224	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?			
9407	066230				ERRHRD	433.,ERR020,MSG005		; YES, REPORT ERROR			
	066230	104456							TRAP	C\$ERHRD	
	066232	000661							.WORD	433	
	066234	026302							.WORD	ERR020	
	066236	024136							.WORD	MSG005	
9408	066240				ESCAPE	TST		; AND ABORT TEST			
	066240	104410							TRAP	C\$ESCAPE	
	066242	000202							.WORD	L10053-.	
9409											
9410	066244	004737	034276	i	JSR	PC,NORXI		; RXI ?			
9411	066250	103010		560\$:	BCC	570\$; NO			
9412	066252				FTL						
	066252	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?			
9413	066256				ERRHRD	434.,ERR039		; YES, REPORT ERROR			
	066256	104456							TRAP	C\$ERHRD	
	066260	000662							.WORD	434	
	066262	027671							.WORD	ERR039	
	066264	000000							.WORD	0	
9414	066266				ESCAPE	TST		; AND ABORT TEST			
	066266	104410							TRAP	C\$ESCAPE	
	066270	000154							.WORD	L10053 .	
9415											
9416	066272			i	MOV	#DNI!INTE,@PCSR0		; ENABLE INTERRUPTS			
9417	066272	012777	004100	570\$:	MOVB	#INTE!STOP,@PCSR0		; ISSUE STOP PORT COMMAND			
9418	066300	112777	000117	113726	JSR	PC,CHKDNI		; DNI ?			
9419	066306	004737	030706	113720	BCC	580\$; YES			
9420	066312	103010			FTL						
9421	066314										
	066314	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?			
9422	066320				ERRHRD	435.,ERR019,MSG003		; NO, REPORT ERROR			
	066320	104456							TRAP	C\$ERHRD	

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066322 000663 .WORD 435
066324 026222 .WORD ERR019
066326 024032 .WORD MSG003
9423 066330 ESCAPE TST ; AND ABORT TEST
066330 104410 TRAP C$ESCAPE
066332 000112 .WORD L10053 .
9424
9425 066334 004737 032320 ;580$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
9426 ; ERROR ?
9427 066340 103010 BCC 590$ ; NO
9428 066342 FTL
066342 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
9429 066346 ERRHRD 436.,ERR006,MSG003 ; YES, REPORT ERROR
066346 104456 TRAP C$ERHRD
066350 000664 .WORD 436
066352 025124 .WORD ERR006
066354 024032 .WORD MSG003
9430 066356 ESCAPE TST ; AND ABORT TEST
066356 104410 TRAP C$ESCAPE
066360 000064 .WORD L10053 .
9431
9432 066362 ;590$:
9433 066362 004737 032272 JSR PC,CLRCV ; CLEAR RECEIVE BUFFER
9434 066366 062702 000006 ADD #6,R2 ; UPDATE R2
9435 066372 005304 DEC R4 ; DONE TEN LOOPBACKS ?
9436 066374 001402 BEQ 600$ ; YES, EXIT LOOP
9437 066376 000137 065736 JMP 500$ ; NO, LOOP AGAIN
9438 066402
9439 066402 004737 032402 ;600$: JSR PC,CLINTR ; INSURE DELUA INTR BITS CLEAR
9440
9441
9442 066406 EXIT TST
066406 104432 TRAP C$EXIT
066410 000034 .WORD L10053 .
9443
9444 ;LOCAL TEST MESSAGE
9445
9446 066412 104 105 114 T21ID: .ASCIZ 'DELUA MULTICAST ADDRESS '
066415 125 101 040
066420 115 125 114
066423 124 111 103
066426 101 123 124
066431 040 101 104
066434 104 122 105
066437 123 123 040
066442 000
9447 .EVEN
9448
9449 066444 ENDTST
066444
066444 104401 L10053: TRAP C$ETST

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066446 012704 072650
066452 004737 034610

066456 004737 035310
066462 103034
066464 012777 004100 113534

.SBTTL TEST 22: PROMISCUOUS ADDRFS MODE TEST

THIS TEST VERIFIES THAT PROMISCUOUS ADDRESSING MODE IS OPERATIONAL.
A WRITE PHYSICAL ADDRESS FUNCTION IS USED TO SET THE DELUA'S PHYSICAL ADDRESS.
A WRITE MULTICAST ADDRESS LIST FUNCTION IS USED TO SET THE DELUA'S MULTICAST ADDRESS LIST.
INTERNAL LOOPBACKS ARE THEN PERFORMED WITH CURRENTLY ENABLED AND THEN CURRENTLY DISABLED PHYSICAL AND MULTICAST DESTINATION ADDRESSES.

TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
2. WRITE RING FORMAT
3. WRITE PHYSICAL ADDRESS
4. WRITE MULTICAST ADDRESS LIST
5. SET UP RINGS AND BUFFERS WITH DESTINATION ADDRESS = PHYSICAL ADDRESS
6. ISSUE START
7. CHECK FOR ERRORS
8. ISSUE STOP
9. SET UP RINGS AND BUFFERS WITH DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
10. ISSUE START
11. CHECK FOR ERRORS
12. ISSUE STOP
13. SET UP RINGS AND BUFFERS WITH DESTINATION ADDRESS = MULTICAST ADDRESS
14. ISSUE START
15. CHECK FOR ERRORS
16. ISSUE STOP
17. REPEAT STEPS 13 - 16 FOR ALL TEN LIST ENTRIES
18. SET UP RINGS AND BUFFERS WITH DESTINATION ADDRESS NOT = MULTICAST ADDRESS
19. ISSUE START
20. CHECK FOR ERRORS
21. ISSUE STOP
22. REPEAT STEPS 18 - 21 FOR ALL TEN ENTRIES

BGNTST

T22::

PNTMAC T22ID

MOV #T22ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

END OF MACRO EXPANSION OF 'PNTMAC'

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DN1!INTE,@PCSR0 ; ENABLE INTERRUPTS

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TEST 22: PROMISCUOUS ADDRESS MODE TEST

SEQ 295

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9501 066472 112777 000140 113526      MOVB  #INTE!RSET,@PCSR0      ; YES, RESET DELUA
9502 066500 004737 032034              JSR   PC,CKDNI                ; DNI ?
9503 066504 103010                      BCC  20$                      ; YES
9504 066506                                FTL

      066506 004737 031010              JSR   PC,CHKFTL                ; 'FATL' BIT SET?
9505 066512                                ERRHRD 437.,ERR042,MSG003      ; NO, REPORT ERROR
      066512 104456                                TRAP  C$ERHRD ;B0
      066514 000665                                .WORD 437
      066516 030105                                .WORD ERR042
      066520 024032                                .WORD MSG003
9506 066522                                ESCAPE TST                    ; AND ABORT TEST
      066522 104410                                TRAP  C$ESCAPE
      066524 004154                                .WORD L10054
9507
9508 066526 004737 032320      i 20$: JSR   PC,CLRDN1            ; WRITE ONE TO CLEAR DNI
9509                                ; ERROR ?
9510 066532 103010                      BCC  30$                      ; NO
9511 066534                                FTL

      066534 004737 031010              JSR   PC,CHKFTL                ; 'FATL' BIT SET?
9512 066540                                ERRHRD 440.,ERR006,MSG003      ; YES, REPORT ERROR
      066540 104456                                TRAP  C$ERHRD
      066542 000670                                .WORD 440
      066544 025124                                .WORD ERR006
      066546 024032                                .WORD MSG003
9513 066550                                ESCAPE TST                    ; AND ABORT TEST
      066550 104410                                TRAP  C$ESCAPE
      066552 004126                                .WORD L10054-
9514
9515 066554                                i 30$: JSR   PC,CLRBUF          ; CLEAR TBUF AND RBUF
9516 066554 004737 032246              JSR   PC,LDDFLT                ; LOAD DEFAULT PHY ADDRESS TABLE
9517 066560 004737 033606              JSR   PC,LDDFLT                ; ADDRESS OF PCBB -> PCSR2!3
9518 066564 004737 033706              JSR   PC,LDPCSR                ; ENABLE INTERRUPTS
9519 066570 012777 004100 113430      MOV  #DNI!INTE,@PCSR0          ; ISSUE GET PCBB PORT COMMAND
9520 066576 112777 000101 113422      MOVB #INTE!GETPCB,@PCSR0       ; DNI?
9521 066604 004737 030706              JSR   PC,CHKDNI                ; YES
9522 066610 103010                      BCC  40$
9523 066612                                FTL

      066612 004737 031010              JSR   PC,CHKFTL                ; 'FATL' BIT SET?
9524 066616                                ERRHRD 441.,ERR009,MSG003      ; NO, REPORT ERROR
      066616 104456                                TRAP  C$ERHRD
      066620 000671                                .WORD 441
      066622 025341                                .WORD ERR009
      066624 024032                                .WORD MSG003
9525 066626                                ESCAPE TST                    ; AND ABORT TEST
      066626 104410                                TRAP  C$ESCAPE
      066630 004050                                .WORD L10054-
9526
9527 066632 004737 032320      i 40$: JSR   PC,CLRDN1            ; WRITE ONE TO CLEAR DNI
9528                                ; ERROR ?
9529 066636 103010                      BCC  50$                      ; NO
9530 066640                                FTL

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066640 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
9531 066644      ERRHRD  442.,ERR006,MSG003 ; YES, REPORT ERROR
066644 104456      TRAP      C$ERHRD
066646 000672      .WORD    442
066650 025124      .WORD    ERR006
066652 024032      .WORD    MSG003
9532 066654      ESCAPE  TST           ; AND ABORT TEST
066654 104410      TRAP      C$ESCAPE
066656 004022      .WORD    L10054 .
9533
9534      ;WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
9535
9536 066660 012705 014602 50$:  MOV      #WTMODE,R5      ; DEFAULT WRITE MODE FUNCTION
9537 066664 004737 033656      JSR      PC,LDPCBB        ; LOAD FUNCTION -> PCBB
9538 066670 012777 004100 113330      MOV      #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
9539 066676 112777 000102 113322      MOV      #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
9540 066704 004737 030706      JSR      PC,CHKDNI       ; DNI ?
9541 066710 103010      BCC      60$            ; YES
9542 066712      FTL
066712 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
9543 066716      ERRHRD  443.,ERR010,MSG003 ; NO, REPORT ERROR
066716 104456      TRAP      C$ERHRD
066720 000673      .WORD    443
066722 025425      .WORD    ERR010
066724 024032      .WORD    MSG003
9544 066726      ESCAPE  TST           ; AND ABORT TEST
066726 104410      TRAP      C$ESCAPE
066730 003750      .WORD    L10054-.
9545
9546 066732 004737 032320 60$:  JSR      PC,CLRDN1       ; WRITE ONE TO CLEAR DNI
9547      ; ERROR ?
9548 066736 103010      BCC      70$            ; NO
9549 066740      FTL
066740 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
9550 066744      ERRHRD  444.,ERR006,MSG003 ; YES, REPORT ERROR
066744 104456      TRAP      C$ERHRD
066746 000674      .WORD    444
066750 025124      .WORD    ERR006
066752 024032      .WORD    MSG003
9551 066754      ESCAPE  TST           ; AND ABORT TEST
066754 104410      TRAP      C$ESCAPE
066756 003722      .WORD    L10054 .
9552
9553      ;WRITE RING FORMAT
9554
9555 066760 012705 014542 70$:  MOV      #WTRNGS,R5      ; DEFAULT WRITE RING FORMAT FUNCTION
9556 066764 004737 033656      JSR      PC,LDPCBB        ; LOAD FUNCTION -> PCBB
9557 066770 012705 014706      MOV      #RFRMT,R5       ; DEFAULT RING FORMAT
9558 066774 012700 000006      MOV      #6,R0           ; FORMAT = SIX WORDS
9559 067000 004737 034134      JSR      PC,LDUDBB       ; LOAD RING FORMAT -> UDBB
9560 067004 012777 004100 113214      MOV      #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS

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9561 067012 112777 000102 113206      MOVB    #INTE!GETCMD,@PCSR0      ; ISSUE GET CMD PORT COMMAND
9562 067020 004737 030706      JSR     PC,CHKDNI                ; DNI ?
9563 067024 103010                BCC     80$                      ; YES
9564 067026                                FTL

          067026 004737 031010      JSR     PC,CHKFTL                ; 'FATL' BIT SET?

9565 067032                                ERRHRD  445.,ERR010,MSG003      ; NO, REPORT ERROR
          067032 1044 6                TRAP   C$ERHRD
          067034 000675                .WORD  445
          067036 025425                .WORD  ERR010
          067040 024032                .WORD  MSG003

9566 067042                                ESCAPE  TST                      ; AND ABORT TEST
          067042 104410                TRAP   C$ESCAPE
          067044 003634                .WORD  L10054-.

9567                                ;
9568 067046 004737 032020      ; 80$: JSR     PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
9569                                ; ERROR ?
9570 067052 103010                BCC     90$                      ; NO
9571 067054                                FTL

          067054 004737 031010      JSR     PC,CHKFTL                ; 'FATL' BIT SET?

9572 067060                                ERRHRD  446.,ERR006,MSG003      ; YES, REPORT ERROR
          067060 104456                TRAP   C$ERHRD
          067062 000676                .WORD  446
          067064 025124                .WORD  ERR006
          067066 024032                .WORD  MSG003

9573 067070                                ESCAPE  TST                      ; AND ABORT TEST
          067070 104410                TRAP   C$ESCAPE
          067072 003606                .WORD  L10054-.

9574                                ;
9575                                ; WRITE PHYSICAL ADDRESS
9576                                ;
9577                                ; 90$:
9578 067074 012705 002274      MOV     #DEFAULT,R5              ; GET DEFAULT PHYSICAL ADDRESS
9579 067100 004737 033724      JSR     PC,LDPHYA                ; SAVE IN DEFAULT FILE
9580 067104 012705 014502      MOV     #WTPHYA,R5              ; DEFAULT WRITE PHYSICAL ADDR FUNC
9581 067110 004737 033656      JSR     PC,LDPCBB                ; LOAD FUNCTION -> PCBB
9582 067114 012777 004100 113104    MOV     #DNI!INTE,@PCSR0        ; ENABLE INTERRUPTS
9583 067122 112777 000102 113076    MOVB   #INTE!GETCMD,@PCSR0      ; ISSUE GET_CMD PORT COMMAND
9584 067130 004737 030706      JSR     PC,CHKDNI                ; DNI ?
9585 067134 103010                BCC     100$                     ; YES
9586 067136                                FTL

          067136 004737 031010      JSR     PC,CHKFTL                ; 'FATL' BIT SET?

9587 067142                                ERRHRD  447.,ERR010,MSG003      ; NO, REPORT ERROR
          067142 104456                TRAP   C$ERHRD
          067144 000677                .WORD  447
          067146 025425                .WORD  ERR010
          067150 024032                .WORD  MSG003

9588 067152                                ESCAPE  TST                      ; AND ABORT TEST
          067152 104410                TRAP   C$ESCAPE
          067154 003524                .WORD  L10054-.

9589                                ;
9590 067156 004737 032320      ; 100$: JSR     PC,CLRDN1          ; WRITE ONE TO CLEAR DNI

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9591                                     ; ERROR ?
9592 067162 103010                      BCC 102$                               ; NO
9593 067164                               FTL
                                     ;
    067164 004757 031010                 JSR PC,CHKFTL                           ; 'FATL' BIT SET?
9594 067170                               ERRHRD 450.,ERR006,MSG003                 ; YES, REPORT ERROR
    067170 104456                               TRAP C$ERHRD
    067172 000702                               .WORD 450
    067174 025124                               .WORD ERR006
    067176 024032                               .WORD MSG003
9595 067200                               ESCAPE TST                               ; AND ABORT TEST
    067200 104410                               TRAP C$ESCAPE
    067202 003476                               .WORD L10054-.
9596                                     ;
9597                                     ;WRITE MULTICAST ADDRESS LIST
9598                                     ;
9599 067204 012705 014522                 102$: MOV #WTMULA,R5                       ; DEFAULT WRITE MULTICAST ADDR FUNC
9600 067210 004737 033656                 JSR PC,LDP CBB                          ; LOAD FUNCTION -> PCBB
9601 067214 012705 020076                 MOV #MULTL,R5                            ; LOAD LIST INTO UDBB
9602 067220 012700 000036                 MOV #30.,R0                              ; LOAD 30 ENTRIES
9603 067224 004737 034134                 JSR PC,LDUDBB                            ; MULTICAST LIST -> UDBB
9604 067230 012777 004100 112770         MOV #DNI!INTE,@PCSR0                     ; ENABLE INTERRUPTS
9605 067236 112777 000102 112762         MOVB #INTE!GETCMD,@PCSR0                 ; ISSUE GET_CMD PORT COMMAND
9606 067244 004737 030706                 JSR PC,CHKDNI                            ; DNI ?
9607 067250 103010                      BCC 104$                               ; YES
9608 067252                               FTL
                                     ;
    067252 004737 031010                 JSR PC,CHKFTL                           ; 'FATL' BIT SET?
9609 067256                               ERRHRD 451.,ERR010,MSG003                 ; NO, REPORT ERROR
    067256 104456                               TRAP C$ERHRD
    067260 000703                               .WORD 451
    067262 025425                               .WORD ERR010
    067264 024032                               .WORD MSG003
9610 067266                               ESCAPE TST                               ; AND ABORT TEST
    067266 104410                               TRAP C$ESCAPE
    067270 003410                               .WORD L10054 .
9611                                     ;
9612 067272 004737 032320                 104$: JSR PC,CLR DNI                     ; WRITE ONE TO CLEAR DNI
9613                                     ; ERROR ?
9614 067276 103010                      BCC 110$                               ; NO
9615 067300                               FTL
                                     ;
    067300 004737 031010                 JSR PC,CHKFTL                           ; 'FATL' BIT SET?
9616 067304                               ERRHRD 452.,ERR006,MSG003                 ; YES, REPORT ERROR
    067304 104456                               TRAP C$ERHRD
    067306 000704                               .WORD 452
    067310 025124                               .WORD ERR006
    067312 024032                               .WORD MSG003
9617 067314                               ESCAPE TST                               ; AND ABORT TEST
    067314 104410                               TRAP C$ESCAPE
    067316 003362                               .WORD L10054-.
9618                                     ;
9619                                     ;DESTINATION ADDRESS = PHYSICAL ADDRESS
9620                                     ;

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TEST 22: PROMISCUOUS ADDRESS MODE TEST

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	067500	025624					.WORD	ERR013
	067502	024032					.WORD	MSG003
9655	067504			ESCAPE	TST			; AND ABORT TEST
	067504	104410					TRAP	C\$ESCAPE
	067506	003172					.WORD	L10054
9656								
9657	067510	004737	032502	i140\$:	JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI
9658								; ERROR ?
9659	067514	103010			BCC	150\$; NO
9660	067516				FTL			
	067516	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
9661	067522				ERRHRD	455.,ERR014,MSG003		; YES, REPORT ERROR
	067522	104456					TRAP	C\$ERHRD
	067524	000707					.WORD	455
	067526	025655					.WORD	ERR014
	067530	024032					.WORD	MSG003
9662	067532				ESCAPE	TST		; AND ABORT TEST
	067532	104410					TRAP	C\$ESCAPE
	067534	003144					.WORD	L10054-
9663								
9664	067536	012705	002622	i150\$:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP
9665	067542	004737	031162		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
9666	067546	103010			BCC	160\$; YES
9667	067550				FTL			
	067550	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
9668	067554				ERRHRD	456.,ERR018		; NO, REPORT ERROR
	067554	104456					TRAP	C\$ERHRD
	067556	000710					.WORD	456
	067560	026122					.WORD	ERR018
	067562	000000					.WORD	0
9669	067564				ESCAPE	TST		; AND ABORT TEST
	067564	104410					TRAP	C\$ESCAPE
	067566	003112					.WORD	L10054-
9670								
9671	067570	012705	020266	i160\$:	MOV	#TDR14A,R5		; POINT TO EXPECTED TDRB
9672	067574	004737	034244		JSR	PC,LDXTDR		; LOAD INTO XTDRBO TABLE
9673	067600	012705	002622		MOV	#TDRB,R5		; CHECK TDRB
9674	067604	004737	031636		JSR	PC,CHKTDR		; ERRORS ?
9675	067610	103010			BCC	170\$; NO
9676	067612				FTL			
	067612	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
9677	067616				ERRHRD	457.,ERR020,MSG005		; YES, REPORT ERROR
	067616	104456					TRAP	C\$ERHRD
	067620	000711					.WORD	457
	067622	026302					.WORD	ERR020
	067624	024136					.WORD	MSG005
9678	067626				ESCAPE	TST		; AND ABORT TEST
	067626	104410					TRAP	C\$ESCAPE
	067630	003050					.WORD	L10054-
9679								
9680	067632	004737	031454	i170\$:	JSR	PC,CHKRXI		; RXI ?

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 TEST 22: PROMISCUOUS ADDRESS MODE TEST

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9681	067636	103010		BCC	180\$; YES		
9682	067640			FTL					
	067640	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9683	067644			ERRHRD	460.,ERR015,MSG003		; NO, REPORT ERROR	TRAP	C\$ERHRD
	067644	104456						.WORD	460
	067646	000714						.WORD	ERR015
	067650	025723						.WORD	MSG003
	067652	024032							
9684	067654			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	067654	104410						.WORD	L10054
	067656	003022							
9685									
9686	067660	004737	032434	JSR	PC,CLRRXI	i180\$:	; WRITE ONE TO CLEAR RXI		
9687							; ERROR ?		
9688	067664	103010		BCC	190\$; NO		
9689	067666			FTL					
	067666	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9690	067672			ERRHRD	461.,ERR016,MSG003		; YES, REPORT ERROR	TRAP	C\$ERHRD
	067672	104456						.WORD	461
	067674	000715						.WORD	ERR016
	067676	025754						.WORD	MSG003
	067700	024032							
9691	067702			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	067702	104410						.WORD	L10054
	067704	002774							
9692									
9693	067706	012705	002662	MOV	#RDRB,R5	i190\$:	; CHECK RDRB OWNERSHIP		
9694	067712	004737	031162	JSR	PC,CHKOWN		; OWN = PORT DRIVER ?		
9695	067716	103010		BCC	200\$; YES		
9696	067720			FTL					
	067720	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9697	067724			ERRHRD	462.,ERR017		; NO, REPORT ERROR	TRAP	C\$ERHRD
	067724	104456						.WORD	462
	067726	000716						.WORD	ERR017
	067730	026022						.WORD	0
	067732	000000							
9698	067734			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	067734	104410						.WORD	L10054
	067736	002742							
9699									
9700	067740	012705	020456	MOV	#RDR20C,R5	i200\$:	; POINT TO EXPECTED RDRB		
9701	067744	004737	034214	JSR	PC,LDXRDR		; LOAD INTO XRDRBO TABLE		
9702	067750	012705	002662	MOV	#RDRB,R5		; CHECK RDRB		
9703	067754	004737	031344	JSR	PC,CHKRDR		; ERRORS ?		
9704	067760	103010		BCC	210\$; NO		
9705	067762			FTL					
	067762	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9706	067766			ERRHRD	463.,ERR021,MSG006		; YES, REPORT ERROR	TRAP	C\$ERHRD
	067766	104456							

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 TEST 22: PROMISCUOUS ADDRESS MODE TEST

SEQ 302

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067770 000717 .WORD 463
067772 026363 .WORD ERRO21
067774 024300 .WORD MSG006
9707 067776 ESCAPE TST ; AND ABORT TEST TRAP C$ESCAPE
067776 104410 .WORD L10054
070000 002700

9708 ;
9709 ;COMPARE RBUF WITH TBUF
9710 ;
9711 070002 013705 020562 210$: MOV BYTCNT,R5 ; COMPARE DATA
9712 070006 004737 032646 JSR PC,CMPCAT ; DATA COMPARE ERROR ?
9713 070012 103006 BCC 220$ ; NO
9714 070014 ERRHRD 464.,ERRO22,MSG007 ; YES, REPORT ERROR
070014 104456 TRAP C$ERHRD
070016 000720 .WORD 464
070020 026444 .WORD ERRO22
070022 024442 .WORD MSG007
9715 070024 ESCAPE TST ; AND ABORT TEST TRAP C$ESCAPE
070024 104410 .WORD L10054
070026 002652

9716 ;
9717 ;220$:
9718 070030 012705 010474 MOV #RBUF+26.,R5 ; CHECK CRC
9719 070034 004737 032576 JSR PC,CMPCRC ; ERRORS ?
9720 070040 103006 BCC 230$ ; NO
9721 070042 ERRHRD 465.,ERRO23,MSG008 ; YES, REPORT ERROR
070042 104456 TRAP C$ERHRD
070044 000721 .WORD 465
070046 026513 .WORD ERRO23
070050 024474 .WORD MSG008
9722 070052 ESCAPE TST ; AND ABORT TEST TRAP C$ESCAPE
070052 104410 .WORD L10054-
070054 002624

9723 ;
9724 070056 012777 004100 112142 ;230$: MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
9725 070056 112777 000117 112134 MOVB #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
9726 070064 004737 030706 JSR PC,CHKDNI ; DNI ?
9727 070072 103010 BCC 240$ ; YES
9728 070076 103010 FTL
9729 070100 JSR PC,CHKFTL ; 'FATL' BIT SET?
070100 004737 031010 ERRHRD 466.,ERRO19,MSG003 ; NO, REPORT ERROR
9730 070104 TRAP C$ERHRD
070104 104456 .WORD 466
070106 000722 .WORD ERRO19
070110 026222 .WORD MSG003
070112 024032
9731 070114 ESCAPE TST ; AND ABORT TEST TRAP C$ESCAPE
070114 104410 .WORD L10054-
070116 002562

9732 ;
9733 070120 004737 032320 ;240$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
9734 .WORD ERRO19
9735 070124 103010 BCC 250$ ; NO
9736 070126 FTL

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070126 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
9737 070132      ERRHRD  467.,ERR006,MSG003 ; YES, REPORT ERROR
070132 104456      TRAP      C$ERHRD
070134 000723      .WORD    467
070136 025124      .WORD    ERR006
070140 024032      .WORD    MSG003
9738 070142      ESCAPE  TST            ; AND ABORT TEST
070142 104410      TRAP      C$ESCAPE
070144 002534      .WORD    L10054-.

;DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
;SET UP RINGS FOR ONE BUFFER LOOPBACK
250$:
9744 070146      JSR      PC,CLRCV      ; CLEAR RECEIVE BUFFER
9745 070146 004737 032272      MOV      #TORB1A,R5    ; DEFAULT ONE BUFFER TRANSMIT RING
9746 070152 012705 016412      JSR      PC,LDRDRB     ; LOAD TORB
9747 070156 004737 034040      MOV      #RDRB1A,R5    ; DEFAULT ONE BUFFER RECEIVE RING
9748 070162 012705 014752      JSR      PC,LDRDRB     ; LOAD RDRB
9749 070166 004737 033744

;SET UP BUFFERS AND START
9753 070172 012701 002274      MOV      #DEFAULT,R1   ; SOURCE = PHYSICAL ADDRESS
9754 070176 012702 020070      MOV      #ADR21C,R2   ; DEST = COMPLEMENTED ADDRESS
9755 070202 004737 035062      JSR      PC,SRCDST     ; SAVE FOR PACKET BUILD
9756 070206 005037 020564      CLR      DDCRC        ; NO APPEND CRC
9757 070212 012737 000006 020562      MOV      #6,BYTCNT    ; BYTES/PACKET
9758 070220 004737 034662      JSR      PC,SETBUF     ; SET UP BUFFERS
9759 070224 012777 004100 111774      MOV      #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
9760 070232 112777 000104 111766      MOVB    #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
9761 070240 004737 030706      JSR      PC,CHKDNI    ; DNI?
9762 070244 103010      BCC     260$          ; YES
9763 070246      FTL

070246 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
9764 070252      ERRHRD  470.,ERR012,MSG003 ; NO, REPORT ERROR
070252 104456      TRAP      C$ERHRD
070254 000726      .WORD    470
070256 025543      .WORD    ERR012
070260 024032      .WORD    MSG003
9765 070262      ESCAPE  TST            ; AND ABORT TEST
070262 104410      TRAP      C$ESCAPE
070264 002414      .WORD    L10054-.

;260$:
9767 070266 004737 032320      JSR      PC,CLRDN1     ; WRITE ONE TO CLEAR DNI
9768      BCC     270$          ; ERROR ?
9769 070272 103010      BCC     270$          ; NO
9770 070274      FTL

070274 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
9771 070300      ERRHRD  471.,ERR006,MSG003 ; YES, REPORT ERROR
070300 104456      TRAP      C$ERHRD
070302 000727      .WORD    471
  
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	070304	025124					.WORD	ERR006
	070306	024032					.WORD	MSG003
9772	070310			ESCAPE	TST			; AND ABORT TEST
	070310	104410					TRAP	C\$ESCAPE
	070312	002366					.WORD	L10054--
9773								
9774	070314	004737	031724	i	270\$:	JSR	PC,CHKTXI	; TXI ?
9775	070320	103010				BCC	280\$; YES
9776	070322					FTL		
	070322	004737	031010			JSR	PC,CHKFTL	; 'FATL' BIT SET?
9777	070326					ERRHRD	472.,ERR013,MSG003	; NO, REPORT ERROR
	070326	104456					TRAP	C\$ERHRD
	070330	000730					.WORD	472
	070332	025624					.WORD	ERR013
	070334	024032					.WORD	MSG003
9778	070336			ESCAPE	TST			; AND ABORT TEST
	070336	104410					TRAP	C\$ESCAPE
	070340	002340					.WORD	L10054--
9779								
9780	070342	004737	032502	i	280\$:	JSR	PC,CLRTXI	; WRITE ONE TO CLEAR TXI
9781								; ERROR ?
9782	070346	103010				BCC	290\$; NO
9783	070350					FTL		
	070350	004737	031010			JSR	PC,CHKFTL	; 'FATL' BIT SET?
9784	070354					ERRHRD	473.,ERR014,MSG003	; YES, REPORT ERROR
	070354	104456					TRAP	C\$ERHRD
	070356	000731					.WORD	473
	070360	025655					.WORD	ERR014
	070362	024032					.WORD	MSG003
9785	070364			ESCAPE	TST			; AND ABORT TEST
	070364	104410					TRAP	C\$ESCAPE
	070366	002312					.WORD	L10054--
9786								
9787	070370	012705	002622	i	290\$:	MOV	#TDRB,R5	; CHECK TDRB OWNERSHIP
9788	070374	004737	031162			JSR	PC,CHKOWN	; OWN = PORT DRIVER ?
9789	070400	103010				BCC	300\$; YES
9790	070402					FTL		
	070402	004737	031010			JSR	PC,CHKFTL	; 'FATL' BIT SET?
9791	070406					ERRHRD	474.,ERR018	; NO, REPORT ERROR
	070406	104456					TRAP	C\$ERHRD
	070410	000732					.WORD	474
	070412	026122					.WORD	ERR018
	070414	000000					.WORD	0
9792	070416			ESCAPE	TST			; AND ABORT TEST
	070416	104410					TRAP	C\$ESCAPE
	070420	002260					.WORD	L10054--
9793								
9794	070422	012705	020266	i	300\$:	MOV	#TDR14A,R5	; POINT TO EXPECTED TDRB
9795	070426	004737	034244			JSR	PC,LDXTDR	; LOAD INTO XTDRBO TABLE
9796	070432	012705	002622			MOV	#TDRB,R5	; CHECK TDRB
9797	070436	004737	031636			JSR	PC,CHKTDR	; ERRORS ?

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 TEST 22: PROMISCUOUS ADDRESS MODE TEST

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9798	070442	103010		BCC	310\$; NO		
9799	070444			FTL					
	070444	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9800	070450			ERRHRD	475.,ERR020,MSG005		; YES, REPORT ERRGR	TRAP	C\$ERHRD
	070450	104456						.WORD	475
	070452	000733						.WORD	ERR020
	070454	026302						.WORD	MSG005
	070456	024136							
9801	070460			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	070460	104410						.WORD	L10054-
	070462	002216							
9802									
9803	070464	004737	031454	JSR	PC,CHKRXI		; RXI ?		
9804	070470	103010		BCC	320\$; YES		
9805	070472			FTL					
	070472	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9806	070476			ERRHRD	476.,ERR015,MSG003		; NO, REPORT ERROR	TRAP	C\$ERHRD
	070476	104456						.WORD	476
	070500	000734						.WORD	ERR015
	070502	025723						.WORD	MSG003
	070504	024032							
9807	070506			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	070506	104410						.WORD	L10054-
	070510	002170							
9808									
9809	070512	004737	032434	JSR	PC,CLRRXI		; WRITE ONE TO CLEAR RXI		
9810							; ERROR ?		
9811	070516	103010		BCC	330\$; NO		
9812	070520			FTL					
	070520	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9813	070524			ERRHRD	477.,ERR016,MSG003		; YES, REPORT ERROR	TRAP	C\$ERHRD
	070524	104456						.WORD	477
	070526	000735						.WORD	ERR016
	070530	025754						.WORD	MSG003
	070532	024032							
9814	070534			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	070534	104410						.WORD	L10054 .
	070536	002142							
9815									
9816	070540	012705	002662	MOV	#RDRB,R5		; CHECK RDRB OWNERSHIP		
9817	070544	004737	031162	JSR	PC,CHKOWN		; OWN = PORT DRIVER ?		
9818	070550	103010		BCC	340\$; YES		
9819	070552			FTL					
	070552	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
9820	070556			ERRHRD	480.,ERR017		; NO, REPORT ERROR	TRAP	C\$ERHRD
	070556	104456						.WORD	480
	070560	000740						.WORD	ERR017
	070562	026022						.WORD	0
	070564	000000							

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9821 070566          ESCAPE TST          ; AND ABORT TEST          TRAP      C$ESCAPE
      070566 104410          ;                          .WORD     L10054 .
      070570 002110

9822          ;
9823 070572 012705 020456 340$: MOV    #RDR20C,R5          ; POINT TO EXPECTED RDRB
9824 070576 004737 034214      JSR    PC,LDXRDR          ; LOAD INTO XRDR80 TABLE
9825 070602 012705 002662      MOV    #RDRB,R5          ; CHECK RDRB
9826 070606 004737 031344      JSR    PC,CHKRDR          ; ERRORS ?
9827 070612 103010      BCC    350$              ; NO
9828 070614          FTL

      070614 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?

9829 070620          ERRHRD 481.,ERR021,MSG006      ; YES, REPORT ERROR          TRAP      C$ERHRD
      070620 104456          ;                          .WORD     481
      070622 000741          ;                          .WORD     ERR021
      070624 026363          ;                          .WORD     MSG006
      070626 024300

9830 070630          ESCAPE TST          ; AND ABORT TEST          TRAP      C$ESCAPE
      070630 104410          ;                          .WORD     L10054-.
      070632 002046

9831          ;
9832          ;COMPARE RBUF WITH TBUF
9833          ;
9834 070634 013705 020562 350$: MOV    BYTCNT,R5          ; COMPARE DATA
9835 070640 004737 032646      JSR    PC,CMPDAT          ; DATA COMPARE ERROR ?
9836 070644 103006      BCC    360$              ; NO
9837 070646          ERRHRD 482.,ERR022,MSG007      ; YES, REPORT ERROR          TRAP      C$ERHRD
      070646 104456          ;                          .WORD     482
      070650 000742          ;                          .WORD     ERR022
      070652 026444          ;                          .WORD     MSG007
      070654 024442

9838 070656          ESCAPE TST          ; AND ABORT TEST          TRAP      C$ESCAPE
      070656 104410          ;                          .WORD     L10054 .
      070660 002020

9839          ;
9840 070662          ;360$:
9841 070662 012705 010474      MOV    #RBUF+26.,R5          ; CHECK CRC
9842 070666 004737 032576      JSR    PC,CMPCRC          ; ERRORS ?
9843 070672 103006      BCC    370$              ; NO
9844 070674          ERRHRD 483.,ERR023,MSG008      ; YES, REPORT ERROR          TRAP      C$ERHRD
      070674 104456          ;                          .WORD     483
      070676 000743          ;                          .WORD     ERR023
      070700 026513          ;                          .WORD     MSG008
      070702 024474

9845 070704          ESCAPE TST          ; AND ABORT TEST          TRAP      C$ESCAPE
      070704 104410          ;                          .WORD     L10054-.
      070706 001772

9846          ;
9847 070710          ;370$:
9848 070710 012777 004100 111310      MOV    #DNI!INTE,@PCSR0          ; ENABLE INTERRUPTS
9849 070716 112777 000117 111302      MOVB  #INTE!STOP,@PCSR0          ; ISSUE STOP PORT COMMAND
9850 070724 004737 030706      JSR    PC,CHKDNI          ; DNI ?
9851 070730 103010      BCC    380$              ; YES
9852 070732          FTL

      070732 004737 031010      JSR    PC,CHKFTL          ; 'FATL' BIT SET?

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9853 070736          ERRHRD  484.,ERR019,MSG003      ; NO, REPORT ERROR
      070736 104456
      070740 000744
      070742 026222
      070744 024032
      9854 070746          ESCAPE  TST              ; AND ABORT TEST
      070746 104410
      070750 001730
      9855
      9856 070752 004737 032320      ;380$: JSR      PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
      9857
      9858 070756 103010          BCC      390$                    ; ERROR ?
      9859 070760          FTL
      070760 004737 031010          JSR      PC,CHKFTL              ; 'FATL' BIT SET?
      9860 070764          ERRHRD  485.,ERR006,MSG003  ; YES, REPORT ERROR
      070764 104456
      070766 000745
      070770 025124
      070772 024032
      9861 070774          ESCAPE  TST              ; AND ABORT TEST
      070774 104410
      070776 001702
      9862
      9863          ;REWRITE DEFAULT PHYSICAL ADDRESS
      9864
      9865 071000      390$:
      9866 071000 012705 002274      MOV      #DEFAULT,R5          ; GET DEFAULT PHYSICAL ADDRESS
      9867 071004 004737 033724      JSR      PC,LDPHYA          ; SAVE IT IN DEFAULT TABLE
      9868 071010 012705 014502      MOV      #WTPHYA,R5        ; DEFAULT WRITE PHYSICAL ADDR FUNC
      9869 071014 004737 033656      JSR      PC,LDPCBB         ; LOAD FUNCTION -> PCBB
      9870 071020 012777 004100 111200  MOV      #DNI!INTE,@PCSR0   ; ENABLE INTERRUPTS
      9871 071026 112777 000102 111172  MOVB    #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
      9872 071034 004737 030706      JSR      PC,CHKDNI        ; DNI ?
      9873 071040 103010          BCC      400$                    ; YES
      9874 071042          FTL
      071042 004737 031010          JSR      PC,CHKFTL              ; 'FATL' BIT SET?
      9875 071046          ERRHRD  486.,ERR010,MSG003  ; NO, REPORT ERROR
      071046 104456
      071050 000746
      071052 025425
      071054 024032
      9876 071056          ESCAPE  TST              ; AND ABORT TEST
      071056 104410
      071060 001620
      9877
      9878 071062 004737 032320      ;400$: JSR      PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
      9879
      9880 071066 103010          BCC      410$                    ; ERROR ?
      9881 071070          FTL
      071070 004737 031010          JSR      PC,CHKFTL              ; 'FATL' BIT SET?

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9882 071074          ERPHRD  487.,ERR006,MSG003      ; YES, REPORT ERROR
      071074 104456
      071076 000747
      071100 025124
      071102 024032
9883 071104          ESCAPE  TST              ; AND ABORT TEST
      071104 104410
      071106 001572
9884
9885      ;DO TEN LOOPS WITH DEST ADDR = MULTICAST ADDRESS
9886
9887 071110          ;10$:
9888 071110 004737 032272      JSR      PC,CLRCV          ; CLEAR RECEIVE BUFFER
9889 071114 012704 000012      MOV      #10.,R4          ; DO LOOP = TEN
9890 071120 012702 020076      MOV      #MULTL,R2       ; R2 POINTS TO MULTICAST LIST
9891
9892      ;SET UP RINGS FOR ONE BUFFER LOOPBACK
9893
9894 071124          ;20$:
9895 071124 012705 016412      MOV      #TDRB1A,R5      ; DEFAULT ONE BUFFER TRANSMIT RING
9896 071130 004737 034040      JSR      PC,LDTDRB       ; LOAD TDRB
9897 071134 012705 014752      MOV      #RDRB1A,R5     ; DEFAULT ONE BUFFER RECEIVE RING
9898 071140 004737 033744      JSR      PC,LDRDRB       ; LOAD RDRB
9899
9900      ;SET UP BUFFERS AND START
9901
9902 071144 012701 002266      MOV      #SRC,R1         ; SOURCE = DEFAULT PHYS. ADDRESS
9903 071150 004737 035062      JSR      PC,SRCDST       ; DEST = MULTICAST ADDRESS
9904 071154 005037 020564      CLR      DDCRC           ; NO APPEND CRC
9905 071160 012737 000006 020562  MOV      #6,BYTCNT       ; BYTES/PACKET
9906 071166 004737 034662      JSR      PC,SETBUF       ; SET UP BUFFERS
9907 071172 012777 004100 111026  MOV      #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
9908 071200 112777 000104 111020  MOV      #INTE!START,@PCSR0 ; ISSUE START PORT COMMAND
9909 071206 004737 030706      JSR      PC,CHKDNI       ; DNI?
9910 071212 103010          BCC      430$            ; YES
9911 071214          FTL
      071214 004737 031010      JSR      PC,CHKFTL       ; 'FATL' BIT SET?
9912 071220          ERRHRD  490.,ERR012,MSG003      ; NO, REPORT ERROR
      071220 104456
      071222 000752
      071224 025543
      071226 024032
9913 071230          ESCAPE  TST              ; AND ABORT TEST
      071230 104410
      071232 001446
9914
9915 071234 004737 032320      ;430$: JSR      PC,CLRDN1     ; WRITE ONE TO CLEAR DNI
9916
9917 071240 103010          BCC      440$            ; ERROR ?
9918 071242          FTL
      071242 004737 031010      JSR      PC,CHKFTL       ; 'FATL' BIT SET?
9919 071246          ERRHRD  491.,ERR006,MSG003      ; YES, REPORT ERROR
      071246 104456

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TRAP  C$ERHRD
.WORD 487
.WORD ERR006
.WORD MSG003

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TRAP  C$ESCAPE
.WORD L10054-.

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```

TRAP  C$ERHRD
.WORD 490
.WORD ERR012
.WORD MSG003

```

```

TRAP  C$ESCAPE
.WORD L10054.

```

```

TRAP  C$ERHRD

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L8

	071250	000753						.WORD	491
	071252	025124						.WORD	ERR006
	071254	024032						.WORD	MSG003
9920	071256				ESCAPE	TST			; AND ABORT TEST
	071256	104410						TRAP	C\$ESCAPE
	071260	001420						.WORD	L10054--
9921									
9922	071262	004737	031724	i	JSR	PC,CHKTXI			; TXI ?
9923	071266	103010		440\$:	BCC	450\$; YES
9924	071270				FTL				
	071270	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
9925	071274				ERRHRD	492.,ERR013,MSG003			; NO, REPORT ERROR
	071274	104456						TRAP	C\$ERRHRD
	071276	000754						.WORD	492
	071300	025624						.WORD	ERR013
	071302	024032						.WORD	MSG003
9926	071304				ESCAPE	TST			; AND ABORT TEST
	071304	104410						TRAP	C\$ESCAPE
	071306	001372						.WORD	L10054--
9927									
9928	071310	004737	032502	i	JSR	PC,CLRTXI			; WRITE ONE TO CLEAR TXI
9929				450\$:					; ERROR ?
9930	071314	103010			BCC	470\$; NO
9931	071316				FTL				
	071316	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
9932	071322				ERRHRD	493.,ERR014,MSG003			; YES, REPORT ERROR
	071322	104456						TRAP	C\$ERRHRD
	071324	000755						.WORD	493
	071326	025655						.WORD	ERR014
	071330	024032						.WORD	MSG003
9933	071332				ESCAPE	TST			; AND ABORT TEST
	071332	104410						TRAP	C\$ESCAPE
	071334	001344						.WORD	L10054--
9934									
9935	071336	012705	002622	i	MOV	#TDRB,R5			; CHECK TDRB OWNERSHIP
9936	071342	004737	031162	470\$:	JSR	PC,CHKOWN			; OWN = PORT DRIVER ?
9937	071346	103010			BCC	480\$; YES
9938	071350				FTL				
	071350	004737	031010		JSR	PC,CHKFTL			; 'FATL' BIT SET?
9939	071354				ERRHRD	494.,ERR018			; NO, REPORT ERROR
	071354	104456						TRAP	C\$ERRHRD
	071356	000756						.WORD	494
	071360	026122						.WORD	ERR018
	071362	000000						.WORD	0
9940	071364				ESCAPE	TST			; AND ABORT TEST
	071364	104410						TRAP	C\$ESCAPE
	071366	001312						.WORD	L10054--
9941									
9942	071370	012705	020266	i	MOV	#TDR14A,R5			; POINT TO EXPECTED TDRB
9943	071374	004737	034244	480\$:	JSR	PC,LDXTDR			; LOAD INTO XTDRB0 TABLE
9944	071400	012705	002622		MOV	#TDRB,R5			; CHECK TDRB


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071700 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
10001 071704      ERRHRD  504.,ERR019,MSG003 ; NO, REPORT ERROR
071704 104456      TRAP   C$ERHRD
071706 000770      .WORD  504
071710 026222      .WORD  ERR019
071712 024032      .WORD  MSG003
10002 071714      ESCAPE  TST            ; AND ABORT TEST
071714 104410      TRAP   C$ESCAPE
071716 000762      .WORD  L10054-.
10003
10004 071720 004737 032320 560$: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
10005
10006 071724 103010      BCC     565$          ; ERROR ?
10007 071726      FTL
; NO
071726 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
10008 071732      ERRHRD  505.,ERR006,MSG003 ; YES, REPORT ERROR
071732 104456      TRAP   C$ERHRD
071734 000771      .WORD  505
071736 025124      .WORD  ERR006
071740 024032      .WORD  MSG003
10009 071742      ESCAPE  TST            ; AND ABORT TEST
071742 104410      TRAP   C$ESCAPE
071744 000734      .WORD  L10054 .
10010
10011 071746      565$:
10012 071746 004737 032272      JSR      PC,CLRCV      ; CLEAR RECEIVE BUFFER
10013 071752 062702 000006      ADD     #6,R2          ; UPDATE R2
10014 071756 062703 000004      ADD     #4,R3          ; UPDATE R3
10015 071762 005304      DEC     R4             ; DONE TEN LOOPBACKS
10016 071764 001402      BEQ     566$          ; YES
10017 071766 000137 071124      JMP     420$          ; NO
10018
10019
10020
;DO TEN LOOPS WITH DEST ADDRESS = COMPLIMENTED MULTICAST ADDRESS
10021
566$: MOV     #10.,R4      ; DO LOOP = TEN
10022 071772 012704 000012      MOV     #MULTLC,R2    ; R2 POINTS TO COMPLIMENTED LIST
10023 071776 012702 020172
;SET UP RINGS FOR ONE BUFFER LOOPBACK
10024
10025
570$: MOV     #TDRB1A,R5   ; DEFAULT ONE BUFFER TRANSMIT RING
10027 072002      JSR     PC,LDTDRB    ; LOAD TDRB
10028 072002 012705 016412      MOV     #RDRB1A,R5   ; DEFAULT ONE BUFFER RECEIVE RING
10029 072006 004737 034040      JSR     PC,LDRDRB    ; LOAD RDRB
10030 072012 012705 014752
10031 072016 004737 033744
;SET UP BUFFERS AND START
10032
10033
10034
10035 072022 012701 002266      MOV     #SRC,R1      ; SOURCE = DEF PHYSICAL ADDR
10036 072026 004737 035062      JSR     PC,SRCDST    ; DEST = COMPL MULTICAST ADDR
10037 072032 005037 020564      CLR     D0CRC        ; NO APPEND CRC
10038 072036 012737 000006 020562      MOV     #6,BYTCNT    ; BYTES/PACKET
10039 072044 004737 034662      JSR     PC,SETBUF    ; SET UP BUFFERS
10040 072050 012777 004100 110150      MOV     #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS

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 TEST 22: PROMISCUOUS ADDRESS MODE TEST

SEQ 313

10041	072056	112777	000104	110142	MOVB	#INTE!START,@PCSR0	; ISSUE START PORT COMMAND		
10042	072064	004737	030706		JSR	PC,CHKDNI	; DNI?		
10043	072070	103010			BCC	580\$; YES		
10044	072072				FTL				
	072072	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
10045	072076				ERRHRD	506..ERR012,MSG003	; NO, REPORT ERROR		
	072076	104456						TRAP	C\$ERHRD
	072100	000772						.WORD	506
	072102	025543						.WORD	ERR012
	072104	024032						.WORD	MSG003
10046	072106				ESCAPE	TST	; AND ABORT TEST		
	072106	104410						TRAP	C\$ESCAPE
	072110	000570						.WORD	L10054 .
10047									
10048	072112	004737	032320		JSR	PC,CLRDNI	; WRITE ONE TO CLEAR DNI		
10049				580\$:			; ERROR ?		
10050	072116	103010			BCC	590\$; NO		
10051	072120				FTL				
	072120	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
10052	072124				ERRHRD	507.,ERR006,MSG003	; YES, REPORT ERROR		
	072124	104456						TRAP	C\$ERHRD
	072126	000773						.WORD	507
	072130	025124						.WORD	ERR006
	072132	024032						.WORD	MSG003
10053	072134				ESCAPE	TST	; AND ABORT TEST		
	072134	104410						TRAP	C\$ESCAPE
	072136	000542						.WORD	L10054-.
10054									
10055	072140	004737	031724		JSR	PC,CHKTXI	; TXI ?		
10056	072144	103010		590\$:	BCC	600\$; YES		
10057	072146				FTL				
	072146	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
10058	072152				ERRHRD	510.,ERR013,MSG003	; NO, REPORT ERROR		
	072152	104456						TRAP	C\$ERHRD
	072154	000776						.WORD	510
	072156	025624						.WORD	ERR013
	072160	024032						.WORD	MSG003
10059	072162				ESCAPE	TST	; AND ABORT TEST		
	072162	104410						TRAP	C\$ESCAPE
	072164	000514						.WORD	L10054-.
10060									
10061	072166	004737	032502		JSR	PC,CLRTXI	; WRITE ONE TO CLEAR TXI		
10062				600\$:			; ERROR ?		
10063	072172	103010			BCC	610\$; NO		
10064	072174				FTL				
	072174	004737	031010		JSR	PC,CHKFTL	; 'FATL' BIT SET?		
10065	072200				ERRHRD	511.,ERR014,MSG003	; YES, REPORT ERROR		
	072200	104456						TRAP	C\$ERHRD
	072202	000777						.WORD	511

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072204 025655 .WORD ERRO14
072206 024032 .WORD MSG003
10066 072210 ESCAPE TST ; AND ABORT TEST
072210 104410 TRAP C$ESCAPE
072212 000466 .WORD L10054 .
10067
10068 072214 012705 002622 ; 610$: MOV #TDRB,R5 ; CHECK TDRB OWNERSHIP
10069 072220 004737 031162 JSR PC,CHKOWN ; OWN = PCRT DRIVER ?
10070 072224 103010 BCC 620$ ; YES
10071 072226 FTL
072226 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
10072 072232 ERRHRD 512.,ERR018 ; NO, REPORT ERROR
072232 104456 TRAP C$ERHRD
072234 001000 .WORD 512
072236 026122 .WORD ERR018
072240 000000 .WORD 0
10073 072242 ESCAPE TST ; AND ABORT TEST
072242 104410 TRAP C$ESCAPE
072244 000434 .WORD L10054 .
10074
10075 072246 012705 020266 ; 620$: MOV #TDR14A,R5 ; POINT TO EXPECTED TDRB
10076 072252 004737 034244 JSR PC,LDXTDR ; LOAD INTO XTDRBO TABLE
10077 072256 012705 002622 MOV #TDRB,R5 ; CHECK TDRB
10078 072262 004737 031636 JSR PC,CHKTDR ; ERRORS ?
10079 072266 103010 BCC 630$ ; NO
10080 072270 FTL
072270 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
10081 072274 ERRHRD 513.,ERR020,MSG005 ; YES, REPORT ERROR
072274 104456 TRAP C$ERHRD
072276 001001 .WORD 513
072300 026302 .WORD ERR020
072302 024136 .WORD MSG005
10082 072304 ESCAPE TST ; AND ABORT TEST
072304 104410 TRAP C$ESCAPE
072306 000372 .WORD L10054 .
10083
10084 072310 004737 031454 ; 630$: JSR PC,CHKRXI ; RXI ?
10085 072314 103010 BCC 640$ ; YES
10086 072316 FTL
072316 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
10087 072322 ERRHRD 514.,ERR015,MSG003 ; NO, REPORT ERROR
072322 104456 TRAP C$ERHRD
072324 001002 .WORD 514
072326 025723 .WORD ERR015
072330 024032 .WORD MSG003
10088 072332 ESCAPE TST ; AND ABORT TEST
072332 104410 TRAP C$ESCAPE
072334 000344 .WORD L10054-.
10089
10090 072336 004737 032434 ; 640$: JSR PC,CLRRXI ; WRITE ONE TO CLEAR RXI
10091 FTL ; ERROR ?

