

DEUNA

FUNCTIONAL DIAGNOSTIC
CZUABCO

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 AH-T366C-MC
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IDENTIFICATION

PRODUCT CODE: AC-T36SC-MC
PRODUCT NAME: CZUABCO FUNCTIONAL DIAG
PRODUCT DATE: 21-OCT-84
MAINTAINER: DISTRIBUTED SYSTEMS DIAGNOSTIC ENGINEERING
AUTHOR: BRUCE A. HALE

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REVISION HISTORY

DATE	AUTHOR	DESCRIPTION OF CHANGE
10-FEB 83	MICHAEL CINNAMON (MAC001)	ADD THIS SECTION. CHANGE INIT CODE TO DELAY A PERIOD OF TIME AFTER A POWER FAILURE OCCURS TO ALLOW SELF TEST TO FINISH. INCREASE AMOUNT OF TIME TO WAIT FOR DNI AFTER ISSUING A RESET TO PCSRO. FIX SELF TEST. UPDATE SELF TEST ERROR DESCRIPTIONS. USE LINE CLOCK AS TIMER INSTEAD OF SOFT WARE LOOPS UPDATE 'HEADER' STATEMENT TO REV A1.
24 MAR 83	RONALD JONES (RSJ001)	CHANGED ALL WORD WRITE REFERENCES TO THE UPPER BYTE OF PCSRO, TO BYTE REFERENCES ADDED VARIABLE TO ADDRESS UPPER BYTE OF PCSRO AND VARIABLES TO CLEAR THE BITS UPDATED HEADER TO REV A-2.
31-MAR 83	RONALD JONES (RSJ002)	INCREASED LENGTH OF TIME TO WAIT FOR SELF TEST COMPLETION AFTER RESET, FROM 2 SECONDS TO 12. UPDATED HEADER TO REV B-0.
3-OCT 83	RONALD JONES (RSJ003)	IN THE ROUTINE "TINIT", CHANGED THE ACCESS TO PCSRO FROM WORD TO TWO BYTE WRITES. MODIFIED THE VARIABLE "TIMASK" FROM 177400 TO 377. ADDED A SLOW WAIT BETWEEN ACCESSSES TO THE PORT COMMAND FIELD OF PCSRO. TEST 14 SUBTEST 2. THE INITIALIZATION ROUTINE FOLLOWING THE RESET DOES NOT RESTORE THE STATE SUFFICIENTLY TO CONT INUE TESTING. ADDED SETUP OF PCBB IN PCSR2 AND 3.
4-SEP-84	JOHN P. BEIKE (JPB001)	TEST 9. TEST WOULD HANG IF DEUNA DID NOT INTERRUPT. TURNED THE CLOCK ON FOR TIME OUT, AND RESET PRI BACK TO 4. UPDATED HEADER TO REV C-0.

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1.0 GENERAL INFORMATION

1.1 PROGRAM ABSTRACT

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

THIS DIAGNOSTIC WILL ONLY OPERATE IN A STAND ALONE, OFFLINE ENVIRONMENT USING THE DEUNA OPERATIONAL MICROCODE. FAILURE IDENTIFICATION WILL GENERALLY BE TO THE FAILING DEUNA 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, SLIDE 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 DEUNA FUNCTIONAL TESTING DIAGNOSTIC:

PDP-11 CPU
16K MEMORY
CONSOLE TERMINAL
DEUNA WITH EXTERNAL LOOPBACK CONNECTOR OR TRANSCEIVER CABLE CONNECTED TO COAXIAL CABLE.

1.3 RELATED DOCUMENTS AND STANDARDS

XXDP+ USER'S MANUAL - CHQUS

1.4 DIAGNOSTIC HIERARCHY PREREQUISITES

THE TESTS INCLUDED IN THIS DEUNA FUNCTIONAL TESTING 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 (CHQUS).

2.1 COMMANDS

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

COMMAND	EFFECT

START	START THE DIAGNOSTIC FROM AN INITIAL STATE
RESTART	START THE DIAGNOSTIC WITHOUT INITIALIZING
CONTINUE	CONTINUE AT TEST THAT WAS INTERRUPTED (AFTER 1C)
PROCEED	CONTINUE FROM AN ERROR HALT
EXIT	RETURN TO XXDP MONITOR (XXDP OPERATION ONLY!)
ADD	ACTIVATE A UNIT FOR TESTING (ALL UNITS ARE CONSIDERED TO BE ACTIVE AT START TIME)
DROP	DEACTIVATE A UNIT
PRINT	PRINT STATISTICAL INFORMATION (IF IMPLEMENTED BY THE DIAGNOSTIC - SECTION 4.0)
DISPLAY	TYPE A LIST OF ALL DEVICE INFORMATION
FLAGS	TYPE THE STATE OF ALL FLAGS (SEE SECTION 2.3)
ZFLAGS	CLEAR ALL FLAGS (SEE SECTION 2.3)

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

2.2 SWITCHES

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

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

EXAMPLE OF SWITCH USAGE:

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

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

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

	TESTS	PASS	FLAGS	EOP	UNITS
START	X	X	X	X	X

RESTART	X	X	X	X	X
CONTINUE		X	X	Y	
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
ONT	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 150000 - 177776 OCTAL.

WHAT IS THE VECTOR ADDRESS ?
THIS IS THE INTERRUPT VECTOR ADDRESS FOR THIS DEVICE.
THE ALLOWABLE RANGE IS 000 - 776 OCTAL.

SAMPLE DIALOGUE:

UNIT 0
WHAT IS THE PCSRO ADDRESS? (0) ? 170000
WHAT IS THE VECTOR ADDRESS? (0) ? 700

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 FOLLOWING IS THE ONLY SOFTWARE QUESTION FOR THIS DEVICE:

RUN TEST 20 IN EXTERNAL LOOPBACK MODE ?
THE DEFAULT IS N (NO).
NO, RUNS TEST 20 IN INTERNAL LOOPBACK MODE.
YES, DOES NOT SET INTERNAL LOOPBACK MODE AND THEREFORE
THE PACKET WILL BE LOOPED EXTERNAL.

SAMPLE DIALOGUE:

RUN TEST 20 IN EXTERNAL LOOPBACK MODE ? (L) N ? Y

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 (0) ? 8<CR>

UNIT 1
CSR ADDRESS (0) ? 160000<CR>
SUB-DEVICE # (0) ? 0<CR>
Q-FACTOR (0) 0 ? 1<CR>

UNIT 2
CSR ADDRESS (0) ? 160000<CR>
SUB-DEVICE # (0) ? 1<CR>
Q-FACTOR (0) 1 ? 0<CR>

UNIT 3
CSR ADDRESS (0) ? 160000<CR>
SUB-DEVICE # (0) ? 2<CR>
Q-FACTOR (0) 0 ? <CR>

UNIT 4
CSR ADDRESS (0) ? 160000<CR>
SUB-DEVICE # (0) ? 3<CR>
Q-FACTOR (0) 0 ? <CR>

UNIT 5
CSR ADDRESS (0) ? 160000<CR>
SUB-DEVICE # (0) ? 4<CR>
Q-FACTOR (0) 0 ? <CR>

UNIT 6
CSR ADDRESS (0) ? 160000<CR>
SUB-DEVICE # (0) ? 5<CR>
Q-FACTOR (0) 0 ? <CR>

UNIT 7
CSR ADDRESS (0) ? 160000<CR>
SUB-DEVICE # (0) ? 6<CR>
Q-FACTOR (0) 0 ? 1<CR>

UNIT 8
CSR ADDRESS (0) 160000<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 (D) ? 8<CR>

UNIT 1
CSR ADDRESS (0) ? 160000<CR>
SUB-DEVICE # (0) ? 0,1<CR>
Q-FACTOR (0) 0 ? 1,0<CR>

UNIT 3
CSR ADDRESS (0) ? 160000<CR>
SUB-DEVICE # (0) ? 2-5<CR>
Q-FACTOR (0) 0 ? 0<CR>

UNIT 7
CSR ADDRESS (0) ? 160000<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 160000 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 160000 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 (D) ? 8<CR>

UNIT 1
CSR ADDRESS (0) ? 160000<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 DEUNA 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
DATA COMPARE ERROR IN MODE REGISTER
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 - DENUA FAILED TO RELINQUISH OWNERSHIP OF RDRB
TIMEOUT ERROR - DENUA 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
WRITING ONE TO CLEAR RCBI BIT FAILED
TIMEOUT ERROR - DENUA FAILED TO RELINQUISH OWNERSHIP OF FIRST TDRB
TIMEOUT ERROR - DENUA FAILED TO RELINQUISH OWNERSHIP OF SECOND TDRB
TIMEOUT ERROR - DENUA FAILED TO RELINQUISH OWNERSHIP OF THIRD TDRB
TIMEOUT ERROR - DENUA FAILED TO RELINQUISH OWNERSHIP OF FIRST RDRB
TIMEOUT ERROR - DENUA FAILED TO RELINQUISH OWNERSHIP OF SECOND RDRB
TIMEOUT ERROR - DENUA FAILED TO RELINQUISH OWNERSHIP OF THIRD RDRB
DATA COMPARE ERROR IN FIRST TRANSMIT DESCRIPTOR RING
DATA COMPARE ERROR IN SECOND TRANSMIT DESCRIPTOR RING
DATA COMPARE ERROR IN THIRD TRANSMIT DESCRIPTOR RING
DATA COMPARE ERROR IN FIRST RECEIVE DESCRIPTOR RING
DATA COMPARE ERROR IN SECOND RECEIVE DESCRIPTOR RING
DATA COMPARE ERROR IN THIRD RECEIVE DESCRIPTOR RING
ERROR - LOOPBACK SUCCESSFUL WITH INVALID DESTINATION ADDRESS
BUFL BIT FAILED TO SET WHEN ATTEMPTING TO TRANSMIT A RUNT PACKET
PAD RUNT PACKET FAILURE
WCS MEMORY DATA COMPARE ERROR
LINK MEMORY DATA COMPARE ERROR
DNI BIT FAILED TO SET AFTER READ COUNTERS PORT COMMAND
DNI BIT FAILED TO SET AFTER SELF TEST PORT COMMAND
ERROR - LOOPBACK SUCCESSFUL WITH HALF DUPLEX MODE SET
ERROR DIAGNOSTIC TYPE PACKET RECEIVED FROM ANOTHER NODE

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 LOOP DISABLED

REMOTE BOOT ENABLED

NOTE: THIS INFORMATION MAY BE PRINTED WITHOUT RUNNING THE ENTIRE
DIAGNOSTIC IF TEST 28 IS RUN SEPARATELY VIA THE /TESTS:28
SUPERVISOR SWITCH.

6.0 TEST SUMMARIES

TEST 1: PCSRO READ ACCESS TEST

THIS TEST VERIFIES THAT A DEVICE IS PRESENT AT THE PCSRO
UNIBUS ADDRESS SPECIFIED.

TEST SEQUENCE:

1. READ PCSRO

TEST 2: PCSR1 READ ACCESS TEST

THIS TEST VERIFIES THAT A DEVICE IS PRESENT AT THE PCSR1
UNIBUS ADDRESS SPECIFIED.

TEST SEQUENCE:

1. READ PCSR1

TEST 3: PCSR2 READ ACCESS TEST

THIS TEST VERIFIES THAT A DEVICE IS PRESENT AT THE PCSR2
UNIBUS ADDRESS SPECIFIED.

TEST SEQUENCE:

1. READ PCSR2

TEST 4: PCSR3 READ ACCESS TEST

THIS TEST VERIFIES THAT A DEVICE IS PRESENT AT THE PCSR3
UNIBUS ADDRESS SPECIFIED.

TEST SEQUENCE:

1. READ PCSR3

TEST 5: PCSR2 STATIC BIT TEST

THIS TEST CHECKS PCSR2 FOR ALL SA0 AND SA1 ERRORS.
THE HOST WRITES PATTERNS TO PCSR2 AND READS THEM
BACK TO VERIFY.