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10092 072342 103010          BCC      650$          ; NO
10093 072344                FTL
                                JSR      PC,CHKFTL        ; 'FATL' BIT SET?
                                JSR      PC,CHKFTL        ; 'FATL' BIT SET?
                                ERRHRD   515.,ERR016,MSG003 ; YES, REPOFT ERROR
10094 072350                TRAP      C$ERHRD
                                072350 104456                .WORD   515
                                072352 001003                .WORD   ERR016
                                072354 025754                .WORD   MSG003
                                072356 024032
10095 072360                ESCAPE   TST          ; AND ABORT TEST
                                072360 104410                TRAP      C$ESCAPE
                                072362 000316                .WORD   L10054-.
10096
10097 072364 012705 002662    ;650$: MOV      #RDRB,R5          ; CHECK RDRB OWNERSHIP
10098 072370 004737 031162    JSR      PC,CHKOWN        ; OWN = PORT DRIVER ?
10099 072374 103010          BCC      660$          ; YES
10100 072376                FTL
                                JSR      PC,CHKFTL        ; 'FATL' BIT SET?
                                JSR      PC,CHKFTL        ; 'FATL' BIT SET?
                                ERRHRD   516.,ERR017        ; NO, REPORT ERROR
10101 072402                TRAP      C$ERHRD
                                072402 104456                .WORD   516
                                072404 001004                .WORD   ERR017
                                072406 026022                .WORD   0
                                072410 000000
10102 072412                ESCAPE   TST          ; AND ABORT TEST
                                072412 104410                TRAP      C$ESCAPE
                                072414 000264                .WORD   L10054 .
10103
10104 072416 012705 020456    ;660$: MOV      #RDR20C,R5 ; POINT TO EXPECTED RDRB
10105 072422 012705 002662    MOV      #RDRB,R5        ; CHECK RDRB
10106 072426 004737 031344    JSR      PC,CHKRDR        ; ERRORS ?
10107 072432 103010          BCC      670$          ; NO
10108 072434                FTL
                                JSR      PC,CHKFTL        ; 'FATL' BIT SET?
                                JSR      PC,CHKFTL        ; 'FATL' BIT SET?
                                ERRHRD   517.,ERR021,MSG006 ; YES, REPORT ERROR
10109 072440                TRAP      C$ERHRD
                                072440 104456                .WORD   517
                                072442 001005                .WORD   ERR021
                                072444 026363                .WORD   MSG006
                                072446 024300
10110 072450                ESCAPE   TST          ; AND ABORT TEST
                                072450 104410                TRAP      C$ESCAPE
                                072452 000226                .WORD   L10054-.
10111
10112                        ;COMPARE RBUF WITH TBUF
10113
10114 072454 013705 020562    ;670$: MOV      BYTCNT,R5 ; COMPARE DATA
10115 072460 004737 032646    JSR      PC,CMPDAT        ; DATA COMPARE ERROR ?
10116 072464 103006          BCC      680$          ; NO
10117 072466                ERRHRD   520.,ERR022,MSG007 ; YES, REPORT ERROR
                                072466 104456                TRAP      C$ERHRD
                                072470 001010                .WORD   520
                                072472 026444                .WORD   ERR022
                                072474 024442                .WORD   MSG007

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10118 072476          ESCAPE TST          ; AND ABORT TEST          TRAP      C$ESCAPE
      072476 104410          ;                          .WORD     L10054-.
      072500 000200          ;

10119          ;
10120 072502          ; 680$:
10121 072502 012705 010474  MOV      #RBUF+26.,R5      ; CHECK CRC
10122 072506 004737 032576  JSR      PC,CMPCRC        ; ERRORS ?
10123 072512 103006          BCC      690$             ; NO
10124 072514          ERRHRD 521.,ERR023,MSG008 ; YES, REPORT ERROR          TRAP      C$ERHRD
      072514 104456          ;                          .WORD     521
      072516 001011          ;                          .WORD     ERR023
      072520 026513          ;                          .WORD     MSG008
10125 072524          ESCAPE TST          ; AND ABORT TEST          TRAP      C$ESCAPE
      072524 104410          ;                          .WORD     L10054.
      072526 000152          ;

10126          ;
10127 072530          ; 690$:
10128 072530 012777 004100 107470  MOV      #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10129 072536 112777 000117 107462  MOVB    #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
10130 072544 004737 030706          JSR      PC,CHKDNI        ; DNI ?
10131 072550 103010          BCC      700$             ; YES
10132 072552          FTL
      072552 004737 031010          JSR      PC,CHKFTL        ; 'FATL' BIT SET?
10133 072556          ERRHRD 522.,ERR019,MSG003 ; NO, REPORT ERROR          TRAP      C$ERHRD
      072556 104456          ;                          .WORD     522
      072560 001012          ;                          .WORD     ERR019
      072562 026222          ;                          .WORD     MSG003
10134 072566          ESCAPE TST          ; AND ABORT TEST          TRAP      C$ESCAPE
      072566 104410          ;                          .WORD     L10054-.
      072570 000110          ;

10135          ;
10136 072572 004737 032320  ; 700$:
10137          JSR      PC,CLR0NI        ; WRITE ONE TO CLEAR DNI
10138 072576 103010          BCC      710$             ; ERROR ?
10139 072600          FTL
      072600 004737 031010          JSR      PC,CHKFTL        ; 'FATL' BIT SET?
10140 072604          ERRHRD 523.,ERR006,MSG003 ; YES, REPORT ERROR          TRAP      C$ERHRD
      072604 104456          ;                          .WORD     523
      072606 001013          ;                          .WORD     ERR006
      072610 025124          ;                          .WORD     MSG003
10141 072614          ESCAPE TST          ; AND ABORT TEST          TRAP      C$ESCAPE
      072614 104410          ;                          .WORD     L10054-.
      072616 000062          ;

10142          ;
10143 072620          ; 710$:
10144 072620 004737 032272  JSR      PC,CLRCV        ; CLEAR RECEIVE BUFFER
10145 072624 062702 000006  ADD      #6,R2            ; UPDATE R2
10146 072630 062703 000004  ADD      #4,R3            ; UPDATE R3
10147 072634 005304          DEC      R4                ; DONE TEN LOOPBACKS
10148 072636 001402          BEQ      900$             ; YES

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G9

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10149 072640 000137 072002          JMP      570$          ; NO
10150                                     ;
10151 072644          ;900$:
10152                                     ;
10153 072644          EXIT      TST
      072644 104432
      072646 000032          TRAP      C$EXIT
                                .WORD    L10054-.
10154
10155          ;LOCAL TEST MESSAGE
10156
10157 072650          104      105      114      T22ID: .ASCIZ 'DELUA PROMISCUOUS MODE '
      072653          125      101      040
      072656          120      122      117
      072661          115      111      123
      072664          103      125      117
      072667          125      123      040
      072672          115      117      104
      072675          105      040      000
10158          .EVEN
10159
10160 072700          ENDTST
      072700
      072700 104401          L10054: TRAP      C$ETST

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10196 072702
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10198 072702

072702 012704 075130
072706 004737 034610

10199 072712 004737 035310
10200 072716 103034
10201 072720 012777 004100 107300
10202 072726 112777 000140 107272
10203 072734 004737 032034
10204 072740 103010
10205 072742

072742 004737 031010

10206 072746
072746 104456
072750 001014

.SBTTL TEST 23: ENABLE ALL MULTICAST MODE TEST

THIS TEST VERIFIES THAT ENABLE ALL MULTICAST MODE IS OPERATIONAL. A WRITE MULTICAST ADDRESS LIST FUNCTION IS USED TO SET THE DELUA'S MULTICAST ADDRESS LIST. INTERNAL LOOPBACKS ARE THEN PERFORMED WITH CURRENTLY ENABLED AND THEN CURRENTLY DISABLED MULTICAST DESTINATION ADDRESSES. ALL LOOPBACKS ARE VERIFIED FOR SUCCESSFUL RECEPTION.

TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK and ENABLE ALL MULTICAST MODE
2. WRITE RING FORMAT
3. WRITE PHYSICAL ADDRESS
4. WRITE MULTICAST ADDRESS LIST
5. SET UP RINGS AND BUFFERS WITH DESTINATION ADDRESS = MULTICAST ADDRESS
6. ISSUE START
7. CHECK FOR ERRORS
8. ISSUE STOP
9. REPEAT STEPS 5 - 8 FOR ALL TEN LIST ENTRIES
10. SET UP RINGS AND BUFFERS WITH DESTINATION ADDRESS = COMPLIMENTED MULTICAST ADDRESS
11. ISSUE START
12. CHECK FOR ERRORS
13. ISSUE STOP
14. REPEAT STEPS 10 - 13 FOR ALL TEN ENTRIES

BGNTST

T23::

PNTMAC T23ID

MOV #T23ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

END OF MACRO EXPANSION OF 'PNTMAC'

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
MOVB #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

JSR PC,CHKFTL ; 'FATL' BIT SET?

ERRHRD 524.,ERR042,MSG003 ; NO, REPORT ERROR

TRAP :80
.WORD C\$ERRHRD
524

	072752	030105							.WORD	ERR042
	072754	024032							.WORD	MSG003
10207	072756				ESCAPE	TST				; AND ABORT TEST
	072756	104410							TRAP	C\$ESCAPE
	072760	002212							WORD	L10055-
10208										
10209	072762	004737	032320	i	JSR	PC,CLRDN1				; WRITE ONE TO CLEAR DNI
10210				20\$:						; ERROR ?
10211	072766	103010			BCC	30\$; NO
10212	072770				FTL					
	072770	004737	031010		JSR	PC,CHKFTL				; 'FATL' BIT SET?
10213	072774				ERRHRD	525.,ERR006,MSG003				; YES, REPORT ERROR
	072774	104456							TRAP	C\$ERHRD
	072776	001015							.WORD	525
	073000	025124							.WORD	ERR006
	073002	024032							.WORD	MSG003
10214	073004				ESCAPE	TST				; AND ABORT TEST
	073004	104410							TRAP	C\$ESCAPE
	073006	002164							.WORD	L10055-
10215										
10216	073010			i						30\$:
10217	073010	004737	032246		JSR	PC,CLRBUF				; CLEAR RBUF AND TBUF
10218	073014	004737	033606		JSR	PC,LDDFLT				; LOAD DEFAULT PHY ADDRESS TABLES
10219	073020	004737	033706		JSR	PC,LDPCSR				; ADDRESS OF PCBB -> PCSR2!3
10220	073024	012777	004100	107174	MOV	#DNI!INTE,@PCSR0				; ENABLE INTERRUPTS
10221	073032	112777	000101	107166	MOVB	#INTE!GETPCB,@PCSR0				; ISSUE GET_PCBB PORT COMMAND
10222	073040	004737	030706		JSR	PC,CHKDNI				; DNI?
10223	073044	103010			BCC	40\$; YES
10224	073046				FTL					
	073046	004737	031010		JSR	PC,CHKFTL				; 'FATL' BIT SET?
10225	073052				ERRHRD	526.,ERR009,MSG003				; NO, REPORT ERROR
	073052	104456							TRAP	C\$ERHRD
	073054	001016							.WORD	526
	073056	025341							.WORD	ERR009
	073060	024032							.WORD	MSG003
10226	073062				ESCAPE	TST				; AND ABORT TEST
	073062	104410							TRAP	C\$ESCAPE
	073064	002106							.WORD	L10055.
10227										
10228	073066	004737	032320	i	JSR	PC,CLRDN1				; WRITE ONE TO CLEAR DNI
10229				40\$:						; ERROR ?
10230	073072	103010			BCC	50\$; NO
10231	073074				FTL					
	073074	004737	031010		JSR	PC,CHKFTL				; 'FATL' BIT SET?
10232	073100				ERRHRD	527.,ERR006,MSG003				; YES, REPORT ERROR
	073100	104456							TRAP	C\$ERHRD
	073102	001017							.WORD	527
	073104	025124							.WORD	ERR006
	073106	024032							.WORD	MSG003
10233	073110				ESCAPE	TST				; AND ABORT TEST
	073110	104410							TRAP	C\$ESCAPE


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073112 002060 .WORD L10055 .
10234
10235 ;WRITE MODE REGISTER = INTERNAL LOOPBACK
10236 ; and ENABLE ALL MULTICAST MODE
10237
10238 073114 012705 014602 50$: MOV #WTMODE,R5 ; DEFAULT WRITE MODE FUNCTION
10239 073120 004737 033656 JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
10240 073124 013737 020476 002304 MOV MODE24,PCBB+2 ; MODE = INTL LOOPBACK AND ENAL
10241 073132 012777 004100 107066 MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10242 073140 112777 000102 107066 MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
10243 073146 004737 030706 JSR PC,CHKDNI ; DNI ?
10244 073152 103010 BCC 60$ ; YES
10245 073154 FTL

073154 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

10246 073160 ERRHRD 530.,ERR010,MSG003 ; NO, REPORT ERROR
073160 104456 TRAP C$ERHRD
073162 001022 .WORD 530
073164 025425 .WORD ERR010
073166 024032 .WORD MSG003
10247 073170 ESCAPE TST ; AND ABORT TEST
073170 104410 TRAP C$ESCAPE
073172 002000 .WORD L10055-.

10248
10249 073174 004737 032320 60$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
10250 BCC 70$ ; ERROR ?
10251 073200 103010 FTL ; NO
10252 073202

073202 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

10253 073206 ERRHRD 531.,ERR006,MSG003 ; YES, REPORT ERROR
073206 104456 TRAP C$ERHRD
073210 001023 .WORD 531
073212 025124 .WORD ERR006
073214 024032 .WORD MSG003
10254 073216 ESCAPE TST ; AND ABORT TEST
073216 104410 TRAP C$ESCAPE
073220 001752 .WORD L10055-.

10255
10256 ;WRITE RING FORMAT
10257 073222 012705 014542 70$: MOV #WTRNGS,R5 ; DEFAULT WRITE RING FORMAT FUNCTION
10258 073226 004737 033656 JSR PC,LDPCBB ; LOAD FUNCTION -> PCBB
10259 073232 012705 014706 MOV #RFRMT,R5 ; DEFAULT RING FORMAT
10260 073236 012700 000006 MOV #6,R0 ; FORMAT = SIX WORDS
10261 073242 004737 034134 JSR PC,LDUDBB ; LOAD RING FORMAT -> UDBB
10262 073246 012777 004100 106752 MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10263 073254 112777 000102 106744 MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
10264 073262 004737 030706 JSR PC,CHKDNI ; DNI ?
10265 073266 103010 BCC 80$ ; YES
10266 073270

073270 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

10267 073274 ERRHRD 532.,ERR010,MSG003 ; NO, REPORT ERROR
073274 104456 TRAP C$ERHRD

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      073276 001024                                .WORD 532
      073300 025425                                .WORD ERR010
      073302 024032                                .WORD MSG003
10268 073304                                ESCAPE TST ; AND ABORT TEST
      073304 104410                                TRAP C$ESCAPE
      073306 001664                                .WORD L10055-.

10269
10270 073310 004737 032320      80$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
10271                                ; ERROR ?
10272 073314 103010            BCC 90$ ; NO
10273 073316                                FTL

      073316 004737 031010            JSR PC,CHKFTL ; 'FATL' BIT SET?

10274 073322                                ERRHRD 533.,ERR006,MSG003 ; YES, REPORT ERROR
      073322 104456                                TRAP C$ERHRD
      073324 001025                                .WORD 533
      073326 025124                                .WORD ERR006
      073330 024032                                .WORD MSG003
10275 073332                                ESCAPE TST ; AND ABORT TEST
      073332 104410                                TRAP C$ESCAPE
      073334 001636                                .WORD L10055-.

10276
10277                                ;WRITE PHYSICAL ADDRESS
10278
10279 073336      90$: MOV #DFULT,R5 ; POINT TO DEFAULT PHYS. ADDRESS
10280 073336 012705 002274 JSR PC,LDPHYA ; SAVE DEF PHY ADDR IN DEF TABLE
10281 073342 004737 033724 JSR PC,LDPHYA,R5 ; DEFAULT WRITE PHYSICAL ADDR FUNC
10282 073346 012705 014502 MOV #WTPHYA,R5 ; LOAD FUNCTION > PCBB
10283 073352 004737 033656 JSR PC,LDPCCBB ; ENABLE INTERRUPTS
10284 073356 012777 004100 106642 MOV #DNI!INTE,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
10285 073364 112777 000102 106634 MOVB #INTE!GETCMD,@PCSR0 ; DNI ?
10286 073372 004737 030706 JSR PC,CHKDNI ; YES
10287 073376 103010 BCC 100$
10288 073400                                FTL

      073400 004737 031010            JSR PC,CHKFTL ; 'FATL' BIT SET?

10289 073404                                ERRHRD 534.,ERR010,MSG003 ; NO, REPORT ERROR
      073404 104456                                TRAP C$ERHRD
      073406 001026                                .WORD 534
      073410 025425                                .WORD ERR010
      073412 024032                                .WORD MSG003
10290 073414                                ESCAPE TST ; AND ABORT TEST
      073414 104410                                TRAP C$ESCAPE
      073416 001554                                .WORD L10055 .

10291
10292 073420 004737 032320      100$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
10293                                ; ERROR ?
10294 073424 103010            BCC 102$ ; NO
10295 073426                                FTL

      073426 004737 031010            JSR PC,CHKFTL ; 'FATL' BIT SET?

10296 073432                                ERRHRD 535.,ERR006,MSG003 ; YES, REPORT ERROR
      073432 104456                                TRAP C$ERHRD
      073434 001027                                .WORD 535

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073436 025124 .WORD ERRO06
073440 024032 .WORD MSG003
10297 073442 ESCAPE TST ; AND ABORT TEST
073442 104410 TRAP C$ESCAPE
073444 001526 .WORD L10055-.

10298 ;
10299 ;WRITE MULTICAST ADDRESS LIST
10300
10301 073446 012705 014522 102$: MOV #WTMULA,R5 ; DEFAULT WRITE MULTICAST ADDR FUNC
10302 073452 004737 033656 JSR PC,LDPCCB ; LOAD FUNCTION -> PCBB
10303 073456 012705 020076 MOV #MULTL,R5 ; LOAD LIST INTO UDBB
10304 073462 012700 000036 MOV #30,R0 ; LOAD 30 ENTRIES
10305 073466 004737 034134 JSR PC,LDUDBB ; MULTICAST LIST -> UDBB
10306 073472 012777 004100 106526 MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10307 073500 112777 000102 106520 MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
10308 073506 004737 030706 JSR PC,CHKDNI ; DNI ?
10309 073512 103010 BCC 104$ ; YES
10310 073514 FTL

073514 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

10311 073520 ERRHRD 536.,ERR010,MSG003 ; NO, REPORT ERROR
073520 104456 TRAP C$ERHRD
073522 001030 .WORD 536
073524 025425 .WORD ERR010
073526 024032 .WORD MSG003
10312 073530 ESCAPE TST ; AND ABORT TEST
073530 104410 TRAP C$ESCAPE
073532 001440 .WORD L10055-.

10313 ;
10314 073534 004737 032320 104$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
10315 ; ERROR ?
10316 073540 103010 BCC 106$ ; NO
10317 073542 FTL

073542 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

10318 073546 ERRHRD 537.,ERR006,MSG003 ; YES, REPORT ERROR
073546 104456 TRAP C$ERHRD
073550 001031 .WORD 537
073552 025124 .WORD ERRO06
073554 024032 .WORD MSG003
10319 073556 ESCAPE TST ; AND ABORT TEST
073556 104410 TRAP C$ESCAPE
073560 001412 .WORD L10055 .

10320 ;
10321 ;DO TEN LOOPS WITH DEST ADDR = MULTICAST ADDRESS
10322 ;
10323 073562 106$: JSR PC,CLRCV ; CLEAR RECEIVE BUFFER
10324 073562 004737 032272 MOV #10.,R4 ; DO LOOP = TEN
10325 073566 012704 000012 MOV #MULTL,R2 ; R2 POINTS TO MULTICAST LIST
10326 073572 012702 020076
10327 ;
10328 ;SET UP RINGS FOR ONE BUFFER LOOPBACK
10329 ;
10330 073576 012705 016412 110$: MOV #TDRB1A,R5 ; DEFAULT ONE BUFFER TRANSMIT RING
10331 073602 004737 034040 JSR PC,LDTDRB ; LOAD TDRB

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10332 073606 012705 014752      MOV      #RDRB1A,R5      ; DEFAULT ONE BUFFER RECEIVE RING
10333 073612 004737 033744      JSR      PC,LDRDRB      ; LOAD RDRB
10334
10335      ;SET UP BUFFERS AND START
10336
10337 073616 012701 002266      MOV      #SRC,R1        ; SOURCE = PHYSICAL ADDRESS
10338 073622 004737 035062      JSR      PC,SRCDST      ; DEST = MULTICAST ADDRESS
10339 073626 005037 020564      CLR      D0CRC          ; NO APPEND CRC
10340 073632 012737 000006 020562      MOV      #6,BYTCNT      ; BYTES/PACKET
10341 073640 004737 034662      JSR      PC,SETBUF      ; SET UP BUFFERS
10342 073644 012777 004100 106354      MOV      #DNI!INTE,@PCSRO ; ENABLE INTERRUPTS
10343 073652 112777 000104 106346      MOVB    #INTE!START,@PCSRO ; ISSUE START PORT COMMAND
10344 073660 004737 030706      JSR      PC,CHKDNI      ; DNI?
10345 073664 103010      BCC     120$           ; YES
10346 073666
      073666 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
10347 073672      ERRHRD  540.,ERR012,MSG003 ; NO, REPORT ERROR
      073672 104456      TRAP    C$ERHRD
      073674 001034      .WORD  540
      073676 025543      .WORD  ERR012
      073700 024032      .WORD  MSG003
10348 073702      ESCAPE  TST           ; AND ABORT TEST
      073702 104410      TRAP    C$ESCAPE
      073704 001266      .WORD  L10055-.
10349
10350 073706 004737 032320      i120$: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
10351
10352 073712 103010      BCC     130$           ; ERROR ?
10353 073714      FTL
      073714 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
10354 073720      ERRHRD  541.,ERR006,MSG003 ; YES, REPORT ERROR
      073720 104456      TRAP    C$ERHRD
      073722 001035      .WORD  541
      073724 025124      .WORD  ERR006
      073726 024032      .WORD  MSG003
10355 073730      ESCAPE  TST           ; AND ABORT TEST
      073730 104410      TRAP    C$ESCAPE
      073732 001240      .WORD  L10055 .
10356
10357 073734 004737 03' 4      i130$: JSR      PC,CHKTXI      ; TXI ?
10358 073740 103010      BCC     140$           ; YES
10359 073742      FTL
      073742 004737 031010      JSR      PC,CHKFTL      ; 'FATL' BIT SET?
10360 073746      ERRHRD  542.,ERR013,MSG003 ; NO, REPORT ERROR
      073746 104456      TRAP    C$ERHRD
      073750 001036      .WORD  542
      073752 025624      .WORD  ERR013
      073754 024032      .WORD  MSG003
10361 073756      ESCAPE  TST           ; AND ABORT TEST
      073756 104410      TRAP    C$ESCAPE
      073760 001212      .WORD  L10055-.