NOTE: PCSR2 BIT00 SHOULD ALWAYS BE A ZERO.
THIS BIT IS 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

TEST 6: PCSR3 STATIC BIT TEST

THIS TEST CHECKS PCSR3 FOR ALL SP AND SA1 ERRORS.
THE HOST WRITES PATTERNS TO PCSR3 AND READS THEM
BACK TO VERIFY.

NOTE: PCSR3 BIT02 THRU BIT15 SHOULD ALWAYS BE A ZERO.
THESE BITS ARE 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

TEST 7: SELF TEST

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

TEST SEQUENCE:

1. ISSUE THE SELF TEST PORT COMMAND
2. WAIT FOR DNI
3. CHECK LITE BYTE REGISTER FOR SUCCESSFUL SELF TEST
4. WRITE ONE TO CLEAR DNI

TEST 8: PORT COMMAND TEST

THIS TEST VERIFIES THAT NO ERRORS OCCUR WHEN
A DEUNA PORT COMMAND IS ISSUED.

TEST SEQUENCE:

1. ISSUE A NOP PORT COMMAND
2. WAIT FOR DNI
3. WRITE ONE TO CLEAR DNI
4. MOVE NOP FUNCTION INTO PCBB
5. ISSUE A GETPCBB PORT COMMAND
6. WAIT FOR DNI
7. WRITE ONE TO CLEAR DNI
8. ISSUE A GETCMD PORT COMMAND
9. WAIT FOR DNI
10. WRITE ONE TO CLEAR DNI

TEST 9: INTERRUPT LOGIC TEST

THIS TEST VERIFIES THAT A DEUNA 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

TEST 10: 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

TEST 11: READ/WRITE INTERNAL WCS TEST

THIS TEST READS AND WRITES THE INTERNAL WCS MEMORY.
THE DUMP/LOAD INTERNAL MEMORY FUNCTIONS ARE USED TO
READ/WRITE THE RESERVED DOWNLINE LOAD PORTION OF THE WCS MEMORY.
THE TOP 1K OF WCS.

TEST SEQUENCE:

1. LOAD TBUF WITH DATA = ADDRESS
2. LOAD TOP 1K OF INTERNAL WCS MEMORY WITH TBUF
3. RESETUP TBUF FOR DATA COMPARE
4. CLEAR RBUF
5. DUMP INTERNAL WCS MEMORY -> RBUF
6. COMPARE RBUF WITH TBUF
7. REPEAT STEPS 1 THRU 6 WITH COMPLIMENT DATA

TEST 12: READ/WRITE MODE FUNCTION TEST

THIS TEST VERIFIES THE READ/WRITE MODE FUNCTIONS.

TEST SEQUENCE:

1. WRITE MODE REGISTER WITH ALL ONES
2. READ AND COMPARE MODE REGISTER
3. WRITE MODE REGISTER WITH ALL ZEROS
4. READ AND COMPARE MODE REGISTER

TEST 13: READ/WRITE LINK MEMORY TEST

THIS TEST READS AND WRITES THE INTERNAL LINK MEMORY.
THE DUMP/LOAD INTERNAL MEMORY FUNCTIONS ARE USED TO
READ/WRITE THE ENTIRE 16K LINK MEMORY.

TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK MODE

- TO REMOVE LINK MEMORY FROM THE WIRE
2. LOAD TBUF WITH DATA + ADDRESS
 3. LOAD 1K OF INTERNAL LINK MEMORY WITH TBUF
 4. REPEAT STEPS 1 AND 2 FOR EACH 1K BLOCK OF LINK MEMORY (16 TIMES)
 5. RESETUP TBUF FOR DATA COMPARE
 6. CLEAR RBUF
 7. DUMP INTERNAL LINK 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

TEST 14: INTERNAL LOOPBACK TEST

PART 1 OF THIS TEST VERIFIES THAT AN INTERNAL LOOPBACK OPERATION CAN BE PERFORMED SUCCESSFULLY.
PART 2 OF THIS TEST VERIFIES THAT THE HEARTBEAT DETECTION CIRCUITRY IS OPERATING CORRECTLY.

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
8. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM MODE, ENABLE COLLISION TEST CIRCUITRY
9. SET UP RINGS AND BUFFERS
10. ISSUE START
11. CHECK FOR ERRORS
12. ISSUE STOP
13. ISSUE READ PORT STATUS
14. VERIFY 'CERR' BIT SET IN PORT CONTROL WORD 2

TEST 15: 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

TEST 16: 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

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 NCMN 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 NCMN ERROR IN RDRB+6
7. ISSUE STOP

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

TEST 19: NO RECEIVE BUFFER TEST

THIS TEST VERIFIES THAT A RCBI ERROR CAN BE DETECTED.
AN INTERNAL LOOPBACK IS ATTEMPTED WITH
NO RECEIVE BUFFERS OWNED BY THE DEUNA.

A RCBI (RECEIVE BUFFER UNAVAILABLE) ERROR IS EXPECTED IN PCRR0.
TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROMI MODE
2. WRITE RING FORMAT (16 TRANSMIT ENTRIES)
3. WRITE PHYSICAL ADDRESS
4. SET UP RINGS AND BUFRS
WITH 16 TRANSMIT PALETS
AND NO RECEIVE BUFFERS OWNED BY THE DEUNA
5. ISSUE START
6. CHECK FOR RCBI ERROR IN PCSRO
7. ISSUE STOP

TEST 20: DATA CHAINING TEST

THIS TEST VERIFIES TRANSMIT AND RECEIVE DATA CHAINING.
AN INTERNAL OR EXTERNAL LOOPBACK IS PERFORMED
WITH THREE TRANSMIT AND THREE RECEIVE BUFFERS CHAINED.
INTERNAL LOOPBACK IS DEFAULT WITH EXTERNAL LOOPBACK BEING
SELECTED VIA A SOFTWARE QUESTION.