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10362											
10363	073762	004737	032502	i140\$:	JSR	PC,CLRTXI					
10364											
10365	073766	103010			BCC	150\$					
10366	073770				FTL						
	073770	004737	031010		JSR	PC,CHKFTL					
10367	073774				ERRHRD	543.,ERR014,MSG003					
	073774	104456							TRAP	C\$ERHRD	
	073776	001037							.WORD	543	
	074000	025655							.WORD	ERR014	
	074002	024032							.WORD	MSG003	
10368	074004				ESCAPE	TST					
	074004	104410									
	074006	001164							TRAP	C\$ESCAPE	
									.WORD	L10055.	
10369											
10370	074010	012705	002622	i150\$:	MOV	#TDRB,R5					
10371	074014	004737	031162		JSR	PC,CHKOWN					
10372	074020	103010			BCC	160\$					
10373	074022				FTL						
	074022	004737	031010		JSR	PC,CHKFTL					
10374	074026				ERRHRD	544.,ERR018					
	074026	104456									
	074030	001040							TRAP	C\$ERHRD	
	074032	026122							.WORD	544	
	074034	000000							.WORD	ERR018	
10375	074036				ESCAPE	TST					
	074036	104410									
	074040	001132							TRAP	C\$ESCAPE	
									.WORD	L10055.	
10376											
10377	074042	012705	020266	i160\$:	MOV	#TDR14A,R5					
10378	074046	004737	034244		JSR	PC,LDXTDR					
10379	074052	012705	002622		MOV	#TDRB,R5					
10380	074056	004737	031636		JSR	PC,CHKTDR					
10381	074062	103010			BCC	170\$					
10382	074064				FTL						
	074064	004737	031010		JSR	PC,CHKFTL					
10383	074070				ERRHRD	545.,ERR020,MSG005					
	074070	104456									
	074072	001041									
	074074	026302							TRAP	C\$ERHRD	
	074076	024156							.WORD	545	
10384	074100				ESCAPE	TST					
	074100	104410									
	074102	001070							TRAP	C\$ESCAPE	
									.WORD	L10055-	
10385											
10386	074104	004737	031454	i170\$:	JSR	PC,CHKRXI					
10387	074110	103010			BCC	180\$					
10388	074112				FTL						
	074112	004737	031010		JSR	PC,CHKFTL					

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 TEST 23: ENABLE ALL MULTICAST MODE TEST

SEQ 325

10389	074116			ERRHRD	546.,ERR015,MSG003	; NO, REPORT ERROR		
	074116	104456					TRAP	C\$ERHRD
	074120	001042					.WORD	546
	074122	025723					.WORD	ERR015
	074124	024032					.WORD	MSG003
10390	074126			ESCAPE	TST	; AND ABORT TEST		
	074126	104410					TRAP	C\$ESCAPE
	074130	001042					.WORD	L10055-
10391								
10392	074132	004737	032434	180\$:	JSR	PC,CLRRXI		; WRITE ONE TO CLEAR RXI
10393								; ERROR ?
10394	074136	103010			BCC	190\$; NO
10395	074140				FTL			
	074140	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
10396	074144			ERRHRD	547.,ERR016,MSG003	; YES, REPORT ERROR		
	074144	104456					TRAP	C\$ERHRD
	074146	001043					.WORD	547
	074150	025754					.WORD	ERR016
	074152	024032					.WORD	MSG003
10397	074154			ESCAPE	TST	; AND ABORT TEST		
	074154	104410					TRAP	C\$ESCAPE
	074156	001014					.WORD	L10055 .
10398								
10399	074160	012705	002662	190\$:	MOV	#RDRB,R5		; CHECK RDRB OWNERSHIP
10400	074164	004737	031162		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
10401	074170	103010			BCC	200\$; YES
10402	074172				FTL			
	074172	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
10403	074176			ERRHRD	550.,ERR017	; NO, REPORT ERROR		
	074176	104456					TRAP	C\$ERHRD
	074200	001046					.WORD	550
	074202	026022					.WORD	ERR017
	074204	000000					.WORD	0
10404	074206			ESCAPE	TST	; AND ABORT TEST		
	074206	104410					TRAP	C\$ESCAPE
	074210	000762					.WORD	L10055 .
10405								
10406	074212	012705	020456	200\$:	MOV	#RDR20C,R5		; POINT TO EXPECTED RDRB
10407	074216	004737	034214		JSR	PC,LDXRDR		; LOAD INTO XRDRBO TABLE
10408	074222	012705	002662		MOV	#RDRB,R5		; CHECK RDRB
10409	074226	004737	031344		JSR	PC,CHKRDR		; ERRORS ?
10410	074232	103010			BCC	210\$; NO
10411	074234				FTL			
	074234	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
10412	074240			ERRHRD	551.,ERR021,MSG006	; YES, REPORT ERROR		
	074240	104456					TRAP	C\$ERHRD
	074242	001047					.WORD	551
	074244	026363					.WORD	ERR021
	074246	024300					.WORD	MSG006
10413	074250			ESCAPE	TST	; AND ABORT TEST		
	074250	104410					TRAP	C\$ESCAPE

C10

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074252 000720                                .WORD  L10055 .
10414
10415      ;COMPARE RBUF WITH TBUF
10416
10417 074254 013705 020562      210$:  MOV    BYTCNT,R5      ; COMPARE DATA
10418 074260 004737 032646      JSR    PC,CMPCAT      ; DATA COMPARE ERROR ?
10419 074264 103006      BCC    220$          ; NO
10420 074266      ERRHRD 552.,ERR022,MSG007 ; YES, REPORT ERROR
      074266 104456      TRAP  C$ERRRD
      074270 001050      .WORD 552
      074272 026444      .WORD ERR022
      074274 024442      .WORD MSG007
10421 074276      ESCAPE TST      ; AND ABORT TEST
      074276 104410      TRAP  C$ESCAPE
      074300 000672      .WORD L10055 .
10422
10423      ;
10424 074302      220$:  MOV    #RBUF+26.,R5      ; CHECK CRC
10425 074306 012705 010474      JSR    PC,CMPCRC      ; ERRORS ?
10426 074312 004737 032576      BCC    230$          ; NO
10427 074314      ERRHRD 553.,ERR023,MSG008 ; YES, REPORT ERROR
      074314 104456      TRAP  C$ERRRD
      074316 001051      .WORD 553
      074320 026513      .WORD ERR023
      074322 024474      .WORD MSG008
10428 074324      ESCAPE TST      ; AND ABORT TEST
      074324 104410      TRAP  C$ESCAPE
      074326 000644      .WORD L10055 .
10429
10430      ;
10431 074330      230$:  MOV    #DNI!INTE,@PCSR0      ; ENABLE INTERRUPTS
10432 074336 012777 004100 105670  MOVB   #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
10433 074344 112777 000117 105662  JSR    PC,CHKDNI      ; DNI ?
10434 074350 004737 030706      BCC    240$          ; YES
10435 074352      FTL
      074352 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?
10436 074356      ERRHRD 554.,ERR019,MSG003 ; NO, REPORT ERROR
      074356 104456      TRAP  C$ERRRD
      074360 001052      .WORD 554
      074362 026222      .WORD ERR019
      074364 024032      .WORD MSG003
10437 074366      ESCAPE TST      ; AND ABORT TEST
      074366 104410      TRAP  C$ESCAPE
      074370 000602      .WORD L10055 .
10438
10439 074372 004737 032320      240$:  JSR    PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
10440      ; ERROR ?
10441 074376 103010      BCC    245$          ; NO
10442 074400      FTL
      074400 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?
10443 074404      ERRHRD 555.,ERR006,MSG003 ; YES, REPORT ERROR
      074404 104456      TRAP  C$ERRRD
      074406 001053      .WORD 555

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D10

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074410 025124 .WORD ERRO06
074412 024032 .WORD MSG003
10444 074414 ESCAPE TST ; AND ABORT TEST
074414 104410 TRAP C$ESCAPE
074416 000554 .WORD L10055
10445
10446 074420 ;245$:
10447 074420 004737 032272 JSR PC,CLRCV ; CLEAR RECEIVE BUFFER
10448 074424 062702 000006 ADD #6,R2 ; UPDATE R2
10449 074430 062703 000004 ADD #4,R3 ; UPDATE R3
10450 074434 005304 DEC R4 ; DONE TEN LOOPBACKS
10451 074436 001402 BEQ 246$ ; YES
10452 074440 000137 073576 JMP 110$ ; NO
10453
10454 ;
10455 ;DO TEN LOOPS WITH DEST ADDRESS = COMPLIMENTED MULTICAST ADDRESS
10456 ;
10457 074444 012704 000012 ;246$: MOV #10.,R4 ; DO LOOP = TEN
10458 074450 012702 020172 MOV #MULTLC,R2 ; R2 POINTS TO COMPLIMENTED LIST
10459 ;
10460 ;SET UP RINGS FOR ONE BUFFER LOOPBACK
10461 ;
10462 074454 012705 016412 250$: MOV #TDRB1A,R5 ; DEFAULT ONE BUFFER TRANSMIT RING
10463 074460 004737 034040 JSR PC,LDTDRB ; LOAD TDRB
10464 074464 012705 014752 MOV #RDRB1A,R5 ; DEFAULT ONE BUFFER RECEIVE RING
10465 074470 004737 033744 JSR PC,LDRDRB ; LOAD RDRB
10466 ;
10467 ;SET UP BUFFERS AND START
10468 ;
10469 074474 012701 002266 MOV #SRC,R1 ; SOURCE = PHYSICAL ADDRESS
10470 074500 004737 035062 JSR PC,SRCDST ; DEST = COMPL MULTICAST ADDR
10471 074504 005037 020564 CLR DOCRC ; NO APPEND CRC
10472 074510 012737 000006 020562 MOV #6,BYTCNT ; BYTES/PACKET
10473 074516 004737 034662 JSR PC,SETBUF ; SET UP BUFFERS
10474 074522 012777 004100 105476 MOV #DNI!INTE,@PCSRO ; ENABLE INTERRUPTS
10475 074530 112777 000104 105470 MOVB #INTE!START,@PCSRO ; ISSUE START PORT COMMAND
10476 074536 004737 030706 JSR PC,CHKDNI ; DNI?
10477 074542 103010 BCC 260$ ; YES
10478 074544 FTL
074544 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
10479 074550 ERRHRD 556.,ERR012,MSG003 ; NO, REPORT ERROR
074550 104456 TRAP C$ERHRD
074552 001054 .WORD 556
074554 025543 .WORD ERR012
074556 024032 .WORD MSG003
10480 074560 ESCAPE TST ; AND ABORT TEST
074560 104410 TRAP C$ESCAPE
074562 000410 .WORD L10055-
10481
10482 074564 004737 032320 ;260$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
10483 BCC 270$ ; ERROR ?
10484 074570 103010 FTL ; NO
10485 074572
074572 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?

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F10

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10509 074720 012705 020266      300$:  MOV    #TDR14A,R5      ; POINT TO EXPECTED TDRB
10510 074724 004737 034244      JSR    PC,LDXTDR      ; LOAD INTO XTDRB0 TABLE
10511 074730 012705 002622      MOV    #TDRB,R5      ; CHECK TDRB
10512 074734 004737 031636      JSR    PC,CHKTDR      ; ERRORS ?
10513 074740 103010                BCC    420$           ; NO
10514 074742                FTL

      074742 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?

10515 074746                ERRHRD 563.,ERR020,MSG005 ; YES, REPORT ERROR
      074746 104456                TRAP  C$ERHRD
      074750 001063                .WORD 563
      074752 026302                .WORD ERR020
      074754 024130                .WORD MSG005

10516 074756                ESCAPE TST            ; AND ABORT TEST
      074756 104410                TRAP  C$ESCAPE
      074760 000212                .WORD L10055-.

10517
10518 074762 004737 034276      i
10519 074766 103010                420$: JSR    PC,NORXI      ; RXI ?
10520 074770                BCC    480$           ; NO
      FTL

      074770 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?

10521 074774                ERRHRD 564.,ERR039,MSG003 ; YES, REPORT ERROR
      074774 104456                TRAP  C$ERHRD
      074776 001064                .WORD 564
      075000 027671                .WORD ERR039
      075002 024032                .WORD MSG003

10522 075004                ESCAPE TST            ; AND ABORT TEST
      075004 104410                TRAP  C$ESCAPE
      075006 000164                .WORD L10055-.

10523
10524 075010                i
10525 075010 012777 004100 105210 480$: MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10526 075016 112777 000117 105202 MOVB   #INTE!STOP,@PCSR0 ; ISSUE STOP PORT COMMAND
10527 075024 004737 030706      JSR    PC,CHKDNI      ; DNI ?
10528 075030 103010                BCC    490$           ; YES
10529 075032                FTL

      075032 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?

10530 075036                ERRHRD 565.,ERR019,MSG003 ; NO, REPORT ERROR
      075036 104456                TRAP  C$ERHRD
      075040 001065                .WORD 565
      075042 026222                .WORD ERR019
      075044 024032                .WORD MSG003

10531 075046                ESCAPE TST            ; AND ABORT TEST
      075046 104410                TRAP  C$ESCAPE
      075050 000122                .WORD L10055-.

10532
10533 075052 004737 032320      i
10534                                490$: JSR    PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
10535 075056 103010                BCC    495$           ; ERROR ?
10536 075060                FTL                    ; NO

      075060 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?
  
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G10

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10537 075064          ERRHRD 566.,ERR006,MSG003      ; YES. REPORT ERROR      TRAP   C$ERHRD
      075064 104456          .WORD 566
      075066 001066          .WORD ERR006
      075070 025124          .WORD MSG003
10538 075074          ESCAPE TST                    ; AND ABORT TEST        TRAP   C$ESCAPE
      075074 104410          .WORD L10055-
      075076 000074
10539
10540 075100          ;495$:
10541 075100 004737 032272      JSR   PC,CLRCV          ; CLEAR RECEIVE BUFFER
10542 075104 062702 000006      ADD   #6,R2             ; UPDATE R2
10543 075110 062703 000004      ADD   #4,R3             ; UPDATE R3
10544 075114 005304          DEC   R4                ; DONE TEN LOOPBACKS ?
10545 075116 001402          BEQ   500$              ; YES
10546 075120 000137 074454      JMP   250$              ; NO
10547
10548 075124          ;500$:
10549
10550 075124          EXIT TST
      075124 104432          TRAP   C$EXIT
      075126 000044          .WORD L10055-
10551
10552          ;LOCAL TEST MESSAGE
10553
10554 075130 104 105 114 T23ID: .ASCIZ 'DELUA ENABLE ALL MULTICAST MODE '
      075133 125 101 040
      075136 105 116 101
      075141 102 114 105
      075144 040 101 114
      075147 114 040 115
      075152 125 114 124
      075155 111 103 101
      075160 123 124 040
      075163 115 117 104
      075166 105 040 000
10555          .EVEN
10556
10557 075172          ENDTST
      075172          L10055:
      075172 104401          TRAP   C$ETST

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.SBTTL TEST 24: INTERNAL LOOPBACK TRANSMIT LENGTH ERROR TEST

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*****
:
: THIS TEST VERIFIES THAT, IF THE PORT DRIVER ATTEMPTS TO
: TRANSMIT GREATER THAN 32 BYTE <DTCR = 0>, OR 36 BYTE <DTCR = 1>
: TRANSMIT FRAME, THE DEVICE WILL RETURN A 'TRANSMIT LENGTH' ERROR.
:
: TEST SEQUENCE:
: 1. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM MODE
: 2. WRITE RING FORMAT
: 3. WRITE PHYSICAL ADDRESS
: 4. SET UP RINGS AND BUFFERS
: 5. ISSUE START
: 6. CHECK FOR BUFFER LENGTH ERROR IN TDRB+6
:
*****

```

10578 075174
075174
10579
10580 075174

BGNTST

T24::

PNTMAC T24ID

075174 012704 076552
075200 004737 034610

MOV #T24ID,R4
JSR PC,PNTID

;GET POINTER TO TEST NAME MESSAGE
;PRINT TEST NUMBER AND NAME

; END OF MACRO EXPANSION OF 'PNTMAC'

10581 075204 004737 035310
10582 075210 103034
10583 075212 012777 004100 105006
10584 075220 112777 000140 105000
10585 075226 004737 032034
10586 075232 103010
10587 075234

JSR PC,TINIT
BCC 30#
MOV #DNI!INTE,@PCSR0
MOVB #INTE!RSET,@PCSR0
JSR PC,CKDNI
BCC 20#
FTL

; IS A DEVICE RESET NEEDED?
; NO
; ENABLE INTERRUPTS
; YES, RESET DELUA
; DNI ?
; YES

075234 004737 031010

JSR PC,CHKFTL

; 'FATL' BIT SET?

10588 075240
075240 104456
075242 001067
075244 030105
075246 024032

ERRHRD 567.,ERR042,MSG003

; NO, REPORT ERROR

;B0
C\$ERRHRD
.WORD 567
.WORD ERR042
.WORD MSG003

10589 075250
075250 104410
075252 001360

ESCAPE TST

; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10056-.

10590
10591 075254 004737 032320
10592
10593 075260 103010
10594 075262

; 20#:
JSR PC,CLRDNI

; WRITE ONE TO CLEAR DNI
; ERROR ?
; NO

075262 004737 031010

JSR PC,CHKFTL

; 'FATL' BIT SET?

10595 075266
075266 104456

ERRHRD 570.,ERR006,MSG003

; YES, REPORT ERROR

TRAP C\$ERRHRD

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075270 001072 .WORD 570
075272 025124 .WORD ERR006
075274 024032 .WORD MSG003
10596 075276 ESCAPE TST ; AND ABORT TEST
075276 104410 TRAP C$ESCAPE
075300 001332 .WORD L10056-
10597
10598 075302 30$: JSR PC,LDDFLT ; LOAD DEFAULT PHY. ADDRESS TABLES
10599 075302 004737 033606 JSR PC,LDDFLT ; INIT PASS COUNTER
10600 075306 012704 000001 MOV #1,R4
10601 075312 35$: JSR PC,CLRBUF ; CLEAR TBUF AND RBUF
10602 075312 004737 032246 JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2!3
10603 075316 004737 033706 JSR PC,LDPCSR ; ENABLE INTERRUPTS
10604 075322 012777 004100 104676 MOV #DNI!INTE,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
10605 075330 112777 000101 104670 MOV #INTE!GETPCB,@PCSR0 ; DNI?
10606 075336 004737 030706 JSR PC,CHKDNI ; YES
10607 075342 103010 BCC 40$
10608 075344 FTL
075344 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
10609 075350 ERRHRD 571.,ERR009,MSG003 ; NO, REPORT ERROR
075350 104456 TRAP C$ERHRD
075352 001073 .WORD 571
075354 025341 .WORD ERR009
075356 024032 .WORD MSG003
10610 075360 ESCAPE TST ; AND ABORT TEST
075360 104410 TRAP C$ESCAPE
075362 001256 .WORD L10056 .
10611
10612 075364 004737 032320 40$: JSR PC,CLR DNI ; WRITE ONE TO CLEAR DNI
10613 BCC 50$ ; ERROR ?
10614 075370 103010 FTL ; NO
10615 075372 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
10616 075376 ERRHRD 572.,ERR006,MSG003 ; YES, REPORT ERROR
075376 104456 TRAP C$ERHRD
075400 001074 .WORD 572
075402 025124 .WORD ERR006
075404 024032 .WORD MSG003
10617 075406 ESCAPE TST ; AND ABORT TEST
075406 104410 TRAP C$ESCAPE
075410 001222 .WORD L10056 .
10618 075412 50$:
10619 ;WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
10620 ;IF 2ND PASS SKIP 1ST PASS PCBB SETUP
10621
10622
10623
10624 075412 005304 DEC R4 ;ADJUST PASS COUNT
10625 075414 005704 TST R4 ;1ST PASS
10626 075416 100425 BMI 55$ ;NO, SKIP THIS SETUP
10627 075420 012705 014602 MOV #WTMODE,R5 ; WRITE MODE FUNCTION (NO CRC)
10628 075424 004737 033656 JSR PC,LDP CBB ; LOAD FUNCTION -> PCBB
10629 075430 012777 004100 104570 MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS

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J10

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10630 075436 112777 000102 104562      MOVB   #INTE!GETCMD,@PCSR0      ; ISSUE GET CMD PORT COMMAND
10631 075444 004737 030706      JSR    PC,CHKDNI                ; DNI ?
10632 075450 103035                BCC    60$                      ; YES
10633 075452                FTL

      075452 004737 031010      JSR    PC,CHKFTL                ; 'FATL' BIT SET?
10634 075456                ERRHRD 573.,ERR010,MSG003      ; NO, REPORT ERROR
      075456 104456                TRAP  C$ERHRD
      075460 001075                .WORD 573
      075462 025425                .WORD ERR010
      075464 024032                .WORD MSG003
10635 075466                ESCAPE TST                      ; AND ABORT TEST
      075466 104410                TRAP  C$ESCAPE
      075470 001142                .WORD L10056-.

10636
10637 075472                55$:
10638
10639                ;2ND PASS PCBB SETUP
10640
10641 075472 012705 014622      MOV    #WTMOD2,R5              ; DEFAULT MODE FUNCTION
10642 075476 004737 033656      JSR    PC,LDPBB                ; LOAD FUNCTION -> PCBB
10643 075502 012777 004100 104516  MOV    #DNI!INTE,@PCSR0      ; ENABLE INTERRUPTS
10644 075510 112777 000102 104510  MOVB   #INTE!GETCMD,@PCSR0    ; ISSUE GET_CMD PORT COMMAND
10645 075516 004737 030706      JSR    PC,CHKDNI                ; DNI?
10646 075522 103010                BCC    60$                      ; YES, SKIP ERROR REPORT
10647 075524                FTL

      075524 004737 031010      JSR    PC,CHKFTL                ; 'FATL' BIT SET?
10648 075530                ERRHRD 574.,ERR010,MSG003      ; NO, REPORT ERROR
      075530 104456                TRAP  C$ERHRD
      075532 001076                .WORD 574
      075534 025425                .WORD ERR010
      075536 024032                .WORD MSG003
10649 075540                ESCAPE TST                      ; AND ABORT TEST
      075540 104410                TRAP  C$ESCAPE
      075542 001070                .WORD L10056-.

10650
10651 075544                ;60$:
10652 075544 004737 032320      JSR    PC,CLRDNI                ; WRITE ONE TO CLEAR DNI
10653                ; ERROR?
10654 075550 103010                BCC    70$                      ; NO
10655 075552                FTL

      075552 004737 031010      JSR    PC,CHKFTL                ; 'FATL' BIT SET?
10656 075556                ERRHRD 575.,ERR006,MSG003      ; YES, REPORT ERROR
      075556 104456                TRAP  C$ERHRD
      075560 001077                .WORD 575
      075562 025124                .WORD ERR006
      075564 024032                .WORD MSG003
10657 075566                ESCAPE TST                      ; AND ABORT TEST
      075566 104410                TRAP  C$ESCAPE
      075570 001042                .WORD L10056-.

10658
10659                ;WRITE RING FORMAT
  
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10660
10661 075572 012705 014542      70$:  MOV    #WTRNGS,R5      ; DEFAULT WRITE RING FORMAT FUNCTION
10662 075576 004737 033656      JSR    PC,LDPCCB      ; LOAD FUNCTION > PCBB
10663 075602 012705 014706      MOV    #RFRMT,R5     ; DEFAULT RING FORMAT
10664 075606 012700 000006      MOV    #6,R0         ; FORMAT = SIX WORDS
10665 075612 004737 034134      JSR    PC,LDUDBB     ; LOAD RING FORMAT > UDBB
10666 075616 012777 004100      MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10667 075624 112777 000102      MOV    #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
10668 075632 004737 030706      JSR    PC,CHKDNI     ; DNI ?
10669 075636 103010      BCC    80$          ; YES
10670 075640
                                JSR    PC,CHKFTL     ; 'FATL' BIT SET?
                                ERRHRD  576.,ERR010,MSG003 ; NO, REPORT ERROR
10671 075644
                                TRAP   C$ERHRD
                                .WORD  576
                                .WORD  ERR010
                                .WORD  MSG003
                                075644 104456
                                075646 001100
                                075650 025425
                                075652 024032
10672 075654      ESCAPE TST          ; AND ABORT TEST
                                TRAP   C$ESCAPE
                                .WORD  L10056
                                075654 104410
                                075656 000754
10673
                                ;
10674 075660 004737 032320      ;80$: JSR    PC,CLRDN1     ; WRITE ONE TO CLEAR DNI
10675
                                ; ERROR ?
10676 075664 103010      BCC    90$          ; NO
10677 075666
                                JSR    PC,CHKFTL     ; 'FATL' BIT SET?
                                ERRHRD  577.,ERR006,MSG003 ; YES, REPORT ERROR
10678 075672
                                TRAP   C$ERHRD
                                .WORD  577
                                .WORD  ERR006
                                .WORD  MSG003
                                075672 104456
                                075674 001101
                                075676 025124
                                075700 024032
10679 075702      ESCAPE TST          ; AND ABORT TEST
                                TRAP   C$ESCAPE
                                .WORD  L10056-
                                075702 104410
                                075704 000726
10680
                                ;
10681
                                ;WRITE PHYSICAL ADDRESS
10682
                                ;
10683 075706      90$:  MOV    #DEFAULT,R5     ; POINT TO DEFAULT PHYS. ADDR
10684 075706 012705 002274      JSR    PC,LDPHYA     ; SAVE IN DEFAULT TABLE
10685 075712 004737 033724      MOV    #WTPHYA,R5    ; DEFAULT WRITE PHYSICAL ADDR FUNC
10686 075716 012705 014502      JSR    PC,LDPCCB     ; LOAD FUNCTION > PCBB
10687 075722 004737 033656      MOV    #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
10688 075726 012777 004100      MOV    #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
10689 075734 112777 000102      JSR    PC,CHKDNI     ; DNI ?
10690 075742 004737 030706      BCC    100$         ; YES
10691 075746 103010      FTL
10692 075750
                                JSR    PC,CHKFTL     ; 'FATL' BIT SET?
                                ERRHRD  600.,ERR010,MSG003 ; NO, REPORT ERROR
10693 075754
                                TRAP   C$ERHRD
                                .WORD  600
                                075754 104456
                                075756 001130
    
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L10

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075760 025425 .WORD ERRO10
075762 024032 .WORD MSG003
10694 075764 ESCAPE TST ; AND ABORT TEST
075764 104410 TRAP C$ESCAPE
075766 000644 .WORD L10056
10695 ;
10696 075770 004737 032320 100$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
10697 ; ERROR ?
10698 075774 103010 BCC 110$ ; NO
10699 075776 FTL
075776 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
10700 076002 ERRHRD 601.,ERR006,MSG003 ; YES, REPORT ERROR
076002 104456 TRAP C$ERHRD
076004 001131 .WORD 601
076006 025124 .WORD ERR006
076010 024032 .WORD MSG003
10701 076012 ESCAPE TST ; AND ABORT TEST
076012 104410 TRAP C$ESCAPE
076014 000616 .WORD L10056
10702 ;
10703 ;SET UP RINGS FOR ONE BUFFER LOOPBACK
10704
10705 076016 012705 016512 110$: MOV #TDRB1C,R5 ; DEFAULT ONE BUFFER TRANSMIT RING
10706 076022 004737 034040 JSR PC,LDTDRB ; LOAD TDRB
10707 076026 012705 014752 MOV #RDRB1A,R5 ; DEFAULT ONE BUFFER RECEIVE RING
10708 076032 004737 033744 JSR PC,LDRDRB ; LOAD RDRB
10709 ;
10710 ;SET UP BUFFERS AND START
10711
10712 ;IF 1ST PASS WILL LOAD FOR 32 BYTE PACKET, NO CRC
10713
10714 076036 005704 TST R4 ;1ST PASS?
10715 076040 100405 BMI 115$ ;NO, SKIP 1ST PASS SETUP
10716 076042 012702 000016 MOV #14.,R2 ;PACKET SIZE (WORDS), NO CRC TO BE ADDED
10717 076046 005037 020564 CLR D0CRC ;NO CRC
10718 076052 000410 BR 117$ ;SKIP 2ND PASS SETUP
10719 076054
10720 076054 012705 016532 115$: MOV #TDRB1D,R5 ;SETUP BUFFER TRANSMIT RING
10721 076060 004737 034040 JSR PC,LDTDRB ;LOAD TDRB
10722 076064 012702 000016 MOV #14.,R2 ;PACKET SIZE (WORDS) CRC TO BE ADDED
10723 076070 005037 020564 CLR D0CRC ;TRANSMITTER TO ADD CRC
10724 076074
10725 076074 004737 034420 117$: JSR PC,SETBF ;LOAD HEADER AND DATA
10726 076100 012777 004100 104120 MOV #DNI!INTE,&PCSRO ; ENABLE INTERRUPTS
10727 076106 112777 000104 104112 MOVB #INTE!START,&PCSRO ; ISSUE START PORT COMMAND
10728 076114 004737 030706 JSR PC,CHKDNI ; DNI?
10729 076120 103010 BCC 120$ ; YES
10730 076122 FTL
076122 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
10731 076126 ERRHRD 602.,ERR012,MSG003 ; NO, REPORT ERROR
076126 104456 TRAP C$ERHRD
076130 001132 .WORD 602
076132 025543 .WORD ERR012

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M10

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10732 076134 024032          ESCAPE TST          ; AND ABORT TEST          .WORD  MSG003
      076136          ;                               TRAP   C$ESCAPE
      076136 104410          ;                               .WORD  L10056
      076140 000472          ;                               .WORD

10733          ;120$: JSR      PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
10734 076142 004737 032320          ; ERROR ?
10735          ;                               ; NO
10736 076146 103010          BCC      130$
10737 076150          FTL

      076150 004737 031010          JSR      PC,CHKFTL          ; 'FATL' BIT SET?

10738 076154          ERRHRD 603.,ERR006,MSG003 ; YES, REPORT ERROR
      076154 104456          ;                               TRAP   C$ERHRD
      076156 001133          ;                               .WORD  603
      076160 025124          ;                               .WORD  ERR006
      076162 024032          ;                               .WORD  MSG003

10739 076164          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
      076164 104410          ;                               .WORD  L10056-
      076166 000444          ;                               .WORD

10740          ;130$: JSR      PC,CHKTXI          ; TXI ?
10741 076170 004737 031724          ; YES, SKIP ERROR REPORT
      076174 103010          BCC      140$
10743 076176          FTL

      076176 004737 031010          JSR      PC,CHKFTL          ; 'FATL' BIT SET?

10744 076202          ERRHRD 604.,ERR013,MSG003 ; NO, REPORT ERROR
      076202 104456          ;                               TRAP   C$ERHRD
      076204 001134          ;                               .WORD  604
      076206 025624          ;                               .WORD  ERR013
      076210 024032          ;                               .WORD  MSG003

10745 076212          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
      076212 104410          ;                               .WORD  L10056
      076214 000416          ;                               .WORD

10746          ;140$: JSR      PC,CLRTXI          ; WRITE ONE TO CLEAR TXI
10747 076216 004737 032502          ; ERROR ?
10748          ;                               ; NO
10749 076222 103010          BCC      150$
10750 076224          FTL

      076224 004737 031010          JSR      PC,CHKFTL          ; 'FATL' BIT SET?

10751 076230          ERRHRD 605.,ERR014,MSG003 ; YES, REPORT ERROR
      076230 104456          ;                               TRAP   C$ERHRD
      076232 001135          ;                               .WORD  605
      076234 025655          ;                               .WORD  ERR014
      076236 024032          ;                               .WORD  MSG003

10752 076240          ESCAPE TST          ; AND ABORT TEST          TRAP   C$ESCAPE
      076240 104410          ;                               .WORD  L10056-
      076242 000370          ;                               .WORD

10753          ;1ST PASS CHECK
10754          ;
10755          ;
10756 076244          ;150$: JSR      PC,CLRCV          ; CLEAR RECEIVE BUFFER
10757 076244 004737 032272          ; 1ST PASS?
      076250 005704          TST      R4

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10759 076252 100436          BMI    165$          ; NO, SKIP 1ST PASS CHECK
10760
10761 076254 012705 020356    MOV    #TDR24A,R5      ; POINT TO EXPECTED TDRB
10762 076260 004737 034244    JSR    PC,LDXTDR       ; LOAD INTO XTDRBO TABLE
10763
10764          ;PERFORM SPECIFIC CHECK THAT 'BUFL' SET IN TDRB+6, THEN
10765          ; CHECK OTHER TDRB PARAMETERS
10766
10767 076264 013700 002630    MOV    TDRB+6,R0       ; GET CONTENTS OF TDRB+6
10768 076270 005700          TST    R0              ; 'BUFL', BIT15 SET?
10769 076272 100410          BMI    155$          ; YES, SKIP ERROR CHECK
10770 076274
          076274 004737 031010    JSR    PC,CHKFTL       ; 'FATL' BIT SET?
10771 076300          ERRHRD 606.,ERR043     ; REPORT ERROR
          076300 104456          TRAP   C$ERHRD
          076302 001136          .WORD 606
          076304 030157          .WORD ERR043
          076306 000000          .WORD 0
10772 076310          ESCAPE TST           ; AND EXIT TEST
          076310 104410          TRAP   C$ESCAPE
          076312 000320          .WORD L10056-.
10773 076314          155$:
10774 076314 012705 002622    MOV    #TDRB,R5       ; CHECK TDRB
10775 076320 004737 031636    JSR    PC,CHKTDR      ; ERRORS ?
10776 076324 103046          BCC   170$          ; NO
10777 076326
          076326 004737 031010    JSR    PC,CHKFTL       ; 'FATL' BIT SET?
10778 076332          ERRHRD 607.,ERR020,MSG005 ; YES, REPORT ERROR
          076332 104456          TRAP   C$ERHRD
          076334 001137          .WORD 607
          076336 026302          .WORD ERR020
          076340 024136          .WORD MSG005
10779 076342          ESCAPE TST           ; AND ABORT TEST
          076342 104410          TRAP   C$ESCAPE
          076344 000266          .WORD L10056 .
10780 076346 000435          BR    170$          ; SKIP 2ND PASS CHECK
10781
10782          ;2ND PASS CHECK
10783
10784 076350          165$:
10785 076350 012705 020366    MOV    #TDR24B,R5     ;POINT TO EXPECTED TDRB
10786 076354 004737 034244    JSR    PC,LDXTDR      ;LOAD INTO XTDRBO TABLE
10787
10788          ;INSURE THAT 'BUFL' BIT SET IN TDRB+6, THEN CHECK REMAINDER
10789          ; OF TDRB+6.
10790
10791 076360 013700 002630    MOV    TDRB+6,R0       ;GET CONTENTS OF TDRB+6
10792 076364 005700          TST    R0              ;'BUFL', BIT15 SET IN TDRB+6?
10793 076366 100410          BMI    167$          ;YES, SKIP ERROR REPORT
10794 076370
          076370 004737 031010    JSR    PC,CHKFTL       ; 'FATL' BIT SET?
    
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10795	076374				ERRHRD	610.,ERR044		;NO, REPORT ERROR		
	076374	104456							TRAP	C\$ERHRD
	076376	001142							.WORD	610
	076400	030256							.WORD	ERR044
	076402	000000							.WORD	0
10796	076404				ESCAPE	TST		; AND EXIT TEST		
	076404	104410							TRAP	C\$ESCAPE
	076406	000224							.WORD	L10056-
10797	076410						167\$:			
10798	076410	012705	002622		MOV	#TDRB,R5		;CHECK TDRB		
10799	076414	004737	031636		JSR	PC,CHKTDR		;ERRORS?		
10800	076420	103010			BCC	170\$;NO		
10801	076422				FTL					
	076422	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
10802	076426				ERRHRD	611.,ERR020,MSG005		;YES, REPORT ERROR		
	076426	104456							TRAP	C\$ERHRD
	076430	001143							.WORD	611
	076432	026302							.WORD	ERR020
	076434	024136							.WORD	MSG005
10803	076436				ESCAPE	TST		; AND ABORT TEST		
	076436	104410							TRAP	C\$ESCAPE
	076440	000172							.WORD	L10056 .
10804										
10805	076442						i170\$:			
10806	076442	012777	004100	103556	MOV	#DNI!INTE,@PCSR0		; ENABLE INTERRUPTS		
10807	076450	112777	000117	103550	MOVB	#INTE!STOP,@PCSR0		; ISSUE STOP PORT COMMAND		
10808	076456	004737	030706		JSR	PC,CHKDNI		; DNI ?		
10809	076462	103010			BCC	180\$; YES		
10810	076464				FTL					
	076464	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
10811	076470				ERRHRD	612.,ERR019,MSG003		; NO, REPORT ERROR		
	076470	104456							TRAP	C\$ERHRD
	076472	001144							.WORD	612
	076474	026222							.WORD	ERR019
	076476	024032							.WORD	MSG003
10812	076500				ESCAPE	TST		; AND ABORT TEST		
	076500	104410							TRAP	C\$ESCAPE
	076502	000130							.WORD	L10056-
10813										
10814	076504	004737	032320		JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI		
10815								; ERROR ?		
10816	076510	103010			BCC	190\$; NO		
10817	076512				FTL					
	076512	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
10818	076516				ERRHRD	613.,ERR006,MSG003		; YES, REPORT ERROR		
	076516	104456							TRAP	C\$ERHRD
	076520	001145							.WORD	613
	076522	025124							.WORD	ERR006
	076524	024032							.WORD	MSG003
10819	076526				ESCAPE	TST		; AND ABORT TEST		
	076526	104410							TRAP	C\$ESCAPE

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076530 000102                                .WORD L10056 .
10820 076532                                190$:
10821
10822                                ;IF DONE ONLY 1 PASS MUST GO FOR 2ND
10823
10824 076532 004737 032272                    JSR    PC,CLRCV    ;CLEAR RECEIVE BUFFER
10825 076536 005704                            TST    R4          ;2ND PASS?
10826 076540 100402                            BMI    200$       ;YES, EXIT TEST
10827 076542 000137 075312                    JMP    35$        ;NO, DO 2ND PASS
10828 076546                                200$:
10829
10830 076546                                EXIT    TST
10830 076546 104432                            TRAP   C$EXIT
10830 076550 000062                            .WORD L10056 .
10831
10832                                ;LOCAL TEST MESSAGE
10833
10834 076552      104      105      114      T24ID: .ASCIZ 'DELUA INTERNAL LOOPBACK TRANSMIT LENGTH ERROR '
10834 076555      125      101      040
10834 076560      111      116      124
10834 076563      105      122      116
10834 076566      101      114      040
10834 076571      114      117      117
10834 076574      120      102      101
10834 076577      103      113      040
10834 076602      124      122      101
10834 076605      116      123      115
10834 076610      111      124      040
10834 076613      114      105      116
10834 076616      107      124      110
10834 076621      040      105      122
10834 076624      122      117      122
10834 076627      040      000
10835                                .EVEN
10836
10837 076632                                ENDTST
10837 076632                                L10056: TRAP   C$ETST
10837 076632 104401
10838
10839
10840

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TEST 25: SIMULTANEOUS OPERATIONS TEST

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.SBTTL TEST 25: SIMULTANEOUS OPERATIONS TEST

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*****
:
: THIS TEST VERIFIES THAT SIMULTANEOUS OPERATIONS CAN BE PERFORMED.
: AN INTERNAL LOOPBACK WILL BE PERFORMED SIMULTANEOUSLY WITH A READ
: COUNTERS PORT FUNCTION.
:
: TEST SEQUENCE:
: 1. WRITE MODE REGISTER = PROM and INTERNAL LOOPBACK MODE
: 2. WRITE RING FORMAT
: 3. WRITE PHYSICAL ADDRESS
: 4. SET UP RINGS AND BUFFERS
: 5. SET UP READ COUNTERS FUNCTION
: 6. ISSUE START
: 7. ISSUE GET COMMAND PORT COMMAND
: 8. CHECK FOR ERRORS
: 9. ISSUE STOP
:
*****