TEST SEQUENCE:

1. WRITE MODE REGISTER = PROMI MODE AND EITHER
INTERNAL(0) OR EXTERNAL LOOPBACK MODE
2. WRITE RING FORMAT
3. WRITE PHYSICAL ADDRESS
4. SET UP RINGS AND BUFFERS
THREE TRANSMIT AND RECEIVE BUFFERS
5. ISSUE START
6. CHECK FOR ERRORS
7. ISSUE STOP

TEST 21: PHYSICAL ADDRESS TEST

THIS TEST VERIFIES THAT PHYSICAL ADDRESS DETECTION
IS OPERATIONAL.
A WRITE PHYSICAL ADDRESS FUNCTION IS USED TO SET
THE DEUNA'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

TEST 22: MULTICAST ADDRESS TEST

THIS TEST VERIFIES THAT MULTICAST ADDRESSING IS OPERATIONAL.

A WRITE MULTICAST ADDRESS LIST FUNCTION IS USED TO SET THE DEUNA'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 = COMPLEMENTED 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

TEST 23: PROMISCUOUS ADDRESS MODE TEST

THIS TEST VERIFIES THAT PROMISCUOUS ADDRESSING MODE IS OPERATIONAL.

A WRITE PHYSICAL ADDRESS FUNCTION IS USED TO SET THE DEUNA'S PHYSICAL ADDRESS.

A WRITE MULTICAST ADDRESS LIST FUNCTION IS USED TO SET THE DEUNA'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

TEST 24: 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 DEUNA'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 = COMPLEMENTED MULTICAST ADDRESS
11. ISSUE START
12. CHECK FOR ERRORS
13. ISSUE STOP
14. REPEAT STEPS 10 - 13 FOR ALL TEN ENTRIES

TEST 25: PAD RUNT PACKETS TEST

THIS TEST VERIFIES THAT PAD RUNT PACKET MODE IS OPERATIONAL.
THIS TEST WILL
FIRST, ATTEMPT TO TRANSMIT A RUNT PACKET
WHEN NOT IN PAD RUNT PACKET MODE AND VERIFY THAT A
BUFL ERROR IN TDRB+6 OCCURS.
SECOND, TRANSMIT A RUNT PACKET

WHEN IN PAD RUNT PACKET MODE AND VERIFY
SUCCESSFUL TRANSMISSION AS WELL AS PADDING OCCURS.

TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM MODE
2. WRITE RING FORMAT
3. WRITE PHYSICAL ADDRESS
4. SET UP RINGS AND BUFFERS
WITH THE TRANSMIT BUFFER = RUNT PACKET
5. ISSUE START
6. CHECK FOR BUFL ERROR IN TDRB.6
7. ISSUE STOP
8. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM
AND PAD RUNT PACKET MODE
9. SET UP RINGS AND BUFFERS
WITH THE TRANSMIT BUFFER = RUNT PACKET
10. ISSUE START
11. CHECK FOR ERRORS
12. VERIFY PACKET HAS BEEN PADDED
13. ISSUE STOP

TEST 26: HALF DUPLEX TEST

THIS TEST VERIFIES THAT HALF DUPLEX MODE IS OPERATIONAL.

WHILE IN HALF DUPLEX MODE,

A WRITE PHYSICAL ADDRESS FUNCTION IS USED TO SET
THE DE'NA'S PHYSICAL ADDRESS.

INTERNAL LOOPBACKS ARE THEN PERFORMED WITH A
CURRENTLY ENABLED AND THEN A CURRENTLY DISABLED
DESTINATION ADDRESS.

TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK AND
HALF DUPLEX MODES
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 (MATCH BIT SHOULD BE SET)
7. CHECK FOR NO RXI
8. ISSUE STOP
9. SET UP RINGS AND BUFFERS
WITH DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
10. ISSUE START
11. CHECK FOR ERRORS (MATCH BIT SHOULD NOT BE SET)
12. CHECK FOR NO RXI
13. ISSUE STOP

TEST 27: SIMULTANEOUS OPERATIONS TEST

THIS TEST VERIFIES THAT SIMULTANEOUS OPERATIONS CAN BE PERFORMED.

A CHAINED 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
THREE TRANSMIT AND RECEIVE BUFFERS
5. SET UP READ COUNTERS FUNCTION
6. ISSUE START
7. ISSUE GET COMMAND PORT COMMAND
8. CHECK FOR ERRORS
9. ISSUE STOP

TEST 28: PRINT 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

```
1152 .TITLE PROGRAM HEADER AND TABLES
1153
1154 .SBTTL PROGRAM HEADER
1180
1182 000000 .ENABL ABS,AMA
1183 : .ENABL AMA
1184 : 2000
1186
1187 002000 BGNMOD
1188
1189 :
1190 : THE PROGRAM HEADER IS THE INTERFACE BETWEEN
1191 : THE DIAGNOSTIC PROGRAM AND THE SUPERVISOR.
1192 :
1193
1194 002000 POINTER BGNRPT,BGNSW,BGNSFT,BGNAU,BGNDU,ERRTBL
1195
1212
1213 002000 HEADER CZUAB,C,0,0,0,340
```

```
;RSJ001
L$NAME:: .ASCII /C/
          .ASCII /Z/
          .ASCII /U/
          .ASCII /A/
          .ASCII /B/
          .BYTE C
          .BYTE 0
          .BYTE 0
L$REV:: .ASCII /C/
L$DEPO:: .ASCII /O/
L$UNIT:: .WORD 0
L$TIML:: .WORD 0
L$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::
```


PROGRAM HEADER AND TABLES
PROGRAM HEADER

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SEQ 23

002042	000340
002044	
002044	000000
002046	
002046	000000
002050	
002050	003
002051	003
002052	
002052	000000
002054	000000
002056	
002056	000000
002060	
002060	015252
002062	
002062	027536
002064	
002064	000000
002066	
002066	000000
002070	
002070	030174
002072	
002072	030166
002074	
002074	000000
002076	
002076	015260
002100	
002100	104035
002102	
002102	015242
002104	
002104	027552
002106	
002106	030160
002110	
002110	030156
002112	
002112	027544
002114	
002114	000000
002116	
002116	000000
002120	
002120	000000

L\$ENVI::	.WORD	340
L\$EXP1::	.WORD	0
L\$MREV::	.WORD	0
	.BYTE	C\$REVISION
	.BYTE	C\$EDIT
L\$LF::		
	.WORD	0
	.WORD	0
L\$SPC::	.WORD	0
L\$DEVP::	.WORD	L\$DVTYP
L\$REPP::	.WORD	L\$RPT
L\$EXP4::	.WORD	0
L\$EXP5::	.WORD	0
L\$AUT::	.WORD	L\$AU
L\$DUT::	.WORD	L\$DU
L\$LUN::	.WORD	0
L\$DESP::	.WORD	L\$DESC
L\$LOAD::	EMT	E\$LOAD
L\$ETP::	.WORD	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
		:RSJ002
		:RSJ003

1214
1215

.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 28

.WORD 28
LDISPATCH:;
.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
.WORD T28

1227
1228
1229
1230
1231
1232
1233
1234 002122
002122 000034
002124
002124 030254
002126 030352
002130 030452
002132 030552
002134 030652
002136 030726
002140 031002
002142 035002
002144 035276
002146 035604
002150 036134
002152 037110
002154 037654
002156 041062
002160 043036
002162 044150
002164 045262
002166 046370
002170 047366
002172 050260
002174 052054
002176 054736
002200 060012
002202 063412
002204 065450
002206 067170
002210 070502
002212 072232
1235

1243
 1244
 1245
 1246
 1247
 1248
 1249
 1250
 1251
 1252 002214
 002214 000002
 002216
 002216
 1253
 1263 002216 000000
 1264 002220 000000
 1265 002222
 002222

.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.
 ;

BGNM' DFPTBL

.WORD L10000 L\$HW/2

L\$HW::
 DFPTBL::

.WORD 0
 .WORD 0
 ENDM

; PCSRD - UNIBUS ADDRESS
 ; DEUNA INTERRUPT VECTOR

L10000:

```

1267      .SBTTL  SOFTWARE P TABLE
1268
1269      ;**
1270      ; THE SOFTWARE TABLE CONTAINS VARIOUS DATA USED BY THE
1271      ; PROGRAM AS OPERATIONAL PARAMETERS.  THESE PARAMETERS ARE
1272      ; SET UP AT ASSEMBLY TIME AND MAY BE VARIED BY THE OPERATOR
1273      ; AT RUN TIME.
1274      ;
1275
1276      BGNSW  SFPTBL
1277      002222      .WORD  L10001-L$SW/2
1278      002222      SFPTBL::
1279      002224      000001
1280
1281      1277
1282      1285
1283      1286 002224 000000
1284      1287      EXLOOP: .WORD 0 ; TEST20 EXTERNAL LOOPBACK FLAG
1285      1288      .EVEN
1286      1288 002226      ENDSW
1287      002226      L10001:
1288
1289
1290

```


1303
1304
1332
1342
1343
1344
1345
1346
1347
1348
1349
1364
1365 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.	; START COMMAND WAS ISSUED
000037	EF.RESTART==	31.	; RESTART COMMAND WAS ISSUED
000036	EF.CONTINUE==	30.	; CONTINUE COMMAND WAS ISSUED
000035	EF.NEW==	29.	; A NEW PASS HAS BEEN STARTED
000034	EF.PWR==	28.	; A POWER-FAIL/POWER UP OCCURRED

; PRIORITY LEVEL DEFINITIONS

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 MOE== 100000
```

```
1366 ;
1367 ; PCSR0 - PORT CONTROL AND STATUS REGISTER 0
1368 SERI == BIT15 ; STATUS ERROR INTERRUPT
1369 SERIB == BIT07 ; STATUS ERROR INTERRUPT BYTE REFERENCE ;RSJ001
1370 PCEI == BIT14 ; PORT COMMAND ERROR INTERRUPT
1371 PCEIB == BIT06 ; PORT COMMAND ERROR INTERRUPT BYTE REF ;RSJ001
1372 RXI == BIT13 ; RECEIVE RING INTERRUPT
1373 RXIB == BIT05 ; RECEIVE RING INTERRUPT BYTE REF ;RSJ001
1374 TXI == BIT12 ; TRANSMIT RING INTERRUPT
1375 TXIB == BIT04 ; TRANSMIT RING INTERRUPT BYTE REF ;RSJ001
1376 DNI == BIT11 ; DONE INTERRUPT
1377 DNIB == BIT03 ; DONE INTERRUPT BYTE REF ;RSJ001
1378 RCB I == BIT10 ; RECEIVE BUFFER UNAVAILABLE
1379 RCBIB == BIT02 ; RECEIVE BUFFER UNAVAILABLE ;RSJ001
1380 ;
1381 FATI == BIT08 ; FATAL ERROR INTERRUPT
1382 FATIB == BIT00 ; FATAL ERROR INTERRUPT BYTE REF ;RSJ001
1383 INTR == BIT07 ; INTERRUPT SUMMARY <15:08>
1384 INTE == BIT06 ; INTERRUPT ENABLE
1385 RSET == BIT05 ; UNA RESET
1386 ;
1387 ;PORT COMMANDS <03:00>
1388 GETPCB == BIT00
1389 GETCMD == BIT01
1390 SLFT == BIT00!BIT01
1391 STAR I == BIT02
1392 PNOP == BIT01!BIT02
1393 PDM == BIT03
1394 STOP == BIT03!BIT02!BIT01!BIT00
1395 ;
1396 ;PCSR1 - PORT CONTROL AND STATUS REGISTER 1
1397 XPMR == BIT15 ; TRANSCEIVER POWER OK
1398 ICAB == BIT14 ; PORT/LINK CABLING OK
```