```

10863 076634
10864 076634
10865 076634

BGNTST

T25::

PNTMAC T2SID

076634 012704 100456
076640 004737 034610

MOV #T2SID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

END OF MACRO EXPANSION OF 'PNTMAC'

10866 076644 004737 035310
10867 076650 103034
10868 076652 012777 004100 103346
10869 076660 112777 000140 103340
10870 076666 004737 032034
10871 076672 103010
10872 076674

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNI!INTE,@PCSR0 ; ENABLE INTERRUPTS
MOV# #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

076674 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

10873 076700
076700 104456
076702 001146
076704 030105
076706 024032
10874 076710
076710 104410
076712 001604

ERRHRD 614.,ERR042,MSG003 ; NO, REPORT ERROR

TRAP ;B0
.WORD C\$ERRHRD
.WORD 614
.WORD ERR042
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10057-.

10875
10876 076714 004737 032320
10877
10878 076720 103010
10879 076722

20\$: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 30\$; NO
FTL

076722 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

E11

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10880 076726          ERRHRD 615.,ERR006,MSG003      ; YES, REPORT ERROR
      076726 104456
      076730 001147
      076732 025124
      076734 024032
10881 076736          ESCAPE TST                ; AND ABORT TEST
      076736 104410
      076740 001556
10882
10883 076742          ; 30$:
10884 076742 004737 032246      JSR      PC,CLRBUF          ; CLEAR TBUF AND RBUF
10885 076746 004737 033606      JSR      PC,LDDFLT         ; LOAD DEFAULT PHY. ADDRESS TABLES
10886 076752 004737 033706      JSR      PC,LDPCSR        ; ADDRESS OF PCBB -> PCSR2!3
10887 076756 012777 004100 103242  MOV      #DNI!INTE,@PCSR0  ; ENABLE INTERRUPTS
10888 076764 112777 000101 103234  MOVB    #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
10889 076772 004737 030706      JSR      PC,CHKDNI        ; DNI?
10890 076776 103010
10891 077000          BCC      40$              ; YES
      FTL
      JSR      PC,CHKFTL          ; 'FATL' BIT SET?
10892 077004          ERRHRD 616.,ERR009,MSG003      ; NO, REPORT ERROR
      077004 104456
      077006 001150
      077010 025341
      077012 024032
10893 077014          ESCAPE TST                ; AND ABORT TEST
      077014 104410
      077016 001500
10894
10895 077020 004737 032320      ; 40$: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
10896
10897 077024 103010          BCC      50$              ; ERROR ?
10898 077026          FTL
      JSR      PC,CHKFTL          ; 'FATL' BIT SET?
10899 077032          ERRHRD 617.,ERR006,MSG003      ; YES, REPORT ERROR
      077032 104456
      077034 001151
      077036 025124
      077040 024032
10900 077042          ESCAPE TST                ; AND ABORT TEST
      077042 104410
      077044 001452
10901
10902          ; WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
10903
10904 077046 012705 014602      ; 50$: MOV      #WTMODE,R5      ; DEFAULT WRITE MODE FUNCTION
10905 077052 004737 033656      JSR      PC,LDPCCBB       ; LOAD FUNCTION -> PCBB
10906 077056 012777 004100 103142  MOV      #DNI!INTE,@PCSR0  ; ENABLE INTERRUPTS
10907 077064 112777 000102 103134  MOVB    #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
10908 077072 004737 030706      JSR      PC,CHKDNI        ; DNI ?
10909 077076 103010          BCC      60$              ; YES
10910 077100          FTL
      JSR      PC,CHKFTL          ; 'FATL' BIT SET?

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10911 077104          ERRHRD 620.,ERR010,MSG003      ; NO, REPORT ERROR
      077104 104456          TRAP C$ERHRD
      077106 001154          .WORD 620
      077110 025425          .WORD ERR010
      077112 024032          .WORD MSG003
10912 077114          ESCAPE TST                    ; AND ABORT TEST
      077114 104410          TRAP C$ESCAPE
      077116 001400          .WORD L10057-.
10913
10914 077120 004737 032320      ;60$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
10915                                     ; ERROR ?
10916 077124 103010          BCC 70$          ; NO
10917 077126          FTL
      077126 004737 031010          JSR PC,CHKFTL          ; 'FATL' BIT SET?
10918 077132          ERRHRD 621.,ERR006,MSG003      ; YES, REPORT ERROR
      077132 104456          TRAP C$ERHRD
      077134 001155          .WORD 621
      077136 025124          .WORD ERR006
      077140 024032          .WORD MSG003
10919 077142          ESCAPE TST                    ; AND ABORT TEST
      077142 104410          TRAP C$ESCAPE
      077144 001352          .WORD L10057-.
10920
10921                                     ; WRITE RING FORMAT
10922 077146 012705 014542      ;70$: MOV #WTRNGS,R5          ; DEFAULT WRITE RING FORMAT FUNCTION
10923 077152 004737 033656          JSR PC,LDPCCB          ; LOAD FUNCTION -> PCBB
10924 077156 012705 014736          MOV #RFRMTE,R5          ; DEFAULT RING FORMAT
10925 077162 012700 000006          MOV #6,R0              ; FORMAT = SIX WORDS
10926 077166 004737 034134          JSR PC,LDUDBB          ; LOAD RING FORMAT -> UDBB
10927 077172 012777 004100 103026      MOV #DNI!INTE,@PCSR0    ; ENABLE INTERRUPTS
10928 077200 112777 000102 103020      MOVB #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
10929 077206 004737 030706          JSR PC,CHKDNI          ; DNI ?
10930 077212 103010          BCC 80$          ; YES
10931 077214          FTL
      077214 004737 031010          JSR PC,CHKFTL          ; 'FATL' BIT SET?
10932 077220          ERRHRD 622.,ERR010,MSG003      ; NO, REPORT ERROR
      077220 104456          TRAP C$ERHRD
      077222 001156          .WORD 622
      077224 025425          .WORD ERR010
      077226 024032          .WORD MSG003
10933 077230          ESCAPE TST                    ; AND ABORT TEST
      077230 104410          TRAP C$ESCAPE
      077232 001264          .WORD L10057-.
10934
10935 077234 004737 032320      ;80$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
10936                                     ; ERROR ?
10937 077240 103010          BCC 90$          ; NO
10938 077242          FTL
      077242 004737 031010          JSR PC,CHKFTL          ; 'FATL' BIT SET?
10939 077246          ERRHRD 623.,ERR006,MSG003      ; YES, REPORT ERROR

```

G11

HARDWARE TESTS MACRO V05.03 Friday 28 Mar-86 15:36 Page 112-3
TEST 25: SIMULTANEOUS OPERATIONS TEST

SEQ 343

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077246 104456
077250 001157
077252 025124
077254 024032
10940 077256          ESCAPE TST          ; AND ABORT TEST
077256 104410
077260 001236
10941
10942          ;WRITE PHYSICAL ADDRESS
10943
10944 077262          90$:
10945 077262 012705 002274          MOV      #DEFAULT,R5          ; POINT TO DEFAULT PHYS. ADDRESS
10946 077266 004737 033724          JSR      PC,LDPHYA          ; SAVE IN DEFAULT ADDR TABLE
10947 077272 012705 014502          MOV      #WTPHYA,R5        ; DEFAULT WRITE PHYSICAL ADDR FUNC
10948 077276 004737 033656          JSR      PC,LDPCCBB        ; LOAD FUNCTION -> PCBB
10949 077302 012777 004100 102716    MOV      #DNI!INTE,@PCSR0  ; ENABLE INTERRUPTS
10950 077310 112777 000102 102710    MOVB    #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
10951 077316 004737 030706          JSR      PC,CHKDNI        ; DNI ?
10952 077322 103010          BCC     100$              ; YES
10953 077324          FTL
077324 004737 031010          JSR      PC,CHKFTL        ; 'FATL' BIT SET?
10954 077330          ERRHRD 624.,ERR010,MSG003 ; NO, REPORT ERROR
077330 104456
077332 001160
077334 025425
077336 024032
10955 077340          ESCAPE TST          ; AND ABORT TEST
077340 104410
077342 001154
10956
10957 077344 004737 032320          ;100$: JSR      PC,CLRDN1    ; WRITE ONE TO CLEAR DNI
10958
10959 077350 103010          BCC     110$              ; ERROR ?
10960 077352          FTL                      ; NO
077352 004737 031010          JSR      PC,CHKFTL        ; 'FATL' BIT SET?
10961 077356          ERRHRD 625.,ERR006,MSG003 ; YES, REPORT ERROR
077356 104456
077360 001161
077362 025124
077364 024032
10962 077366          ESCAPE TST          ; AND ABORT TEST
077366 104410
077370 001126
10963
10964          ;SET UP RING BUFFER LOOPBACK
10965
10966 077372 012705 016742          ;110$: MOV      #TDRBXX,R5    ; DEFAULT BUFFER TRANSMIT RING
10967 077376 004737 034076          JSR      PC,LDTDRX        ; LOAD TDRB
10968 077402 012705 015572          MOV      #RDRBXX,R5      ; DEFAULT BUFFER RECEIVE RING
10969 077406 004737 034002          JSR      PC,LDRDRX        ; LOAD RDRB
10970
10971          ;SET UP BUFFERS
10972

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```

TRAP      C$ERHRD
.WORD     623
.WORD     ERR006
.WORD     MSG003

```

```

TRAP      C$ESCAPE
.WORD     L10057-.

```

```

TRAP      C$ERHRD
.WORD     624
.WORD     ERR010
.WORD     MSG003

```

```

TRAP      C$ESCAPE
.WORD     L10057-.

```

```

TRAP      C$ERHRD
.WORD     625
.WORD     ERR006
.WORD     MSG003

```

```

TRAP      C$ESCAPE
.WORD     L10057.

```


H11

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10973 077412 005037 020564          CLR      D0CRC          ; NO APPEND CRC
10974 077416 012737 000006 020562  MOV      #6,BYTCNT     ; BYTES/PACKET
10975 077424 004737 034662          JSR      PC,SETBUF     ; SET UP BUFFERS
10976
10977          ;SET UP READ COUNTERS FUNCTION
10978
10979 077430 012705 014552          MOV      #RDCNT,R5    ; DEFAULT READ COUNTERS FUNCTION
10980 077434 004737 033656          JSR      PC,LDPCCBB   ; LOAD FUNCTION -> PCBB
10981 077440 005037 002316          CLR      UDBB+4       ; INSURE RECEIVED PACKET COUNTER
10982          ; IS CLEAR
10983
10984          ;CLEAR INTERRUPT BITS
10985
10986 077444 012777 175400 102554     MOV      #CLINTB,@PCSR0 ; CLEAR INTERRUPT BITS
10987
10988          ;
10989          ;ISSUE START
10990 077452 112777 000004 102546     MOV      #START,@PCSR0 ; ISSUE START PORT COMMAND
10991 077460 004737 030706          JSR      PC,CHKDNI    ; DNI?
10992 077464 103010          BCC     112$         ; YES, SKIP ERROR REPORT
10993 077466          FTL
          JSR      PC,CHKFTL ; 'FATL' BIT SET?
          ERRHRD 626.,ERR012,MSG003 ; REPORT ERROR
          TRAP      C$ERRHRD
          .WORD    626
          .WORD    ERR012
          .WORD    MSG003
10994 077472          ;
          077472 104456
          077474 001162
          077476 025543
          077500 024032
10995 077502          ESCAPE TST          ; AND ABORT TEST
          077502 104410          TRAP      C$ESCAPE
          077504 001012          .WORD    L10057 .
10996
10997 077506          112$:
10998 077506 004737 032320          JSR      PC,CLRDN1    ; CLEAR DNI
10999 077512 103010          BCC     113$         ; IF DNI CLEARED SKIP ERROR REPORT
11000 077514          FTL
          JSR      PC,CHKFTL ; 'FATL' BIT SET?
          ERRHRD 627.,ERR006,MSG003 ; ELSE REPORT ERROR
          TRAP      C$ERRHRD
          .WORD    627
          .WORD    ERR006
          .WORD    MSG003
11001 077520          ESCAPE TST          ; AND ABORT TEST
          077520 104456          TRAP      C$ESCAPE
          077522 001163          .WORD    L10057-.
          077524 025124
          077526 024032
11002 077530          ;
          077530 104410
          077532 000764
11003          ;
11004          ;ISSUE GET COMMAND FOR READ COUNTERS FUNCTION
11005
11006 077534          113$:
11007 077534 112777 000002 102464     MOV      #GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
11008
11009          ;WAIT FOR DNI BEFORE CONTINUING
11010
11011 077542 004737 030706          JSR      PC,CHKDNI    ; CHECK FOR DNI

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11012	077546	103010		BCC	118\$; SKIP ERROR REPORT IF DNI		
11013	077550			FTL					
	077550	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
11014	077554			ERRHRD	630.,ERR010,MSG003		; REPORT ERROR	TRAP	C\$ERHRD
	077554	104456						.WORD	630
	077556	001166						.WORD	ERR010
	077560	025425						.WORD	MSG003
	077562	024032							
11015	077564			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	077564	104410						.WORD	L10057-
	077566	000730							
11016	077570					118\$:			
11017	077570	004737	032320	JSR	PC,CLRDN1		; CLEAR DNI		
11018	077574	103010		BCC	125\$; CONTINUE IF OK		
11019	077576			FTL					
	077576	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
11020	077602			ERRHRD	631.,ERR006,MSG003		; ELSE REPORT ERROR	TRAP	C\$ERHRD
	077602	104456						.WORD	631
	077604	001167						.WORD	ERR006
	077606	025124						.WORD	MSG003
	077610	024032							
11021	077612			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	077612	104410						.WORD	L10057-
	077614	000702							
11022									
11023	077616	152777	000100	102402	125\$:	BISB	#INTE,&PCSRO		; ENABLE INTERRUPTS
11024									
11025	077624	004737	031724			JSR	PC,CHKTXI		; TXI ?
11026	077630	103010				BCC	140\$; YES
11027	077632			FTL					
	077632	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
11028	077636			ERRHRD	632.,ERR013,MSG003		; NO, REPORT ERROR	TRAP	C\$ERHRD
	077636	104456						.WORD	632
	077640	001170						.WORD	ERR013
	077642	025624						.WORD	MSG003
	077644	024032							
11029	077646			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	077646	104410						.WORD	L10057-
	077650	000646							
11030									
11031	077652	004737	032502			140\$:	JSR	PC,CLRTXI	; WRITE ONE TO CLEAR TXI
11032									; ERROR ?
11033	077656	103010		BCC	150\$; NO		
11034	077660			FTL					
	077660	004737	031010	JSR	PC,CHKFTL		; 'FATL' BIT SET?		
11035	077664			ERRHRD	633.,ERR014,MSG003		; YES, REPORT ERROR	TRAP	C\$ERHRD
	077664	104456						.WORD	633
	077666	001171						.WORD	ERR014
	077670	025655							

11036	077672	024032		ESCAPE TST	; AND ABORT TEST	.WORD	MSG003
	077674					TRAP	C\$ESCAPE
	077674	104410				.WORD	L10057-
	077676	000620					
11037							
11038				;CHECK 1ST RING ENTRY			
11039							
11040	077700	012705	003016	150\$: MOV #TDRX,R5	; CHECK TDRB OWNERSHIP		
11041	077704	004737	031162	JSR PC,CHKOWN	; OWN = PORT DRIVER ?		
11042	077710	103010		BCC 160\$; YES		
11043	077712			FTL			
	077712	004737	031010	JSR PC,CHKFTL	; 'FATL' BIT SET?		
11044	077716			ERRHRD 634.,ERR027	; NO, REPORT ERROR		
	077716	104456				TRAP	C\$ERHRD
	077720	001172				.WORD	634
	077722	026634				.WORD	ERR027
	077724	000000				.WORD	0
11045	077726			ESCAPE TST	; AND ABORT TEST		
	077726	104410				TRAP	C\$ESCAPE
	077730	000566				.WORD	L10057 .
11046							
11047	077732	012705	020266	160\$: MOV #TDR14A,R5	; POINT TO EXPECTED TDRB		
11048	077736	004737	034244	JSR PC,LDXTDR	; LOAD INTO XTDRBO TABLE		
11049	077742	012705	003016	MOV #TDRX,R5	; CHECK TDRB		
11050	077746	004737	031636	JSR PC,CHKTDR	; ERRORS ?		
11051	077752	103010		BCC 162\$; NO		
11052	077754			FTL			
	077754	004737	031010	JSR PC,CHKFTL	; 'FATL' BIT SET?		
11053	077760			ERRHRD 635.,ERR033,MSG005	; YES, REPORT ERROR		
	077760	104456				TRAP	C\$ERHRD
	077762	001173				.WORD	635
	077764	027262				.WORD	ERR033
	077766	024136				.WORD	MSG005
11054	077770			ESCAPE TST	; AND ABORT TEST		
	077770	104410				TRAP	C\$ESCAPE
	077772	000524				.WORD	L10057 .
11055							
11056				;CHECK LAST RING ENTRY			
11057							
11058	077774	012705	003322	162\$: MOV #TDRX+196.,R5	; CHECK TDRB OWNERSHIP		
11059	100000	004737	031162	JSR PC,CHKOWN	; OWN = PORT DRIVER ?		
11060	100004	103010		BCC 164\$; YES		
11061	100006			FTL			
	100006	004737	031010	JSR PC,CHKFTL	; 'FATL' BIT SET?		
11062	100012			ERRHRD 636.,ERR028	; NO, REPORT ERROR		
	100012	104456				TRAP	C\$ERHRD
	100014	001174				.WORD	636
	100016	026741				.WORD	ERR028
	100020	000000				.WORD	0
11063	100022			ESCAPE TST	; AND ABORT TEST		
	100022	104410				TRAP	C\$ESCAPE

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100024 000472 .WORD L10057 .
11064
11065 100026 012705 020266 164$: MOV #TDR14A,R5 ; POINT TO EXPECTED TDRB
11066 100032 004737 034244 JSR PC,LDXTDR ; LOAD INTO XTDRBO TABLE
11067 100036 012705 003316 MOV #TDRX+192.,R5 ; CHECK TDRB
11068 100042 004737 031636 JSR PC,CHKTDR ; ERRORS ?
11069 100046 103010 BCC 190$ ; NO
11070 100050
100050 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
11071 100054 ERRHRD 637.,ERR034,MSG005 ; YES, REPORT ERROR
100054 104456 TRAP C$ERHRD
100056 001175 .WORD 637
100060 027351 .WORD ERR034
100062 024136 .WORD MSG005
11072 100064 ESCAPE TST ; AND ABORT TEST
100064 104410 TRAP C$ESCAPE
100066 000430 .WORD L10057-.
11073
11074 ;CHECK 1ST RING ENTRY
11075
11076 100070 012705 003626 190$: MOV #RDRX,R5 ; CHECK RDRB OWNERSHIP
11077 100074 004737 031162 JSR PC,CHKOWN ; OWN = PORT DRIVER ?
11078 100100 103010 BCC 200$ ; YES
11079 100102
100102 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
11080 100106 ERRHRD 640.,ERR030 ; NO, REPORT ERROR
100106 104456 TRAP C$ERHRD
100110 001200 .WORD 640
100112 027047 .WORD ERR030
100114 000000 .WORD 0
11081 100116 ESCAPE TST ; AND ABORT TEST
100116 104410 TRAP C$ESCAPE
100120 000376 .WORD L10057-.
11082
11083 100122 012705 020456 200$: MOV #RDR20C,R5 ; POINT TO EXPECTED RDRB
11084 100126 004737 034214 JSR PC,LDXRDR ; LOAD INTO XRDRBO TABLE
11085 100132 012705 003626 MOV #RDRX,R5 ; CHECK RDRB
11086 100136 004737 031344 JSR PC,CHKRDR ; ERRORS ?
11087 100142 103010 BCC 202$ ; NO
11088 100144
100144 004737 031010 JSR PC,CHKFTL ; 'FATL' BIT SET?
11089 100150 ERRHRD 641.,ERR036,MSG006 ; YES, REPORT ERROR
100150 104456 TRAP C$ERHRD
100152 001201 .WORD 641
100154 027441 .WORD ERR036
100156 024300 .WORD MSG006
11090 100160 ESCAPE TST ; AND ABORT TEST
100160 104410 TRAP C$ESCAPE
100162 000334 .WORD L10057 .
11091
11092 ;CHECK LAST RING ENTRY

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11093
11094 100164 012705 004132      202$:  MOV    #RDRX+196.,R5      ; CHECK RDRB OWNERSHIP
11095 100170 004737 031162      JSR    PC,CHKOWN      ; OWN = PORT DRIVER ?
11096 100174 103010              BCC    204$           ; YES
11097 100176              FTL

      100176 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?

11098 100202              ERRHRD 642.,ERR031      ; NO, REPORT ERROR
      100202 104456              TRAP  C$ERHRD
      100204 001202              .WORD 642
      100206 027154              .WORD ERR031
      100210 000000              .WORD 0

11099 100212              ESCAPE TST           ; AND ABORT TEST
      100212 104410              TRAP  C$ESCAPE
      100214 000302              .WORD L10057 .

11100
11101 100216 012705 020456      204$:  MOV    #RDR20C,R5      ; POINT TO EXPECTED RDRB
11102 100222 004737 034214      JSR    PC,LDXRDR      ; LOAD INTO XRDRBO TABLE
11103 100226 012705 004126      MOV    #RDRX+192.,R5  ; CHECK RDRB
11104 100232 004737 031344      JSR    PC,CHKRDR      ; ERRORS ?
11105 100236 103010              BCC    210$           ; NO
11106 100240              FTL

      100240 004737 031010      JSR    PC,CHKFTL      ; 'FATL' BIT SET?

11107 100244              ERRHRD 643.,ERR037,MSG006 ; YES, REPORT ERROR
      100244 104456              TRAP  C$ERHRD
      100246 001203              .WORD 643
      100250 027527              .WORD ERR037
      100252 024300              .WORD MSG006

11108 100254              ESCAPE TST           ; AND ABORT TEST
      100254 104410              TRAP  C$ESCAPE
      100256 000240              .WORD L10057-.

11109
11110
11111      ;COMPARE RBUF WITH TBUF
11112
11113 100260 013705 020562      210$:  MOV    BYTCNT,R5      ; COMPARE DATA
11114 100264 004737 032646      JSR    PC,CMPDAT      ; DATA COMPARE ERROR ?
11115 100270 103006              BCC    220$           ; NO
11116 100272              ERRHRD 644.,ERR022,MSG007 ; YES, REPORT ERROR
      100272 104456              TRAP  C$ERHRD
      100274 001204              .WORD 644
      100276 026444              .WORD ERR022
      100300 024442              .WORD MSG007

11117 100302              ESCAPE TST           ; AND ABORT TEST
      100302 104410              TRAP  C$ESCAPE
      100304 000212              .WORD L10057-.

11118
11119 100306      ;
11120 100306 012705 010474      ;220$: MOV    #RBUF+32,R5      ; OFFSET TO CRC
11121 100312 004737 032576      JSR    PC,CMPCRC      ; ERRORS ?
11122 100316 103006              BCC    225$           ; NO
11123 100320              ERRHRD 645.,ERR023,MSG008 ; YES, REPORT ERROR
      100320 104456              TRAP  C$ERHRD
      100322 001205              .WORD 645

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11204 100520
100520
11205
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11208 100520 005737 002222
11209 100524 001006
11210 100526

100526 012704 023070
100532 004737 034610

.SBTTL TEST 26: EXTERNAL LOOPBACK TEST (REQUIRES INSTALLED LOOPBACK CONN.)

THIS TEST VERIFIES THAT AN EXTERNAL LOOPBACK OPERATION
CAN BE PERFORMED SUCCESSFULLY.
SELECTION OF THIS TEST, AND THE DETERMINATION OF WHETHER,
OR NOT, TEST WILL ISSUE A MESSAGE ASKING OPERATOR TO
INSTALL LOOPBACK CONNECTORS IS BASED ON OPERATOR RESPONSES
TO SOFTWARE P-TABLE QUESTIONS.
OPTIONS:

- 1) DEFAULT (DID NOT CHANGE SOFTWARE P-TABLE), OR ANSWERED NO FOR "RUN EXTERNAL LOOPBACK TEST?".
ACTION: EXTERNAL LOOPBACK TEST WILL BE SKIPPED.
- 2) TEST SELECTED, BUT ANSWERED NO FOR "TO AVOID MAN. INTERVENTION, INSTALL LOOPBACK NOW", IN SOFTWARE P-TABLE.
ACTION: IF IN ATTENDED MODE, TEST WILL ASK, ON FIRST PASS ONLY, TO HAVE LOOPBACK INSTALLED BEFORE CONTINUING. IF UAM, WILL ISSUE A MESSAGE, AND SKIP TEST.
- 3) TEST SELECTED, ANSWERED YES FOR "TO AVOID MAN. INTERVENTION, INSTALL LOOPBACK NOW", IN SOFTWARE P-TABLE.
ACTION: TEST ASSUMES THAT LOOPBACK HAS BEEN INSTALLED, AND WILL RUN WITHOUT OPERATOR INTERVENTION REGARDLESS OF UAM SELECTION.

NOTE: IF AN EXTERNAL LOOPBACK IS NOT INSTALLED, WHEN ATTEMPTING TO LOOP EXTERNALLY, TEST WILL FAIL.

TEST SEQUENCE:

- 1. WRITE MODE REGISTER = EXTERNAL LOOPBACK, PROM MODE
- 2. WRITE RING FORMAT
- 3. WRITE PHYSICAL ADDRESS
- 4. SET UP RINGS AND BUFFERS
- 5. ISSUE START
- 6. CHECK FOR ERROR
- 7. ISSUE STOP

BGNTST

T26::

;IS EXTERNAL LOOPBACK OPERATION DESIRED?

TST	EXLOOP	;SELECTED?
BNE	1\$;YES, CONTINUE WITH TEST
PNTMAC	SKIP	;PRINT TEST ID AND REASON FOR SKIP
MOV	#SKIP,R4	;GET POINTER TO TEST NAME MESSAGE
JSR	PC,PNTID	;PRINT TEST NUMBER AND NAME


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;      END OF MACRO EXPANSION OF 'PNTMAC'
11211 100536      EXIT   TST      ; AND GET OUT OF TEST      TRAP   C$EXIT
      100536 104432      .WORD  L10060-.
      100540 001636
11212
11213 ;*****
11214 ;
11215 ;PRINT TEST NAME
11216 ;IF LOOPBACK ALREADY INSTALLED, SKIP CHECK FOR UNATTENDED MODE
11217
11218 100542      1$:
11219 100542      PNTMAC  T26ID
      100542 012704 102344      MOV   #T26ID,R4      ;GET POINTER TO TEST NAME MESSAGE
      100546 004737 034610      JSR   PC,PNTID      ;PRINT TEST NUMBER AND NAME
;      END OF MACRO EXPANSION OF 'PNTMAC'

11220
11221 100552 005737 002224      TST   LOOPCN      ;LOOPBACK INSTALLED?
11222 100556 001036      BNE   10$      ;YES
11223 ;*****
11224 100560      MANUAL
      100560 104450      BCOMPLETE 5$      ;IF NOT UAM, CONTINUE TEST      TRAP   C$MANI
11225 100562      PNTMAC  SKIP26      ;PRINT TEST ID AND REASON FOR SKIP      BCS   5$
      100562 103406
11226 100564      MOV   #SKIP26,R4      ;GET POINTER TO TEST NAME MESSAGE
      100570 004737 023151      JSR   PC,PNTID      ;PRINT TEST NUMBER AND NAME
;      END OF MACRO EXPANSION OF 'PNTMAC'

11227 100574      EXIT   TST      ; AND GET OUT OF TEST      TRAP   C$EXIT
      100574 104432      .WORD  L10060-.
      100576 001600
11228 100600      5$:
11229 ;NOTIFY OPERATOR TO INSTALL LOOPBACK UNIT, IF FIRST PASS      ;BO
11230
11231
11232 100600 005737 020614      TST   FRSTIM      ;FIRST PASS?      ;BO
11233 100604 001423      BEQ   10$      ;NO, SKIP MESSAGE      ;BO
11234
11235 100606      7$:
11236 100606      PRINTF #MSG1      ;PRINT OPERATOR MESSAGE, AND WAIT
      100606 012746 022572      MOV   #MSG1,-(SP)
      100612 012746 000001      MOV   #1,-(SP)
      100616 010600      MOV   SP,R0
      100620 104417      TRAP  C$PNTF
      100622 062706 000004      ADD   #4,SP
11237 ;FOR HIS RESPONSE
11238 100626      GMANIL MMSG1,REPLY,0,NO      ;BO
      100626 104443      TRAP  C$GMAN
      100630 000404      BR    10000$
      100632 020624      .WORD REPLY
      100634 000120      .WORD T$CODE

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 TEST 26: EXTERNAL LOOPBACK TEST (REQUIRES INSTALLED LOOPBACK C

SEQ 354

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11271 101014          ERRHRD  653.,ERR009,MSG003      ; NO, REPORT ERROR
      101014 104456
      101016 001215
      101020 025341
      101022 024032
      11272 101024          ESCAPE  TST              ; AND ABORT TEST
      101024 104410
      101026 001350
      11273
11274 101030 004737 032320      40$: JSR      PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
11275
11276 101034 103010          BCC      50$              ; ERROR ?
11277 101036          FTL
      101036 004737 031010          JSR      PC,CHKFTL        ; 'FATL' BIT SET?
11278 101042          ERRHRD  654.,ERR006,MSG003      ; YES, REPORT ERROR
      101042 104456
      101044 001216
      101046 025124
      101050 024032
      11279 101052          ESCAPE  TST              ; AND ABORT TEST
      101052 104410
      101054 001322
11280
11281      ;WRITE MODE REGISTER = EXTERNAL LOOPBACK AND PROM MODE
11282
11283 101056 012705 014632      50$: MOV      #WTM003,R5          ; DEFAULT WRITE MODE FUNCTION
11284 101062 004737 033656      JSR      PC,LDPCCB        ; LOAD FUNCTION -> PCBB
11285 101066 012777 004100 101132  MOV      #DNI!INTE,@PCSR0  ; PRECONDITION INTR EN.
11286 101074 112777 000102 101124  MOVB     #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
11287 101102 004737 030706      JSR      PC,CHKDNI        ; DNI ?
11288 101106 103010          BCC      60$              ; YES
11289 101110          FTL
      101110 004737 031010          JSR      PC,CHKFTL        ; 'FATL' BIT SET?
11290 101114          ERRHRD  655.,ERR010,MSG003      ; NO, REPORT ERROR
      101114 104456
      101116 001217
      101120 025425
      101122 024032
      11291 101124          ESCAPE  TST              ; AND ABORT TEST
      101124 104410
      101126 001250
      11292
11293 101130 004737 032320      60$: JSR      PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
11294
11295 101134 103010          BCC      70$              ; ERROR ?
11296 101136          FTL
      101136 004737 031010          JSR      PC,CHKFTL        ; 'FATL' BIT SET?
11297 101142          ERRHRD  656.,ERR006,MSG003      ; YES, REPORT ERROR
      101142 104456
      101144 001220
      101146 025124
  
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11298 101150 024032          ESCAPE TST          ; AND ABORT TEST          .WORD  MSG003
      101152          ;                                TRAP    C$ESCAPE
      101152 104410          ;                                .WORD  L10060
      101154 001222          ;                                .WORD  L10060
11299
11300          ;WRITE RING FORMAT
11301
11302 101156 012705 014542    70$:  MOV    #WTRNGS,R5          ; DEFAULT WRITE RING FORMAT FUNCTION
11303 101162 004737 033656    JSR    PC,LDPCBB          ; LOAD FUNCTION -> PCBB
11304 101166 012705 014706    MOV    #RFRMT,R5          ; DEFAULT RING FORMAT
11305 101172 012700 000006    MOV    #6,R0              ; FORMAT = SIX WORDS
11306 101176 004737 034134    JSR    PC,LDUDBB          ; LOAD RING FORMAT -> UDBB
11307 101202 012777 004100    101016  MOV    #DNI!INTE,@PCSR0   ; PRECONDITION INTR EN.
11308 101210 112777 000102    101010  MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
11309 101216 004737 030706    JSR    PC,CHKDNI          ; DNI ?
11310 101222 103010          BCC    80$                ; YES
11311 101224          FTL
      101224 004737 031010    JSR    PC,CHKFTL          ; 'FATL' BIT SET?
11312 101230          ERRHRD 657.,ERR010,MSG003 ; NO, REPORT ERROR
      101230 104456          ;                                TRAP    C$ERHRD
      101232 001221          ;                                .WORD  657
      101234 025425          ;                                .WORD  ERR010
      101236 024032          ;                                .WORD  MSG003
11313 101240          ESCAPE TST          ; AND ABORT TEST
      101240 104410          ;                                TRAP    C$ESCAPE
      101242 001134          ;                                .WORD  L10060-.
11314
11315 101244 004737 032320    80$:  JSR    PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
11316          ;                                ; ERROR ?
11317 101250 103010          BCC    90$                ; NO
11318 101252          FTL
      101252 004737 031010    JSR    PC,CHKFTL          ; 'FATL' BIT SET?
11319 101256          ERRHRD 658.,ERR006,MSG003 ; YES, REPORT ERROR
      101256 104456          ;                                TRAP    C$ERHRD
      101260 001222          ;                                .WORD  658
      101262 025124          ;                                .WORD  ERR006
      101264 024032          ;                                .WORD  MSG003
11320 101266          ESCAPE TST          ; AND ABORT TEST
      101266 104410          ;                                TRAP    C$ESCAPE
      101270 001106          ;                                .WORD  L10060-.
11321
11322          ;WRITE PHYSICAL ADDRESS
11323
11324 101272          90$:  MOV    #DFALT,R5          ; GET DEFAULT PHYSICAL ADDRESS
11325 101272 012705 002274    JSR    PC,LDPHYA          ; PLACE IT IN DATA TABLE
11326 101276 004737 033724    MOV    #WTPHYA,R5          ; DEFAULT WRITE PHYSICAL ADDR FUNC
11327 101302 012705 014502    JSR    PC,LDPCBB          ; LOAD FUNCTION -> PCBB
11328 101306 004737 033656    MOV    #DNI!INTE,@PCSR0   ; PRECONDITION INTR EN.
11329 101312 012777 004100    100706  MOVB   #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
11330 101320 112777 000102    100700  JSR    PC,CHKDNI          ; DNI ?
11331 101326 004737 030706    BCC    100$               ; YES
11332 101332 103010          FTL
11333 101334          FTL
  
```

```

101334 004737 031010          JSR    PC,CHKFTL          ; 'FATL' BIT SET?
11334 101340          ERRHRD  660.,ERR010,MSG003 ; NO, REPORT ERROR
101340 104456          TRAP   C$ERHRD
101342 001224          .WORD  660
101344 025425          .WORD  ERR010
101346 024032          .WORD  MSG003
11335 101350          ESCAPE  TST              ; AND ABORT TEST
101350 104410          TRAP   C$ESCAPE
101352 001024          .WORD  L10060-.
11336
11337 101354 004737 032320    100$: JSR    PC,CLRDNI        ; WRITE ONE TO CLEAR DNI
11338                                     ; ERROR ?
11339 101360 103010          BCC    110$              ; NO
11340 101362          FTL
101362 004737 031010          JSR    PC,CHKFTL        ; 'FATL' BIT SET?
11341 101366          ERRHRD  661.,ERR006,MSG003 ; YES, REPORT ERROR
101366 104456          TRAP   C$ERHRD
101370 001225          .WORD  661
101372 025124          .WORD  ERR006
101374 024032          .WORD  MSG003
11342 101376          ESCAPE  TST              ; AND ABORT TEST
101376 104410          TRAP   C$ESCAPE
101400 000776          .WORD  L10060 .
11343
11344                                     ;SET UP RINGS FOR ONE BUFFER LOOPBACK
11345
11346 101402 012705 016412    110$: MOV    #TDRB1A,R5      ; DEFAULT ONE BUFFER TRANSMIT RING
11347 101406 004737 034040          JSR    PC,LDTDRB        ; LOAD TDRB
11348 101412 012705 014752          MOV    #RDRB1A,R5      ; DEFAULT ONE BUFFER RECEIVE RING
11349 101416 004737 033744          JSR    PC,LDRDRB        ; LOAD RDRB
11350
11351                                     ;SET UP BUFFERS AND START
11352
11353 101422 005037 020564          CLR    DDCRC            ; NO APPEND CRC
11354 101426 012737 000006 020562    MOV    #6,BYTCNT        ; DATA BYTE COUNT
11355 101434 004737 034662          JSR    PC,SETBUF        ; SET UP BUFFERS
11356
11357                                     ;INSURE SOURCE AND DESTINATION ADDRESSES = DEFAULT PHYSICAL ADDRESS
11358
11359 101440 012737 000004 002302    MOV    #4,PCBB          ; READ DEFAULT PHYSICAL ADDRESS
11360 101446 012777 004100 100552    MOV    #DNI!INTE,@PCSR0 ; PRECONDITION INTR ENABLE
11361 101454 112777 000102 100544    MOVB  #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
11362 101462 004737 030706          JSR    PC,CHKDNI        ; DNI?
11363 101466 103010          BCC    112$              ; YES
11364 101470          FTL
101470 004737 031010          JSR    PC,CHKFTL        ; 'FATL' BIT SET?
11365 101474          ERRHRD  662.,ERR012,MSG003
101474 104456          TRAP   C$ERHRD
101476 001226          .WORD  662
101500 025543          .WORD  ERR012
101502 024032          .WORD  MSG003

```

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 TEST 26: EXTERNAL LOOPBACK TEST (REQUIRES INSTALLED LOOPBACK C

SEQ 357

```

11366 101504          ESCAPE TST
      101504 104410          TRAP C$ESCAPE
      101506 000670          .WORD L10060-.
11367 101510          112$:
11368 101510 004737 032320 JSR    PC,CLRDNI          ; CLEAR DNI
11369 101514 103010          BCC    114$
11370 101516 004737 031010 JSR    PC,CHKFTL          ; CHECK FOR FATL BIT SET
11371 101522          ERRHRD 663.,ERR006,MSG003
      101522 104456          TRAP C$ERHRD
      101524 001227          .WORD 663
      101526 025124          .WORD ERR006
      101530 024032          .WORD MSG003
11372 101532          ESCAPE TST          ; EXIT TEST
      101532 104410          TRAP C$ESCAPE
      101534 000642          .WORD L10060-.
11373 101536          114$:
11374
11375          ;LOAD DEFAULT PHYSICAL ADDRESS INTO SOURCE AND DESTINATION ADDRESS
11376
11377 101536 012700 000002 MOV    #2,R0          ; INIT COUNTER
11378 101542 012701 004440 MOV    #TBUF,R1       ; BASE ADDRESS OF XMIT BUFFER
11379 101546          116$:
11380 101546 013721 002304 MOV    PCBB+2,(R1)+    ; READ OUT
11381 101552 013721 002306 MOV    PCBB+4,(R1)+    ;   PHYSICAL
11382 101556 013721 002310 MOV    PCBB+6,(R1)+    ;   ADDRESS
11383 101562 077007          SOB    R0,116$        ; DO TWICE
11384
11385          ;SEND PACKET
11386
11387 101564 012777 004100 100434 MOV    #DNI!INTE,@PCSRO ; PRECONDITION INTR EN.
11388 101572 112777 000104 100426 MOVB  #INTE!START,@PCSRO ; ISSUE START PORT COMMAND
11389 101600 004737 030706 JSR    PC,CHKDNI       ; DNI?
11390 101604 103010          BCC    120$          ; YES
11391 101606          FTL
      101606 004737 031010 JSR    PC,CHKFTL          ; 'FATL' BIT SET?
11392 101612          ERRHRD 664.,ERR012,MSG003 ; NO, REPORT ERROR
      101612 104456          TRAP C$ERHRD
      101614 001230          .WORD 664
      101616 025543          .WORD ERR012
      101620 024032          .WORD MSG003
11393 101622          ESCAPE TST          ; AND ABORT TEST
      101622 104410          TRAP C$ESCAPE
      101624 000552          .WORD L10060.
11394
11395 101626 004737 032320 120$: JSR    PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
11396          ; ERROR ?
11397 101632 103010          BCC    130$          ; NO
11398 101634          FTL
      101634 004737 031010 JSR    PC,CHKFTL          ; 'FATL' BIT SET?
11399 101640          ERRHRD 665.,ERR006,MSG003 ; YES, REPORT ERROR
      101640 104456          TRAP C$ERHRD
      101642 001231          .WORD 665
      101644 025124          .WORD ERR006

```

11400	101646	024032							.WORD	MSG003
	101650			ESCAPE	TST		; AND ABORT TEST		TRAP	C\$ESCAPE
	101650	104410							.WORD	L10060
	101652	000524							.WORD	
11401										
11402	101654	004737	031724	i30\$:	JSR	PC,CHKTXI		; TXI ?		
11403	101660	103010			BCC	140\$; YES		
11404	101662				FTL					
	101662	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
11405	101666				ERRHRD	666.,ERR013,MSG003		; NO, REPORT ERROR		
	101666	104456							TRAP	C\$ERHRD
	101670	001232							.WORD	666
	101672	025624							.WORD	ERR013
	101674	024032							.WORD	MSG003
11406	101676				ESCAPE	TST		; AND ABORT TEST		
	101676	104410							TRAP	C\$ESCAPE
	101700	000476							.WORD	L10060-
11407										
11408	101702	004737	032502	i40\$:	JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI		
11409								; ERROR ?		
11410	101706	103010			BCC	150\$; NO		
11411	101710				FTL					
	101710	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
11412	101714				ERRHRD	667.,ERR014,MSG003		; YES, REPORT ERROR		
	101714	104456							TRAP	C\$ERHRD
	101716	001233							.WORD	667
	101720	025655							.WORD	ERR014
	101722	024032							.WORD	MSG003
11413	101724				ESCAPE	TST		; AND ABORT TEST		
	101724	104410							TRAP	C\$ESCAPE
	101726	000450							.WORD	L10060
11414										
11415	101730	012705	002622	i50\$:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP		
11416	101734	004737	031162		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?		
11417	101740	103010			BCC	160\$; YES		
11418	101742				FTL					
	101742	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?		
11419	101746				ERRHRD	668.,ERR018		; NO, REPORT ERROR		
	101746	104456							TRAP	C\$ERHRD
	101750	001234							.WORD	668
	101752	026122							.WORD	ERR018
	101754	000000							.WORD	0
11420	101756				ESCAPE	TST		; AND ABORT TEST		
	101756	104410							TRAP	C\$ESCAPE
	101760	000416							.WORD	L10060-
11421										
11422	101762	012705	020266	i60\$:	MOV	#TDR14A,R5		; POINT TO EXPECTED TDRB		
11423	101766	004737	034244		JSR	PC,LDXTDR		; LOAD INTO XTDRBO TABLE		
11424	101772	012705	002622		MOV	#TDRB,R5		; CHECK TDRB		
11425	101776	004737	031636		JSR	PC,CHKTDR		; ERRORS ?		
11426	102002	103010			BCC	170\$; NO		

J12

11427	102004				FTL				
	102004	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?	
11428	102010				ERRHRD	670.,ERR020,MSG005		; YES, REPORT ERROR	
	102010	104456							TRAP C\$ERHRD
	102012	001236							.WORD 670
	102014	026302							.WORD ERR020
	102016	024136							.WORD MSG005
11429	102020				ESCAPE	TST		; AND ABORT TEST	
	102020	104410							TRAP C\$ESCAPE
	102022	000354							.WORD L10060 .
11430									
11431	102024	004737	031454	i	JSR	PC,CHKRXI		; RXI ?	
11432	102030	103010		170\$:	BCC	180\$; YES	
11433	102032				FTL				
	102032	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?	
11434	102036				ERRHRD	671.,ERR015,MSG003		; NO, REPORT ERROR	
	102036	104456							TRAP C\$ERHRD
	102040	001237							.WORD 671
	102042	025723							.WORD ERR015
	102044	024032							.WORD MSG003
11435	102046				ESCAPE	TST		; AND ABORT TEST	
	102046	104410							TRAP C\$ESCAPE
	102050	000326							.WORD L10060 .
11436									
11437	102052	004737	032434	i	JSR	PC,CLRRXI		; WRITE ONE TO CLEAR RXI	
11438				180\$:				; ERROR ?	
11439	102056	103010			BCC	190\$; NO	
11440	102060				FTL				
	102060	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?	
11441	102064				ERRHRD	672.,ERR016,MSG003		; YES, REPORT ERROR	
	102064	104456							TRAP C\$ERHRD
	102066	001240							.WORD 672
	102070	025754							.WORD ERR016
	102072	024032							.WORD MSG003
11442	102074				ESCAPE	TST		; AND ABORT TEST	
	102074	104410							TRAP C\$ESCAPE
	102076	000300							.WORD L10060 .
11443									
11444	102100	012705	002662	i	MOV	#RDRB,R5		; CHECK RDRB OWNERSHIP	
11445	102104	004737	031162	190\$:	JSR	PC,CHKOWN		; OWN = PORT DRIVER ?	
11446	102110	103010			BCC	200\$; YES	
11447	102112				FTL				
	102112	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?	
11448	102116				ERRHRD	673.,ERR017		; NO, REPORT ERROR	
	102116	104456							TRAP C\$ERHRD
	102120	001241							.WORD 673
	102122	026022							.WORD ERR017
	102124	000000							.WORD 0
11449	102126				ESCAPE	TST		; AND ABORT TEST	

K12

	102126	104410					TRAP	C\$ESCAPE
	102130	000246					.WORD	L10060
11450								
11451	102132	012705	020456	200\$:	MOV	#RDR20C,R5		; POINT TO EXPECTED RDRB
11452	102136	004737	034214		JSR	PC,LDXRDR		; LOAD INTO XRDRBO TABLE
11453	102142	012705	002662		MOV	#RDRB,R5		; CHECK RDRB
11454	102146	004737	031344		JSR	PC,CHKRDR		; ERRORS ?
11455	102152	103010			BCC	210\$; NO
11456	102154				FTL			
	102154	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?
11457	102160				ERRHRD	674.,ERR021,MSG006		; YES, REPORT ERROR
	102160	104456					TRAP	C\$ERHRD
	102162	001242					.WORD	674
	102164	026363					.WORD	ERR021
	102166	024300					.WORD	MSG006
11458	102170				ESCAPE	TST		; AND ABORT TEST
	102170	104410					TRAP	C\$ESCAPE
	102172	000204					.WORD	L10060-
11459								
11460								
11461								
11462	102174	013705	020562	210\$:	MOV	BYTCNT,R5		; NUMBER OF DATA COMPARES
11463	102200	004737	032646		JSR	PC,CMPDAT		; DATA COMPARE ERROR ?
11464	102204	103006			BCC	220\$; NO
11465	102206				ERRHRD	675.,ERR022,MSG007		; YES, REPORT ERROR
	102206	104456					TRAP	C\$ERHRD
	102210	001243					.WORD	675
	102212	026444					.WORD	ERR022
	102214	024442					.WORD	MSG007
11466	102216				ESCAPE	TST		; AND ABORT TEST
	102216	104410					TRAP	C\$ESCAPE
	102220	000156					.WORD	L10060-
11467								
11468	102222			220\$:				
11469	102222	012705	010474		MOV	#RBUF+32,R5		; BASE ADDRESS
11470								; OFFSET TO CRC
11471	102226	004737	032576		JSR	PC,CMPCRC		; ERRORS ?
11472	102232	103006			BCC	230\$; NO
11473	102234				ERRHRD	676.,ERR023,MSG008		; YES, REPORT ERROR
	102234	104456					TRAP	C\$ERHRD
	102236	001244					.WORD	676
	102240	026513					.WORD	ERR023
	102242	024474					.WORD	MSG008
11474	102244				ESCAPE	TST		; AND ABORT TEST
	102244	104410					TRAP	C\$ESCAPE
	102246	000130					.WORD	L10060-
11475								
11476	102250	012777	004100	077750	230\$:	MOV	#DNI!INTE,@PCSR0	; PRECONDITION INTR EN.
11477	102256	112777	000117	077742	MOVB	#INTE!STOP,@PCSR0		; ISSUE STOP PORT COMMAND
11478	102264	004737	030706		JSR	PC,CHKDNI		; DNI ?
11479	102270	103010			BCC	240\$; YES
11480	102272				FTL			
	102272	004737	031010		JSR	PC,CHKFTL		; 'FATL' BIT SET?

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11481 102276          ERRHRD  677.,ERR019,MSG003      ; NO, REPORT ERROR
      102276 104456          TRAP      C$ERHRD
      102300 001245          .WORD    677
      102302 026222          .WORD    ERR019
      102304 024032          .WORD    MSG003
11482 102306          ESCAPE  TST                    ; AND ABORT TEST
      102306 104410          TRAP      C$ESCAPE
      102310 000066          .WORD    L10060 .
11483
11484 102312 004737 032320      ;240$: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
11485                                     ; ERROR ?
11486 102316 103010          BCC      250$              ; NO
11487 102320          FTL
      102320 004737 031010      JSR      PC,CHKFTL        ; 'FATL' BIT SCT?
11488 102324          ERRHRD  680.,ERR006,MSG003      ; YES, REPORT ERROR
      102324 104456          TRAP      C$ERHRD
      102326 001250          .WORD    680
      102330 025124          .WORD    ERR006
      102332 024032          .WORD    MSG003
11489 102334          ESCAPE  TST                    ; AND ABORT TEST
      102334 104410          TRAP      C$ESCAPE
      102336 000040          .WORD    L10060-.
11490 102340          ;250$:
11491
11492 102340          EXIT    TST
      102340 104432          TRAP      C$EXIT
      102342 000034          .WORD    L10060-.
11493
11494          ;LOCAL TEST MESSAGE
11495
11496 102344          104      105      114      T26ID:..ASCIZ 'DELUA EXTERNAL LOOPBACK '
      102347          125      101      040
      102352          105      130      124
      102355          105      122      116
      102360          101      114      040
      102363          114      117      117
      102366          120      102      101
      102371          103      113      040
      102374          000
11497          .EVEN
11498
11499 102376          ENDTST
      102376          L10060: TRAP      C$ETST
      102376 104401