```
1399      ;
1400      ; SELF TEST ERROR CODE <13:08>
1401      STMASK  ..      140377      ; SELF TEST MASK
1402      ;
1403      PCTO    ..      BIT07      ; PORT COMMAND TIMEOUT
1404      ;
1405      RMTC     ..      BIT03      ; REMOTE CONSOLF RESERVED
1406      ;
1407      ; PORT STATE <02:00>
1408      SMASK    ..      177770      ; STATE MASK
1409      ;
1410      RESET    ..      0
1411      PRILO    ..      BIT00      ; PRIMARY LOAD STATE
1412      READY    ..      BIT01
1413      RUN       ..      BIT00!BIT01
1414      UNHLT    ..      BIT00!BIT02
1415      NIHLT    ..      BIT01!BIT02
1416      NIUNI    ..      BIT00!BIT01!BIT02
1417      ;
1418      ; DESCRIPTOR RING DEFINITIONS
1419      OWN       ..      BIT15
1420      ERRS      ..      BIT14
1421      STP       ..      BIT09
1422      ENP       ..      BIT08
1423      ;
1424      BUFL      ..      BIT15
1425      ; GLOBAL EQUATES
1426      ZERO      ..      0
1427      ONES      ..      177777
1428      TIMASK    ..      377      ; UPPER BYTE = ONES ; RSJ003
1429      GOODST    ..      0      ; SUCCESSFUL SELF TEST CODE
1430      CMODE1    ..      175015    ; ALL SETABLE MODE BITS = ONES
1431      TDRMSK    ..      7777      ; TDR MASK
1432      DTYPE     ..      2540      ; DIAGNOSTIC TYPE FIELD
1433      ;
1434      INITH      ..      0      ; INITIAL CRC VALUE
1435      POLYH      ..      120001    ; CRC POLYNOMIAL
1436      ;
1437      SIZ4K      ..      20000      ; 4K WORDS
1438      SIZ8K      ..      SIZ4K*2    ; 8K WORDS
1439      SECOND     ..      63.        ; 63 LINE CLOCK TICKS = APROX. 1 SECOND ; MAC001
1440      IE        ..      100        ; INTERRUPT ENABLE FOR LINE CLOCY ; MAC001
```

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1442      .SBTTL  GLOBAL DATA SECTION
1443
1444      ;
1445      ; THE GLOBAL DATA SECTION CONTAINS DATA THAT ARE USED
1446      ; IN MORE THAN ONE TEST.
1447      ;
1448      ; ADDRESSES FOR DEUNA UNDER TEST
1449      ;
1450      PCSR0::      .WORD  0      ; ADDRESS OF PCSR0
1451      PCSR1::      .WORD  0      ; ADDRESS OF PCSR1
1452      PCSR2::      .WORD  0      ; ADDRESS OF PCSR2
1453      PCSR3::      .WORD  0      ; ADDRESS OF PCSR3
1454      PCSROUB::    .WORD  0      ; ADDRESS OF THE UPPER BYTE OF PCSR0
1455      ;
1456      INTVEC::      .WORD  0      ; ADDRESS OF DEUNA INTERRUPT VECTOR
1457      UNAPRI::      .WORD  240    ; UNA PRIORITY = 5
1458      UNIT::        .WORD  0      ; UNIT NUMBER
1459      ;
1460      CLKTAB::      .WORD  0      ; LINE CLOCK STATUS REGISTER      ;MAC001
1461      CLKCLR::      .WORD  0      ; LINE CLOCK STATUS REGISTER      ;MAC001
1462      CLKBR::        .WORD  0      ; LINE CLOCK PRIORITY              ;MAC001
1463      CLKVEC::      .WORD  0      ; LINE CLOCK VECTOR                ;MAC001
1464      CLKFRE::      .WORD  0      ; LINE CLOCK FREQUENCY             ;MAC001
1465      ;
1466      DEST::         .WORD  0      ; DESTINATION ADDRESS
1467      .WORD  0
1468      .WORD  0
1469      ;
1470      ; DATA STRUCTURES
1471      PCBB::          .BLKW  4      ; PORT CONTROL BLOCK
1472      UDDB::          .BLKW 100.    ; UNIBUS DATA BLOCK
1473      TDRB::          .BLKW 16.    ; TRANSMIT DESCRIPTOR RING
1474      RDRB::          .BLKW 16.    ; RECEIVE DESCRIPTOR RING
1475      TDRX::          .BLKW 64.    ; EXTENDED TDRB FOR TEST19
1476      TBUF::          .BLKW 128.   ; TRANSMIT BUFFER
1477      TBUF2::         .BLKW 128.
1478      TBUF3::         .BLKW 128.
1479      TBUF4::         .BLKW 128.
1480      TBUF5::         .BLKW 128.
1481      TBUF6::         .BLKW 128.
1482      TBUF7::         .BLKW 128.
1483      TBUF8::         .BLKW 128.
1484      RBUF::          .BLKW 128.   ; RECEIVE BUFFER
1485      RBUF2::         .BLKW 128.
1486      RBUF3::         .BLKW 128.
1487      RBUF4::         .BLKW 128.
1488      RBUF5::         .BLKW 128.
1489      RBUF6::         .BLKW 128.
1490      RBUF7::         .BLKW 128.
1491      RBUF8::         .BLKW 128.
1492      ;
1493      ; DEFAULT PORT FUNCTIONS
1494      NOPF::          .WORD  0      ; NOP FUNCTION
1495      .WORD  0
1496      .WORD  0
1497      .WORD  0
1498      ;

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1499	013114	000001	LSMA::	.WORD	1	; LOAD AND START MICROADDRESS FUNCTION
1500	013116	177777		.WORD	177777	; STARTING INTERNAL ADDRESS OF SELFTEST
1501	013120	000000		.WORD	0	
1502	013122	000000		.WORD	0	
1503			RDDEFA::	.WORD	2	; READ DEFAULT PHYSICAL ADDRESS FUNCTION
1504	013124	000002		.WORD	0	
1505	013126	000000		.WORD	0	
1506	013130	000000		.WORD	0	
1507	013132	000000		.WORD	0	
1508			RDPHYA::	.WORD	4	; READ PHYSICAL ADDRESS FUNCTION
1509	013134	000004		.WORD	0	
1510	013136	000000		.WORD	0	
1511	013140	000000		.WORD	0	
1512	013142	000000		.WORD	0	
1513			WTPHYA::	.WORD	5	; WRITE PHYSICAL ADDRESS
1514	013144	000005		.WORD	0	; PHYADR
1515	013146	000000		.WORD	10	; PHYADR
1516	013150	000010		.WORD	0	; PHYADR
1517	013152	000000		.WORD	0	
1518			ROMULA::	.WORD	6	; READ MULTICAST ADDRESS LIST FUNCTION
1519	013154	000006		.WORD	UD62	; ADDRESS OF UNIBUS DATA BLOCK BASE
1520	013156	002274		.WORD	5000	; MULTICAST ADDR TABLE LENGTH= 10(10)
1521	013160	005000		.WORD	0	
1522	013162	000000		.WORD	0	
1523			WTMULA::	.WORD	7	; WRITE MULTICAST ADDRESS LIST FUNCTION
1524	013164	000007		.WORD	UD88	; ADDRESS OF UNIBUS DATA BLOCK BASE
1525	013166	002274		.WORD	5000	; MULTICAST ADDR TABLE LENGTH= 10(10)
1526	013170	005000		.WORD	0	
1527	013172	000000		.WORD	0	
1528			RDRNGS::	.WORD	10	; READ RING FORMAT FUNCTION
1529	013174	000010		.WORD	UD88	; ADDRESS OF UNIBUS DATA BLOCK BASE
1530	013176	002274		.WORD	0	
1531	013200	000000		.WORD	0	
1532	013202	000000		.WORD	0	
1533			WTRNGS::	.WORD	11	; WRITE RING FORMAT FUNCTION
1534	013204	000011		.WORD	UD88	; ADDRESS OF UNIBUS DATA BLOCK BASE
1535	013206	002274		.WORD	0	
1536	013210	000000		.WORD	0	
1537	013212	000000		.WORD	0	
1538			RDCNT::	.WORD	12	; READ COUNTERS FUNCTION
1539	013214	000012		.WORD	UD88	; ADDRESS OF UNIBUS DATA BLOCK BASE
1540	013216	002274		.WORD	0	
1541	013220	000000		.WORD	40	; COUNTERS LIST LENGTH= 32(10)
1542	013222	000040		.WORD	0	
1543			CLRCNT::	.WORD	13	; READ AND CLEAR COUNTERS FUNCTION
1544	013224	000013		.WORD	UD88	; ADDRESS OF UNIBUS DATA BLOCK BASE
1545	013226	002274		.WORD	0	
1546	013230	000000		.WORD	40	; COUNTERS LIST LENGTH= 32(10)
1547	013232	000040		.WORD	0	
1548			RDMODE::	.WORD	14	; READ MODE FUNCTION
1549	013234	000014		.WORD	0	
1550	013236	000000		.WORD	0	
1551	013240	000000		.WORD	0	
1552	013242	000000		.WORD	0	
1553			WTMODE::	.WORD	15	; WRITE MODE FUNCTION
1554	013244	000015		.WORD	100004	; PROM AND INTERNAL LOOPBACK MODE
1555	013246	100004		.WORD		


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1556 013250 000000      .WORD 0
1557 013252 000000      .WORD 0
1558 013254 000015      WTMOD1:: .WORD 15      ; WRITE MODE FUNCTION
1559 013256 104004      .WORD 104004 ; PROM AND INTERN LOOPBACK AND ENABL COIL TEST
1560 013260 000000      .WORD 0
1561 013262 000000      .WORD 0
1562
1563 013264 000016      ;RDSTA:: .WORD 16      ; READ STATUS FUNCTION
1564 013266 000000      .WORD 0
1565 013270 000000      .WORD 0
1566 013272 000000      .WORD 0
1567
1568 013274 000017      ;CLHSTA:: .WORD 17      ; READ AND CLEAR STATUS FUNCTION
1569 013276 000000      .WORD 0
1570 013300 000000      .WORD 0
1571 013302 000000      .WORD 0
1572
1573 013304 000020      ;DMPHEM:: .WORD 20      ; DUMP INTERNAL MEMORY FUNCTION
1574 013306 002274      .WORD UD88      ; ADDRESS OF UNIBUS DATA BLOCK BASE
1575 013310 000000      .WORD 0
1576 013312 000000      .WORD 0
1577
1578 013314 000021      ;LDHEM:: .WORD 21      ; LOAD INTERNAL MEMORY FUNCTION
1579 013316 002274      .WORD UD88      ; ADDRESS OF UNIBUS DATA BLOCK BASE
1580 013320 000000      .WORD 0
1581 013322 000000      .WORD 0
1582
1583      ;DEFAULT RING FORMATS
1584
1585 013324 002604      RFRMT:: .WORD TDRB      ; TRANSMIT DESCRIPTOR RING ADDRESS
1586 013326 002000      .WORD 2000      ; TELEN = 4
1587 013330 000004      .WORD 4      ; TRLEN = 4
1588 013332 002644      .WORD RDRB      ; RECEIVE DESCRIPTOR RING ADDRESS
1589 013334 002000      .WORD 2000      ; RELEN = 4
1590 013336 000004      .WORD 4      ; RRLEN = 4
1591
1592 013340 002704      RFRMTX:: .WORD TDRX      ; TRANSMIT DESCRIPTOR RING ADDRESS
1593 013342 002000      .WORD 2000      ; TELEN = 4
1594 013344 000020      .WORD 16      ; TRLEN = 16
1595 013346 002644      .WORD RDRB      ; RECEIVE DESCRIPTOR RING ADDRESS
1596 013350 002000      .WORD 2000      ; RELEN = 4
1597 013352 000004      .WORD 4      ; RRLEN = 4
1598
1599      ;DEFAULT RECEIVE DESCRIPTOR RINGS
1600
1601 013354 000200      RDRB1A:: .WORD 128      ; SLEN = 128 BYTES
1602 013356 007104      .WORD RBUF      ; SEGB = RBUF
1603 013360 100000      .WORD 100000 ; OWN = UNA
1604 013362 000000      .WORD 0
1605
1606 013364 000200      ; .WORD 128      ; SLEN = 128 BYTES
1607 013366 007104      .WORD RBUF      ; SEGB = RBUF
1608 013370 000000      .WORD 0      ; OWN = PORT DRIVER
1609 013372 000000      .WORD 0