```

11501
11502
11503
11504
11505
11506
11507
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11510
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11516

.SBTTL TEST 27: PRNT DEVICE PARAMETERS TEST

: THIS TEST PRINTS THE DEFAULT PHYSICAL ADDRESS, THE MICROCODE
: REVISION AND THE SWITCH PACK SETTINGS.
: TEST SEQUENCE:
: 1. READ DEFAULT PHYSICAL ADDRESS
: 2. READ MICROCODE REVISION
: 3. READ SWITCH PACK SETTINGS
: 4. PRINT
: *****

11517 102400
102400
11518 102400 005737 020614
11519 102404 001006
11520 102406

BGNTST
TST FRSTIM ; RUN THIS TEST ? T27::
BNE 5\$; YES
PNTMAC T27SKP

102406 012704 103512
102412 004737 034610

MOV #T27SKP,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

: END OF MACRO EXPANSION OF 'PNTMAC'

11521 102416
102416 104432
102420 001136

EXIT TST ; NO, EXIT
TRAP C\$EXIT
.WORD L10061-

11522
11523 102422
11524 102422

5\$:

PNTMAC T27ID

102422 012704 103454
102426 004737 034610

MOV #T27ID,R4 ;GET POINTER TO TEST NAME MESSAGE
JSR PC,PNTID ;PRINT TEST NUMBER AND NAME

: END OF MACRO EXPANSION OF 'PNTMAC'

11525 102432 004737 035310
11526 102436 103034
11527 102440 012777 004100 077560
11528 102446 112777 000140 077552
11529 102454 004737 032034
11530 102460 103010
11531 102462

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30\$; NO
MOV #DNT!INTE,@PCSR0 ; ENABLE INTERRUPTS
MOV #INTE!RSET,@PCSR0 ; YES, RESET DELUA
JSR PC,CKDNI ; DNI ?
BCC 20\$; YES
FTL

102462 004737 031010

JSR PC,CHKFTL ; 'FATL' BIT SET?

11532 102466
102466 104456
102470 001251
102472 030105
102474 024032

ERRHRD 681.,ERR042,MSG003 ; NO, REPORT ERROR
TRAP ;80
C\$ERRHRD
.WORD 681
.WORD ERR042
.WORD MSG003

11533 102476
102476 104410
102500 001056

ESCAPE TST ; AND ABORT TEST
TRAP C\$ESCAPE
.WORD L10061-

```

11534
11535 102502 004737 032320      ;20$: JSR      PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
11536                                     ; ERROR ?
11537 102506 103010             BCC      30$                ; NO
11538 102510                                     FTL
                                     JSR      PC,CHKFTL          ; 'FATL' BIT SET?
                                     ERRHRD   682.,ERR006,MSG003 ; YES, REPORT ERROR
11539 102514                                     TRAP    C$ERHRD
102514 104456                                     .WORD  682
102516 001252                                     .WORD  ERR006
102520 025124                                     .WORD  MSG003
102522 024032
11540 102524 ESCAPE TST                ; AND ABORT TEST
102524 104410                                     TRAP    C$ESCAPE
102526 001030                                     .WORD  L10061-.
11541
11542 102530 004737 033706      ;30$: JSR      PC,LDPCSR      ; ADDRESS OF PCBB > PCSR2!3
11543 102534 012777 004100 077464 MOV      #DNI!INTE,@PCSR0   ; ENABLE INTERRUPTS
11544 102542 112777 000101 077456 MOVB     #INTE!GETPCB,@PCSR0 ; ISSUE GET_PCBB PORT COMMAND
11545 102550 004737 030706 JSR      PC,CHKDNI          ; DNI?
11546 102554 103010             BCC      40$                ; YES
11547 102556                                     FTL
                                     JSR      PC,CHKFTL          ; 'FATL' BIT SET?
11548 102556 004737 031010 ERRHRD   683.,ERR009,MSG003 ; NO, REPORT ERROR
102562 104456                                     TRAP    C$ERHRD
102562 001253                                     .WORD  683
102564 025341                                     .WORD  ERR009
102566 024032                                     .WORD  MSG003
11549 102572 ESCAPE TST                ; AND ABORT TEST
102572 104410                                     TRAP    C$ESCAPE
102574 000762                                     .WORD  L10061-.
11550
11551 102576 004737 032320      ;40$: JSR      PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
11552                                     ; ERROR ?
11553 102602 103010             BCC      50$                ; NO
11554 102604                                     FTL
                                     JSR      PC,CHKFTL          ; 'FATL' BIT SET?
11555 102604 004737 031010 ERRHRD   684.,ERR006,MSG003 ; YES, REPORT ERROR
102610 104456                                     TRAP    C$ERHRD
102610 001254                                     .WORD  684
102612 025124                                     .WORD  ERR006
102614 024032                                     .WORD  MSG003
11556 102620 ESCAPE TST                ; AND ABORT TEST
102620 104410                                     TRAP    C$ESCAPE
102622 000734                                     .WORD  L10061.
11557
11558                                     ;READ DEFAULT PHYSICAL ADDRESS
11559
11560 102624 012705 014462      ;50$: MOV      #RDDEFA,R5      ; READ DEFAULT PHYA FUNCTION
11561 102630 004737 033656 JSR      PC,LDPCBB          ; LOAD FUNCTION > PCBB
11562 102634 012777 004100 077364 MOV      #DNI!INTE,@PCSR0   ; ENABLE INTERRUPTS
11563 102642 112777 000102 077356 MOVB     #INTE!GETCMD,@PCSR0 ; ISSUE GET_CMD PORT COMMAND
    
```

B13

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11564 102650 004737 030706      JSR    PC,CHKDNI      ; DNI ?
11565 102654 103010              BCC    60$           ; YES
11566 102656

      102656 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?
11567 102662              ERRHRD 685.,ERR010,MSG003 ; NO, REPORT ERROR
      102662 104456              TRAP  C$ERHRD
      102664 001255              .WORD 685
      102666 025425              .WORD ERR010
      102670 024032              .WORD MSG003
11568 102672              ESCAPE TST          ; AND ABORT TEST
      102672 104410              TRAP  C$ESCAPE
      102674 000662              .WORD L10061-.
11569
11570 102676 004737 032320      60$: JSR    PC,CLRDNI     ; WRITE ONE TO CLEAR DNI
11571              BCC    70$           ; ERROR ?
11572 102702 103010              BCC    70$           ; NO
11573 102704

      102704 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?
11574 102710              ERRHRD 686.,ERR006,MSG003 ; YES, REPORT ERROR
      102710 104456              TRAP  C$ERHRD
      102712 001256              .WORD 686
      102714 025124              .WORD ERR006
      102716 024032              .WORD MSG003
11575 102720              ESCAPE TST          ; AND ABORT TEST
      102720 104410              TRAP  C$ESCAPE
      102722 000634              .WORD L10061-.
11576
11577              ;MOVE DEFAULT PHYSICAL ADDRESS FROM PCBB -> DPA
11578
11579 102724 013737 002304 103560 70$:  MOV    PCBB+2,DPA
11580 102732 013737 002306 103562      MOV    PCBB+4,DPA+2
11581 102740 013737 002310 103564      MOV    PCBB+6,DPA+4
11582
11583              ;LOAD ASCII MESSAGE (DEFADR)
11584
11585 102746 004737 033112      JSR    PC,HEXDPA     ; CONVERT TO ASCII HEX
11586
11587              ;READ MICROCODE REVISION
11588
11589 102752 012705 014646      100$: MOV    #RDSTA,R5      ; READ PORT STATUS FUNCTION
11590 102756 004737 033656      JSR    PC,LDPCCBB    ; LOAD FUNCTION -> PCBB
11591 102762 012777 004100 077236  MOV    #DNI!INTE,&PCSR0 ; ENABLE INTERRUPTS
11592 102770 112777 000102 077230  MOVB   #INTE!GETCMD,&PCSR0 ; ISSUE GET_CMD PORT COMMAND
11593 102776 004737 030706      JSR    PC,CHKDNI     ; DNI ?
11594 103002 103010              BCC    110$         ; YES
11595 103004

      103004 004737 031010      JSR    PC,CHKFTL     ; 'FATL' BIT SET?
11596 103010              ERRHRD 687.,ERR010,MSG003 ; NO, REPORT ERROR
      103010 104456              TRAP  C$ERR RD
      103012 001257              .WORD 587
      103014 025425              .WORD ERR010
  
```

C13

HARDWARE TESTS MACRO V05.03 Friday 28 Mar-86 15:36 Page 114 3
 TEST 27: PRINT DEVICE PARAMETERS TEST

SEQ 365

```

11597 103016 024032
      103020          ESCAPE TST          ; AND ABORT TEST          .WORD MSG003
      103020 104410          ;                               TRAP C$ESCAPE
      103022 000534          ;                               .WORD L10061-.

11598
11599 103024 004737 032320 110$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
11600          ;                               ; ERROR ?
11601 103030 103010          BCC 120$          ; NO
11602 103032          FTL

      103032 004737 031010          JSR PC,CHKFTL          ; 'FATL' BIT SET?

11603 103036          ERRHRD 690.,ERR006,MSG003          ; YES, REPORT ERROR
      103036 104456          ;                               TRAP C$ERHRD
      103040 001262          ;                               .WORD 690
      103042 025124          ;                               .WORD ERR006
      103044 024032          ;                               .WORD MSG003

11604 103046          ESCAPE TST          ; AND ABORT TEST          TRAP C$ESCAPE
      103046 104410          ;                               .WORD L10061 .
      103050 000506

11605          ;
11606          ;MOVE MICROCODE REVISION FROM PCBB -> RREV
11607
11608 103052 013737 002304 103566 120$: MOV PCBB+2,RREV
11609 103060 042737 177700 103566          BIC #177700,RREV          ; MASK RREV
11610
11611          ;
11612          ;READ SWITCH PACK
11613 103066 012705 014666 130$: MOV #DMPHEM,R5          ; DEFAULT DUMP INTERNAL MEMORY
11614 103072 004737 033656          JSR PC,LDPCBB          ; LOAD FUNCTION -> PCBB
11615 103076 012705 020502          MOV #UDB28A,R5          ; DEFAULT UDBB
11616 103102 012700 000005          MOV #5,R0          ; FIVE WORDS
11617 103106 004737 034134          JSR PC,LDUDBB          ; LOAD INTO UDBB
11618 103112 012737 103570 002314          MOV #SWPACK,UDBB+2          ; LOAD ADDRESS
11619 103120 012737 000002 002320          MOV #2,UDBB+6          ; LOAD INTERNAL
11620 103126 012737 000030 002322          MOV #30,UDBB+10          ; ADDRESS (6000002 OCTAL)
11621 103134 012777 004100 077064          MOV #DNI!INTE,@PCSRO          ; ENABLE INTERRUPTS
11622 103142 012777 000102 077056          MOVB #INTE!GETCMD,@PCSRO          ; ISSUE GET COMMAND PORT COMMAND
11623 103150 004737 030706          JSR PC,CHKDNI          ; DNI ?
11624 103154 103010          BCC 140$          ; YES
11625 103156          FTL

      103156 004737 031010          JSR PC,CHKFTL          ; 'FATL' BIT SET?

11626 103162          ERRHRD 691.,ERR010,MSG003          ; NO, REPORT ERROR
      103162 104456          ;                               TRAP C$ERHRD
      103164 001263          ;                               .WORD 691
      103166 025425          ;                               .WORD ERR010
      103170 024032          ;                               .WORD MSG003

11627 103172          ESCAPE TST          ; AND ABORT TEST          TRAP C$ESCAPE
      103172 104410          ;                               .WORD L10061 .
      103174 000362

11628
11629 103176 004737 032320 140$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
11630          ;                               ; ERROR ?
11631 103202 103010          BCC 150$          ; NO
11632 103204          FTL

```

```

103204 004737 031010          JSR      PC,CHKFTL          ; 'FATL' BIT SET?
11633 103210          ERRHRD  692.,ERR006,MSG003 ; YES, REPORT ERROR
103210 104456          TRAP      C$ERRHRD
103212 001264          .WORD    692
103214 025124          .WORD    ERR006
103216 024032          .WORD    MSG003
11634 103220          ESCAPE  TST          ; AND ABORT TEST
103220 104410          TRAP      C$ESCAPE
103222 000334          .WORD    L10061 .
11635
11636          ;GET SWITCH PACK INFO READY TO PRINT
11637
11638 103224 013704 103570 150$:  MOV      SWPACK,R4          ; SWITCH PACK -> R4
11639 103230 005704          TST      R4              ; MFG MODE ENABLED?
11640 103232 100404          BMI     160$            ; YES
11641 103234 012737 103756 103572  MOV     #LPMSG0,LPMMSG    ; POINT TO MFG MODE DISABLED MSG ;B0
11642 103242 000403          BR       170$            ; SKIP DISABLED MSG
11643 103244 012737 104033 103572 160$:  MOV     #LPMSG1,LPMMSG    ; POINT TO MFG MODE ENABLED MSG ;B0
11644 103252 013704 103570 170$:  MOV     SWPACK,R4          ; SWITCH PACK -> R4
11645 103256 042704 117777          BIC     #117777,R4       ; MASK BITS 14 AND 13
11646 103262 012700 000014          MOV     #12.,R0         ; SHIFT BITS FOR INDEX
11647 103266 006204          180$:  ASR     R4
11648 103270 005300          DEC     R0
11649 103272 001375          BNE     180$
11650 103274 062704 103714          ADD     #BTBL,R4
11651 103300 011437 103574          MOV     (R4),BTMSG      ; INDEX INTO BOOT TABLE
11652          ;
11653          ; PRINT
11654          ;
11655          PRINTB  #FRM015,#DEFHDR ; PRINT DEFAULT PHYSICAL ADDRESS
103304 012746 103600          MOV     #DEFHDR,-(SP)
103310 012746 022201          MOV     #FRM015,-(SP)
103314 012746 000002          MOV     #2,-(SP)
103320 010600          MOV     SP,R0
103322 104414          TRAP   C$PNTB
103324 062706 000006          ADD     #6,SP
11656 103330          PRINTB  #FRM016,RREV      ; PRINT MICROCODE REV
103330 013746 103566          MOV     RREV,-(SP)
103334 012746 022206          MOV     #FRM016,-(SP)
103340 012746 000002          MOV     #2,-(SP)
103344 010600          MOV     SP,R0
103346 104414          TRAP   C$PNTB
103350 062706 000006          ADD     #6,SP
11657 103354          PRINTB  #FRM015,#SWHDR    ; PRINT SWITCH PACK HEADER
103354 012746 103724          MOV     #SWHDR,-(SP)
103360 012746 022201          MOV     #FRM015,-(SP)
103364 012746 000002          MOV     #2,-(SP)
103370 010600          MOV     SP,R0
103372 104414          TRAP   C$PNTB
103374 062706 000006          ADD     #6,SP
11658 103400          PRINTB  #FRM015,LPMMSG    ; PRINT LOOPBACK MESSAGE
103400 013746 103572          MOV     LPMMSG,-(SP)
103404 012746 022201          MOV     #FRM015,-(SP)
103410 012746 000002          MOV     #2,-(SP)
103414 010600          MOV     SP,R0

```

E13

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11659 103416 104414
      103420 062706 000006
      103424          PRINTB #FRM015,BTMSG          ; PRINT BOOT MESSAGE
      103424 013746 103574
      103430 012746 022201
      103434 012746 000002
      103440 010600
      103442 104414
      103444 062706 000006
11660
11661 103450          ;
11662 103450          ;250$:
      103450 104432          EXIT          TST
      103452 000104
11663
11664          ;LOCAL TEST MESSAGES
11665
11666 103454          104          105          114          T27ID: .ASCIZ 'DELUA PRINT DEVICE PARAMETER '
      103457          125          101          040
      103462          120          122          111
      103465          116          124          040
      103470          104          105          126
      103473          111          103          105
      103476          040          120          101
      103501          122          101          115
      103504          105          124          105
      103507          122          040          000
11667
11668 103512          124          110          111          .EVEN
      103515          123          040          124          T27SKP: .ASCIZ 'THIS TEST PERFORMED 1ST PASS ONLY '
      103520          105          123          124
      103523          040          120          105
      103526          122          106          117
      103531          122          115          105
      103534          104          040          061
      103537          123          124          040
      103542          120          101          123
      103545          123          040          117
      103550          116          114          131
      103553          040          000
11669
11670 103556          .EVEN
      103556          ENDTST
      103556 104401          L10061: TRAP C$ETST

```



```

11672          ;LOCAL STORAGE FOR TEST 27
11673 103560 000000 DPA:          .WORD 0          ; DEFAULT PHYSICAL ADDRESS (15:00)
11674 103562 000000          .WORD 0          ; DEFAULT PHYSICAL ADDRESS (31:16)
11675 103564 000000          .WORD 0          ; DEFAULT PHYSICAL ADDRESS (47:32)
11676          ;
11677 103566 000000 RREV:          .WORD 0          ; MICROCODE REVISION
11678          ;
11679 103570 000000 SWPACK: .WORD 0          ; SWITCH PACK CONTENTS
11680 103572 000000 LPMSG:          .WORD 0          ; LOOPBACK MESSAGE ADDRESS
11681 103574 000000 BTMSG:          .WORD 0          ; BOOT MESSAGE ADDRESS
11682          ;
11683 103576 000      HEXDAT: .BYTE 0          ; HEX DATA FOR CONVERSION
11684 103577 000      HEXVAL: .BYTE 0          ; ASCII HEX VALUE
11685          ;
11686 103600 015      012      105      DEFHDR: .ASCII <15><12>/ETHERNET DEFAULT ADDRESS (HEX): /
          103603 124      110      105
          103606 122      116      105
          103611 124      040      104
          103614 105      106      101
          103617 125      114      124
          103622 040      101      104
          103625 104      122      105
          103630 123      123      040
          103633 050      110      105
          103636 130      051      072
          103641 040      040
11687 103643 040      040      DEFADR: .ASCII / /
11688 103645 055          .ASCII /-/
11689 103646 040      040      .ASCII / /
11690 103650 055          .ASCII /-/
11691 103651 040      040      .ASCII / /
11692 103653 055          .ASCII /-/
11693 103654 040      040      .ASCII / /
11694 103656 055          .ASCII /-/
11695 103657 040      040      .ASCII / /
11696 103661 055          .ASCII /-/
11697 103662 040      040      .ASCII / /
11698 103664 015      012      000      .ASCIZ <15><12>
11699          ;
11700 103667 060          HEXTBL: .ASCII /0/
11701 103670 061          .ASCII /1/
11702 103671 062          .ASCII /2/
11703 103672 063          .ASCII /3/
11704 103673 064          .ASCII /4/
11705 103674 065          .ASCII /5/
11706 103675 066          .ASCII /6/
11707 103676 067          .ASCII /7/
11708 103677 070          .ASCII /8/
11709 103700 071          .ASCII /9/
11710 103701 101          .ASCII /A/
11711 103702 102          .ASCII /B/
11712 103703 103          .ASCII /C/
11713 103704 104          .ASCII /D/
11714 103705 105          .ASCII /E/
11715 103706 106          .ASCII /F/
11716          .EVEN
11717          ;
    
```

```

11718                                     ;LOOP MESSAGE TABLE
11719 103710 103756 LPTBL:                .WORD  LPMSG0
11720 103712 104033                .WORD  LPMSG1
11721                                     ;BOOT MESSAGE TABLE
11722 103714 104107 BTTBL:                .WORD  BTMSG0
11723 103716 104223                .WORD  BTMSG2
11724 103720 104145                .WORD  BTMSG1
11725 103722 104107                .WORD  BTMSG0
11726                                     ;ASCII MESSAGES
11727 103724      015      012      123  SWHDR:                .ASCII <15><12>/SWITCH PACK SET FOR :/
      103727      127      111      124
      103732      103      110      040
      103735      120      101      103
      103740      113      040      123
      103743      105      124      040
      103746      106      117      122
      103751      040      072
11728 103753      015      012      000
11729 103756      040      040      040  LPMSG0: .ASCII / .ASCIZ <15><12>
      103761      040      040      123                SELF TEST MANUFACTURING MODE DISABLED/
      103764      105      114      106
      103767      040      124      105
      103772      123      124      040
      103775      115      101      116
      104000      125      106      101
      104003      103      124      125
      104006      122      111      116
      104011      107      040      115
      104014      117      104      105
      104017      040      104      111
      104022      123      101      102
      104025      114      105      104
11730 104030      015      012      000
11731 104033      040      040      040  LPMSG1: .ASCII / .ASCIZ <15><12>
      104036      040      040      123                SELF TEST MANUFACTURING MODE ENABLED/
      104041      105      114      106
      104044      040      124      105
      104047      123      124      040
      104052      115      101      116
      104055      125      106      101
      104060      103      124      125
      104063      122      111      116
      104066      107      040      115
      104071      117      104      105
      104074      040      105      116
      104077      101      102      114
      104102      105      104
11732 104104      015      012      000
11733 104107      040      040      040  BTMSG0: .ASCII / .ASCIZ <15><12>
      104112      040      040      116                NO REMOTE BOOT ENABLED/
      104115      117      040      122
      104120      105      115      117
      104123      124      105      040
      104126      102      117      117
      104131      124      040      105
      104134      116      101      102
      104137      114      105      104

```

H13

11734	104142	015	012	000	
11735	104145	040	040	040	BTMSG1: .ASCII / .ASCIZ <15><12>
	104150	040	040	122	REMOTE BOOT, WITH SYSTEM LOAD, ENABLED/
	104153	105	115	117	
	104156	124	105	040	
	104161	102	117	117	
	104164	124	054	040	
	104167	127	111	124	
	104172	110	040	123	
	104175	131	123	124	
	104200	105	115	040	
	104203	114	117	101	
	104206	104	054	040	
	104211	105	116	101	
	104214	102	114	105	
	104217	104			
11736	104220	015	012	000	
11737	104223	040	040	040	BTMSG2: .ASCII / .ASCIZ <15><12>
	104226	040	040	122	REMOTE BOOT ENABLED WITH ROM/
	104231	105	115	117	
	104234	124	105	040	
	104237	102	117	117	
	104242	124	040	105	
	104245	116	101	102	
	104250	114	105	104	
	104253	040	127	111	
	104256	124	110	040	
11738	104261	122	117	115	
11739	104264	015	012	000	.ASCIZ <15><12>
					.EVEN

```

11742          .TITLE PARAMETER CODING
11753
11754          .SBTTL  HARDWARE PARAMETER CODING SECTION
11773
11774
11775          ;**
11776          ; THE HARDWARE PARAMETER CODING SECTION CONTAINS MACROS
11777          ; THAT ARE USED BY THE SUPERVISOR TO BUILD P-TABLES.  THE
11778          ; MACROS ARE NOT EXECUTED AS MACHINE INSTRUCTIONS BUT ARE
11779          ; INTERPRETED BY THE SUPERVISOR AS DATA STRUCTURES.  THE
11780          ; MACROS ALLOW THE SUPERVISOR TO ESTABLISH COMMUNICATIONS
11781          ; WITH THE OPERATOR.
11782          ;--
11783
11784          BGNHRD
11785          104270          .WORD L10062 L$HARD/2
11786          104270 000010          L$HARD::
11787          104272
11788          GPRMA  ASKCSR,0,0,160000,174610,NO      ;FIRST P-TABLE QUESTION ;B0
11789          104272 000021          .WORD  T$CODE
11790          104274 104312          .WORD  ASKCSR
11791          104276 160000          .WORD  T$LOLIM
11792          104300 174610          .WORD  T$HILIM
11793
11794          GPRMA  ASKVEC,2,0,120,770,NO          ;SECOND P-TABLE QUESTION ;B0
11795          104302 001021          .WORD  T$CODE
11796          104304 104345          .WORD  ASKVEC
11797          104306 000120          .WORD  T$LOLIM
11798          104310 000770          .WORD  T$HILIM
11799
11800          ENDHRD
11801
11802          L10062: .EVEN
11803
11804          104312
11805          11792          104312 127 110 101 ASKCSR: .ASCIZ /WHAT IS THE PCSRO ADDRESS?/
11806          104315 124 040 111
11807          104320 123 040 124
11808          104323 110 105 040
11809          104326 120 103 123
11810          104331 122 060 040
11811          104334 101 104 104
11812          104337 122 105 123
11813          104342 123 077 000
11814          11794          104345 127 110 101 ASKVEC: .ASCIZ /WHAT IS THE VECTOR ADDRESS?/
11815          104350 124 040 111
11816          104353 123 040 124
11817          104356 110 105 040
11818          104361 126 105 103
11819          104364 124 117 122
11820          104367 040 101 104
11821          104372 104 122 105
11822          104375 123 123 077
11823          104400 000
11824
11825          .EVEN

```

J13

11797
11798
11799
11800
11801
11802
11803
11804
11805
11806
11807
11808
11809

.SBTTL SOFTWARE PARAMETER CODING SECTION
:
:***
: THE SOFTWARE PARAMETER CODING SECTION CONTAINS MACROS
: THAT ARE USED BY THE SUPERVISOR TO BUILD P-TABLES. THE
: MACROS ARE NOT EXECUTED AS MACHINE INSTRUCTIONS BUT ARE
: INTERPRETED BY THE SUPERVISOR AS DATA STRUCTURES. THE
: MACROS ALLOW THE SUPERVISOR TO ESTABLISH COMMUNICATIONS
: WITH THE OPERATOR.
:
:NOTE: SEE 'EXTERNAL LOOPBACK TEST' DESCRIPTION FOR OPTIONS.
:
:-

11810 104402
104402 000006
104404

BGNSFT

.WORD L10063 L\$SOFT/2
L\$SOFT::

11811
11812 104404
104404 000130
104406 104420
104410 000001

GPRML ASKEXT,0,1,YES

.WORD T\$CODE
.WORD ASKEXT
.WORD 1

11813
11814
11815 104412
104412 001130
104414 104526
104416 000001

GPRML CNLOOP,2,1,YES

.WORD T\$CODE
.WORD CNLOOP
.WORD 1

11816
11817
11818
11819 104420

.EVEN

ENDSFT

.EVEN
L10063:

104420

11820
11821 104420 122 125 116
104423 040 105 130
104426 124 105 122
104431 116 101 114
104434 040 114 117
104437 117 120 102
104442 101 103 113
104445 040 115 117
104450 104 105 040
104453 124 105 123
104456 124 040 050
104461 122 105 121
104464 056 040 11^
104467 064 060 070
104472 060 040 117
104475 122 040 105
104500 121 125 111
104503 126 056 040
104506 114 117 117
104511 120 102 101
104514 103 113 040
104517 077 040 131
104522 057 116 040

ASKEXT: .ASCIZ *RUN EXTERNAL LOOPBACK MODE TEST (REQ. H4080 OR EQUIV. LOOPBACK ? Y/N *

K13

```

11822 104525 000
11823 104526 124 117 040 CNLOOP: .ASCIZ *TO AVOID MAN. INTERVENTION INSTALL H4080 OR EQUIV. LOOPBACK NOW? Y/N *
      104531 101 126 117
      104534 111 104 040
      104537 115 101 116
      104542 056 040 111
      104545 116 124 105
      104550 122 126 105
      104553 116 124 111
      104556 117 116 040
      104561 111 116 123
      104564 124 101 114
      104567 114 040 110
      104572 064 060 070
      104575 060 040 117
      104600 122 040 105
      104603 121 125 111
      104606 126 056 040
      104611 114 117 117
      104614 120 102 101
      104617 103 113 040
      104622 116 117 127
      104625 077 040 131
      104630 057 116 040
      104633 000

11824
11825 .EVEN
11826
11827 104634 $PATCH:
11828 104634 .BLKW 20
11829
11830 104674 LASTAD
                                     .EVEN
                                     .WORD 0
                                     .WORD 0

      104674 000000
      104676 000000
      104700
11831 104700 L$LAST:: ENDMOD
11832
11833 000001 .END

```

ADR = 000020 G	CLKFRE 002256	C\$MMU = 000103	ERRBLK 020660 G	EXLOOP 002222
ADR21 020062	CLKSRV 036422 G	C\$MESSG = 000023	ERRMSG 020656 G	E\$END = 002100
ADR21C 020070	CLKTAB 002250	C\$OPNR= 000034	ERRNBR 020654 G	E\$LOAD= 000035
ASKCSR 104312	CLKVEC 002254	C\$OPNW= 000104	ERRS = 040000 G	FATL = 001000 G
ASKEXT 104420	CLRBUF 032246	C\$PNTB= 000014	ERRTYP 020652 G	FATLIB= 000002 G
ASKVEC 104345	CLRCNT 014562	C\$PNTF= 000017	ERR001 024754	FRM001 020754
ASSEMB= 000010	CLRCV 032272	C\$PNTS= 000016	ERR002 025004	FRM002 021011
BIT0 = 000001 G	CLRDNI 032320	C\$PNTX= 000015	ERR003 025042	FRM003 021072
BIT00 = 000001 G	CLRRXI 032434	C\$PUTB= 000072	ERR005 025100	FRM004 021133
BIT01 = 000002 G	CLRSTA 014656	C\$PUTW= 000073	ERR006 025124	FRM005 021173
BIT02 = 000004 G	CLRTXI 032502	C\$QIO = 000377	ERR007 025172	FRM006 021260
BIT03 = 000010 G	CLRXTM 032550	C\$RDBU= 000007	ERR008 025262	FRM007 021345
BIT04 = 000020 G	CMODE1= 175015 G	C\$REFG= 000047	ERR009 025341	FRM008 021432
BIT05 = 000040 G	CMPCRC 032576	C\$REL = 000077	ERR010 025425	FRM009 021517
BIT06 = 000100 G	CMPDAT 032646	C\$RESE= 000033	ERR011 025510	FRM010 021604
BIT07 = 000200 G	CMPMEM 032726	C\$REVI= 000004	ERR012 025543	FRM011 021671
BIT08 = 000400 G	CNLOOP 104526	C\$RFLA= 000021	ERR013 025624	FRM012 021756
BIT09 = 001000 G	CRCH 017622	C\$RPT = 000025	ERR014 025655	FRM013 022043
BIT1 = 000002 G	C\$AU = 000052	C\$SEFG= 000046	ERR015 025723	FRM014 022122
BIT10 = 002000 G	C\$AUTO= 000061	C\$SPRI= 000041	ERR016 025754	FRM015 022201
BIT11 = 004000 G	C\$BRK = 000022	C\$SVEC= 000037	ERR017 026022	FRM016 022206
BIT12 = 010000 G	C\$BSEG= 000004	C\$TOME= 000076	ERR018 026122	FRM017 022257
BIT13 = 020000 G	C\$BSUB= 000002	DEFADR 103643	ERR019 026222	FRM018 022305
BIT14 = 040000 G	C\$CLCK= 000062	DEFHDR 103600	ERR020 026302	FRM019 022341
BIT15 = 100000 G	C\$CLEA= 000012	DELAY 033006	ERR021 026363	FRM020 022375
BIT2 = 000004 G	C\$CLOS= 000035	DELUIA= 000020 G	ERR022 026444	FRM021 022431
BIT3 = 000010 G	C\$CLP1= 000006	DEST 002260	ERR023 026513	FRM022 022465
BIT4 = 000020 G	C\$CPBF= 000074	DEVUNI 023404	ERR024 026540	FRM023 022551
BIT5 = 000040 G	C\$CPME= 000075	DFALT 002274	ERR025 026602	FRSTIM 020614
BIT6 = 000100 G	C\$CVEC= 000036	DFPTBL 002214 G	ERR026 026634	FTLSET 031064
BIT7 = 000200 G	C\$DCLN= 000044	DIAGMC= 000000	ERR027 026634	F\$AU = 000015
BIT8 = 000400 G	C\$DODU= 000051	DMPMEM 014666	ERR028 026741	F\$AUTO= 000020
BIT9 = 001000 G	C\$DRPT= 000024	DNI = 004000 G	ERR029 027047	F\$BGN = 000040
BLKCRC 030644	C\$DU = 000053	DNIB = 000010 G	ERR030 027047	F\$CLEA= 000007
BOE = 000400 G	C\$EDIT= 000000	DNICLR 023671	ERR031 027154	F\$DU = 000016
BTMSG 103574	C\$ERDF= 000055	DNIFLG 020612	ERR032 027262	F\$END = 000041
BTMSG0 104107	C\$ERHR= 000056	DOCRC 020564	ERR033 027262	F\$HARD= 000004
BTMSG1 104145	C\$ERRO= 000060	DPA 103560	ERR034 027351	F\$HW = 000013
BTMSG2 104223	C\$FRSF= 000054	DTYPE = 002540 G	ERR035 027441	F\$INIT= 000006
BTTBL 103714	C\$ERSO= 000057	EAFLAG 020610	ERR036 027441	F\$JMP = 000050
BUFL = 100000 G	C\$ESCA= 000010	ECODE 020602	ERR037 027527	F\$MOD = 000000
BYTCNT 020562	C\$ESEG= 000005	ECRC 020572	ERR038 027616	F\$MESSG = 000011
CHKDNI 030706	C\$ESUB= 000003	ECRCB 020574	ERR039 027671	F\$PROT= 000021
CHKFTL 031010	C\$ETST= 000001	EDAT 020566	ERR040 027772	F\$PWR = 000017
CHKOWN 031162	C\$EXIT= 000032	EF.CON= 000036 G	ERR041 030037	F\$RPT = 000012
CHKRCE 031240	C\$FREQ= 000101	EF.NEW= 000035 G	ERR042 030105	F\$SEG = 000003
CHKRDR 031344	C\$FRME= 000100	EF.PWR= 000034 G	ERR043 030157	F\$SOFT= 000005
CHKRXI 031454	C\$GETB= 000026	EF.RES= 000037 G	ERR044 030256	F\$SRV = 000010
CHKSTR 031556	C\$GETW= 000027	EF.STA= 000040 G	ERR045 030355	F\$SUB = 000002
CHKTDR 031636	C\$GMAN= 000043	END13A= 020062	ERR046 030420	F\$SW = 000014
CHKTXI 031724	C\$GPHR= 000042	ENP = 000400 G	ERR047 030476	F\$TEST= 000001
CKDNI 032034	C\$GPRI= 000040	EPCSR0 020516	ERR048 030565	GETCMD= 000002 G
CLBYTE 032260	C\$INIT= 000011	EPCSR1 020520	ETDRB0 020542	GETCRC 033034
CLINTB= 175400 G	C\$INLP= 000020	ERDRB0 020522	ETDRB2 020544	GETPCB= 000001 G
CLINTR 032402	C\$MANI= 000050	ERDRB2 020524	ETDRB4 020546	GOODST= 000000 G
CLKBR 002252	C\$MAP = 000102	ERDRB4 020526	ETDRB6 020550	G\$CNT0= 000200
CLKCSR 002250	C\$MEM = 000031	ERDRB6 020530	EVL = 000004 G	G\$DELM= 000372

G\$DISP=	000003	J\$JMP =	000167	L\$ICP	002104 G	L10043	046232	O\$BGN5=	000001
G\$EXCP=	000400	LDBUF	033260	L\$INIT	035404 G	L10044	047610	U\$DU =	000001
G\$HILI=	000002	LDBUFC	033322	L\$LADP	002026 G	L10045	051224	O\$ERRT=	000001
G\$LOLI=	000001	LDBUFR	033374	L\$LAST	104700 G	L10046	052326	O\$GNSW=	000001
G\$NO =	000000	LDDEST	033560	L\$LOAD	002100 G	L10047	053740	O\$POIN=	000001
G\$OFFS=	000400	LDDFLT	033606	L\$LUN	002074 G	L10050	055226	O\$SETU=	000000
G\$OFST=	000376	LDMEM	014676	L\$MREV	002050 G	L10051	057032	PATRN1	020630
G\$PRMA=	000001	LDPCBB	033656	L\$NAME	002000 G	L10052	062510	PCBB	002302
G\$PRMD=	000002	LDPCSR	033706	L\$PRIO	002042 G	L10053	066444	PCEI =	040000 G
G\$PRML=	000000	LDPHYA	033724	L\$PROT	035376 G	L10054	072700	PCEIB =	000100 G
G\$RADA=	000140	LDRDRB	033744	L\$PRT	002112 G	L10055	075172	PCSR0	002226
G\$RADB=	000000	LDRDRX	034002	L\$REPP	002062 G	L10056	076632	PCSR0C	002240
G\$RADD=	000040	LDTDRB	034040	L\$REV	002010 G	L10057	100516	PCSR0U	002236
G\$RADL=	000120	LDTDRX	034076	L\$RPT	035370 G	L10060	102376	PCSR1	002230
G\$RADO=	000020	LDUDBB	034134	L\$SOFT	104404 G	L10061	103556	PCSR2	002232
G\$XFER=	000004	LDXCRC	034170	L\$SPC	002056 G	L10062	104312	PCSR3	002234
G\$YES =	000010	LUXRDR	034214	L\$SPCP	002020 G	L10063	104420	PCTO =	000200 G
HALT =	000016 G	LDXTRD	034244	L\$SPTP	002024 G	MEM10A	017636	PDMD =	000010 G
HELP =	000000	LOE =	040000 G	L\$STA	002030 G	MEM11A	017710	PNOP =	000006 G
HEXDAT	103570	LOPCN	002224	L\$SW	002222 G	MEM13A	017714	PNT =	001000 G
HEXDPA	033112	LOT =	000010 G	L\$TEST	002114 G	METER	020604	PNTID	034610
HEXH	033174	LPMSG	103572	L\$TIML	002014 G	MMSG1	022774	POLYH	020616
HEXL	033232	LPMSG0	103756	L\$UNIT	002012 G	MODE15	020466	POLYHI=	120001 G
HEXTBL	103667	LPMSG1	104033	L10000	002220	MODE17	020470	POLYL	020620
HEXVAL	103577	LPTBL	103710	L10001	002226	MODE20	020472	PRI =	002000 G
HOE =	100000 G	LSMA	014452	L10002	024002	MODE21	020474	PRILD =	000001 G
IBE =	010000 G	L\$ACP	002110 G	L10003	024030	MODE24	020476	PRI00 =	000000 G
IDU =	000040 G	L\$APT	002036 G	L10004	024062	MODE25	020500	PRI01 =	000040 G
IE =	000100 G	L\$AU	036350 G	L10005	024134	MSG001	023760 G	PRI02 =	000100 G
IER =	020000 G	L\$AUT	002070 G	L10006	024276	MSG002	024004 G	PRI03 =	000140 G
INITH =	000000 G	L\$AUTO	036170 G	L10007	024440	MSG003	024032 G	PRI04 =	000200 G
INTE =	000100 G	L\$CCP	002106 G	L10010	024472	MSG004	024064 G	PRI05 =	000240 G
INTMG1	032156	L\$CLEA	036172 G	L10011	024554	MSG005	024136 G	PRI06 =	000300 G
INTR =	000200 G	L\$CO	002032 G	L10012	024676	MSG006	024300 G	PRI07 =	000340 G
INTVEC	002242	L\$DEPO	002011 G	L10013	024724	MSG007	024442 G	PRNTIT	020622
ISR =	000100 G	L\$DESC	020670 G	L10014	024752	MSG008	024474 G	RBUF	010442
ISRDN1	036366 G	L\$DESP	002076 G	L10015	035374	MSG009	024556 G	RBUF2	011042
ISRNXM	036356 G	L\$DEVP	002060 G	L10017	036166	MSG010	024700 G	RBUF3	011442
IXE =	004000 G	L\$DISP	002124 G	L10020	036170	MSG011	024726 G	RBUF4	012042
I\$AU =	000041	L\$DLY	002116 G	L10021	036340	MSG1	022572	RBUF5	012442
I\$AUTO=	000041	L\$DTP	002040 G	L10022	036346	MSG2	022666	RBUF6	013042
I\$CLN =	000041	L\$DTYP	002034 G	L10023	036354	MULTL	020076	RBUF7	013442
I\$DU =	000041	L\$DU	036342 G	L10024	036364	MULTLC	020172	RBUF8	014042
I\$HRD =	000041	L\$DUT	002072 G	L10025	036420	M68FLD	023276	RCBI =	002000 G
I\$INIT=	000041	L\$DVTY	020662 G	L10026	036434	NEXMEM	020606	RCBIB =	000004 G
I\$MOD =	000041	L\$EF	002052 G	L10027	036612	NIHLT =	000006 G	RDCNT	014552
I\$MSG =	000041	L\$ENVI	002044 G	L10030	036776	NIUNI =	000007 G	RDDEFA	014462
I\$PROT=	000040	L\$ERRT	020652 G	L10031	037222	NIUNIB	023502	RDMODE	014572
I\$PTAB=	000041	L\$ETP	002102 G	L10032	037406	NOCLK	023234	RDMLA	014512
I\$PWR =	000041	L\$EXP1	002046 G	L10033	037572	NOPF	014442	RDPHYA	014472
I\$RPT =	000041	L\$EXP4	002064 G	L10034	040004	NORXI	034276	RDRB	002662
I\$SEG =	000041	L\$EXP5	002066 G	L10035	040216	ONEFIL =	000001	RDRBE	002722
I\$SETU=	000041	L\$HARD	104272 G	L10036	040600	ONES =	177777 G	RDRBXX	015572
I\$SFT =	000041	L\$HIME	002120 G	L10037	042274	OWN =	100000 G	RDRB1A	014752
I\$SRV =	000041	L\$HPCP	002016 G	L10040	042642	O\$APTS=	000000	RDRB1B	015012
I\$SUB =	000041	L\$HPTP	002022 G	L10041	043366	O\$AU =	000001	RDRB2A	015052
I\$TST =	000041	L\$HW	002214 G	L10042	044622	O\$BGNR=	000001	RDRB3A	015112

RDRB4A	015542	SMSG24	041406	TDR18B	020316	T\$\$SOF=	010063	T26ID	102344
RDRB4B	015152	SMSG25	041445	TDR20A	020326	T\$\$SRV=	010026	T27	102400 G
RDRB5A	015412	SMSG26	041504	TDR20B	020336	T\$\$SW =	010001	T27ID	103454
RDRNGS	014532	SMSG27	041551	TDR21X	020346	T\$\$TES=	010061	T27SKP	103512
RDRX	003626	SMSG60	041610	TDR24A	020356	T01ID	036560	T3	037000 G
RDR14B	020376	SRC	002266	TDR24B	020366	T02ID	036744	T4	037224 G
RDR15A	020406	SRC DST	035062	TEND =	010440	T03ID	037176	T5	037410 G
RDR17A	020416	SRWRAM	035132	TIMASK=	000377 G	T04ID	037354	T6	037574 G
RDR17B	020426	START =	000004 G	TIMOFF	035256	T05ID	037540	T7	040006 G
RDR20A	020436	STATEM=	172377 G	TIMON	035272	T06ID	037754	T8	040220 G
RDR20B	020446	STMASK=	140377 G	TINIT	035310	T07ID	040166	T9	041652 G
RDR20C	020456	STMSG	040602	TSTFMT	034644	T08ID	040560	UAM =	000200 G
RDSTA	014646	STOP =	000017 G	TXI =	010000 G	T09ID	042250	UDBB	002312
READY =	000002 G	STP =	001000 G	TXIB =	000020 G	T1	036436 G	UDB10A	017624
REND =	014442	STTBL	040604	T\$ARGC=	000002	T10	042276 G	UDB11A	017676
REPLY	020624	SVCGBL=	000000	T\$CODE=	001130	T10ID	042612	UDB28A	020502
RESET =	000000 G	SVCINS=	000001	T\$ERRN=	001264	T11	042644 G	UNAPRI	002244
RFRMT	014706	SVC SUB=	000001	T\$EXCP=	000000	T11ID	043334	UNDFND	023575
RFRMTE	014736	SVCTAG=	000001	T\$FLAG=	000040	T12	043370 G	UNIHLT=	000005 G
RFRMTX	014722	SVCTST=	000001	T\$GMAN=	000000	T12ID	044560	UNIT	002246
RMTC =	000010 G	SWADDR	020514	T\$HILI=	000770	T13	044624 G	USCI =	000400 G
ROMCRC	034336	SWHDR	103724	T\$LAST=	000001	T13ID	046200	USCIB =	000001 G
RREV	103566	SWPACK	103570	T\$LOLI=	000120	T14	046234 G	WTMODE	014602
RSET =	000040 G	S\$LSYM=	010000	T\$LSYM=	010000	T14ID	047564	WTMOD1	014612
RUN =	000003 G	TBUF	004440	T\$LTNO=	000033	T15	047612 G	WTMOD2	014622
RXI =	020000 G	TBUF2	005040	T\$NEST=	177777	T15ID	051174	WTMOD3	014632
RXIB =	000040 G	TBUF3	005440	T\$NSO =	000000	T16	051226 G	WTMOD4	014642
SECOND=	000077 G	TBUF4	006040	T\$NS1 =	000005	T16ID	052274	WTMULA	014522
SERI =	100000 G	TBUF5	006440	T\$PTNU=	000000	T17	052330 G	WTPHYA	014502
SERIB =	000200 G	TBUF6	007040	T\$SAVL=	177777	T17ID	053700	WTRNGS	014542
SETBF	034420	TBUF7	007440	T\$SEGL=	177777	T18	053742 G	XCRC	020576
SETBUF	034662	TBUF8	010040	T\$SUBN=	000000	T18ID	055166	XCRCB	020600
SFPTBL	002222 G	TDRB	002622	T\$TAGL=	177777	T19	055230 G	XDAT	020570
SIZ4K =	020000 G	TDRBXX	016742	T\$TAGN=	010064	T19ID	057004	XRDRB0	020532
SIZ8K =	040000 G	TDRB1A	016412	T\$TEMP=	000000	T2	036614 G	XRDRB2	020534
SKIP	023070	TDRB1B	016452	T\$TEST=	000033	T20	057034 G	XRDRB4	020536
SKIP26	023151	TDRB1C	016512	T\$TSTM=	177777	T20ID	062460	XRDRB6	020540
SLFT =	000003 G	TDRB1D	016532	T\$TSTS=	000001	T21	062512 G	XTDRB0	020552
SMASK =	177770 G	TDRB1E	016552	T\$\$AU =	010023	T21ID	066412	XTDRB2	020554
SMSG00	040746	TDRB2A	016602	T\$\$AUT=	010020	T22	066446 G	XTDRB4	020556
SMSG01	040771	TDRB2B	016642	T\$\$CLE=	010021	T22ID	072650	XTDRB6	020560
SMSG10	041061	TDRB3A	016702	T\$\$DU =	010022	T23	072702 G	X\$ALWA=	000000
SMSG11	041115	TDRB4A	017572	T\$\$HAR=	010062	T23ID	075130	X\$FALS=	000040
SMSG13	041144	TDRMSK=	007777 G	T\$\$HW =	010000	T24	075174 G	X\$OFFS=	000400
SMSG20	041223	TDRX	003016	T\$\$INI=	010017	T24ID	076552	X\$TRUE=	000020
SMSG21	041262	TDR14A	020266	T\$\$MSG=	010014	T25	076634 G	ZERO =	000000 G
SMSG22	041321	TDR15A	020276	T\$\$PRO=	010016	T25ID	100456	\$PATCH	104634
SMSG23	041350	TDR18A	020306	T\$\$RPT=	010015	T26	100520 G		

. ABS. 104700 000 (RW,I,GBL,ABS,OVR)
000000 001 (RW,I,LCL,REL,CON)

Errors detected: 0

*** Assembler statistics

Work file reads: 319

B14

PARAMETER CODING
Symbol table

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SEQ 377

Work file writes: 326
Size of work file: 36765 Words (144 Pages)
Size of core pool: 19684 Words (75 Pages)
Operating system: RSX-11M/PLUS (Under VAX/VMS)

Elapsed time: 00:12:08.62
CZUADB,CZUADB/-SP/NL:TOC=SVC40/ML,CZUADB