1610
1611 013374 000200      ; .WORD 128      ; SLEN = 128 BYTES
1612 013376 007104      .WORD RBUF      ; SEGB = RBUF

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1613	013400	000000	.WORD	0	; OWN = PORT DRIVER
1614	013402	000000	.WORD	0	
1615					
1616	013404	000200	.WORD	128.	; SLEN = 128 BYTES
1617	013406	007104	.WORD	RBUF	; SEGB = RBUF
1618	013410	000000	.WORD	0	; OWN = PORT DRIVER
1619	013412	000000	.WORD	0	
1620					
1621	013414	000200	.WORD	128.	; SLEN = 128 BYTES
1622	013416	007104	.WORD	RBUF	; SEGB = RBUF
1623	013420	000000	.WORD	0	; OWN = PORT DRIVER
1624	013422	000000	.WORD	0	
1625					
1626	013424	000200	.WORD	128.	; SLEN = 128 BYTES
1627	013426	007104	.WORD	RBUF	; SEGB = RBUF
1628	013430	000000	.WORD	0	; OWN = PORT DRIVER
1629	013432	000000	.WORD	0	
1630					
1631	013434	000200	.WORD	128.	; SLEN = 128 BYTES
1632	013436	007104	.WORD	RBUF	; SEGB = RBUF
1633	013440	000000	.WORD	0	; OWN = PORT DRIVER
1634	013442	000000	.WORD	0	
1635					
1636	013444	000200	.WORD	128.	; SLEN = 128 BYTES
1637	013446	007104	.WORD	RBUF	; SEGB = RBUF
1638	013450	000000	.WORD	0	; OWN = PORT DRIVER
1639	013452	000000	.WORD	0	
1640					
1641	013454	000100	.WORD	64.	; SLEN = 64 BYTES
1642	013456	007104	.WORD	RBUF	; SEGB = RBUF
1643	013460	100000	.WORD	100000	; OWN = UNA
1644	013462	000000	.WORD	0	
1645					
1646	013464	000100	.WORD	64.	; SLEN = 64 BYTES
1647	013466	007504	.WORD	RBUF2	; SEGB = RBUF2
1648	013470	100000	.WORD	100000	; OWN = UNA
1649	013472	000000	.WORD	0	
1650					
1651	013474	000200	.WORD	128.	; SLEN = 128 BYTES
1652	013476	007104	.WORD	RBUF	; SEGB = RBUF
1653	013500	000000	.WORD	0	; OWN = PORT DRIVER
1654	013502	000000	.WORD	0	
1655					
1656	013504	000200	.WORD	128.	; SLEN = 128 BYTES
1657	013506	007104	.WORD	RBUF	; SEGB = RBUF
1658	013510	000000	.WORD	0	; OWN = PORT DRIVER
1659	013512	000000	.WORD	0	
1660					
1661	013514	000400	.WORD	256.	; SLEN = 256 BYTES
1662	013516	007104	.WORD	RBUF	; SEGB = RBUF
1663	013520	100000	.WORD	100000	; OWN = UNA
1664	013522	000000	.WORD	0	
1665					
1666	013524	000400	.WORD	256.	; SLEN = 256 BYTES
1667	013526	007504	.WORD	RBUF2	; SEGB = RBUF2
1668	013530	100000	.WORD	100000	; OWN = UNA
1669	013532	000000	.WORD	0	

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1670                                ;
1671 013534 000400                .WORD 256.      ; SLEN = 256 BYTES
1672 013536 010104                .WORD RBUF3     ; SEGB = RBUF3
1673 013540 100000                .WORD 100000    ; OWN = UNA
1674 013542 000000                .WORD 0         ;
1675                                ;
1676 013544 000200                .WORD 128.      ; SLEN = 128 BYTES
1677 013546 007104                .WORD RBUF     ; SEGB = RBUF
1678 013550 000000                .WORD 0         ; OWN = PORT DRIVER
1679 013552 000000                .WORD 0         ;
1680                                ;
1681                                ; DEFAULT TRANSMIT DESCRIPTOR RINGS
1682                                ;
1683 013554 000174                TDRB1A:: .WORD 124.      ; SLEN = 124 BYTES
1684 013556 003104                .WORD TBUF     ; SEGB = TBUF
1685 013560 101400                .WORD 101400    ; OWN = UNA ;STP,ENP
1686 013562 000000                .WORD 0         ;
1687                                ;
1688 013564 000174                .WORD 124.      ; SLEN = 124 BYTES
1689 013566 003104                .WORD TBUF     ; SEGB = TBUF
1690 013570 000000                .WORD 0         ; OWN = PORT DRIVER
1691 013572 000000                .WORD 0         ;
1692                                ;
1693 013574 000174                .WORD 124.      ; SLEN = 124 BYTES
1694 013576 003104                .WORD TBUF     ; SEGB = TBUF
1695 013600 000000                .WORD 0         ; OWN = PORT DRIVER
1696 013602 000000                .WORD 0         ;
1697                                ;
1698 013604 000174                .WORD 124.      ; SLEN = 124 BYTES
1699 013606 003104                .WORD TBUF     ; SEGB = TBUF
1700 013610 000000                .WORD 0         ; OWN = PORT DRIVER
1701 013612 000000                .WORD 0         ;
1702                                ;
1703 013614 000200                TDRB1B:: .WORD 128.      ; SLEN = 128 BYTES
1704 013616 003104                .WORD TBUF     ; SEGB = TBUF
1705 013620 101400                .WORD 101400    ; OWN = UNA ;STP,ENP
1706 013622 000000                .WORD 0         ;
1707                                ;
1708 013624 000200                .WORD 128.      ; SLEN = 128 BYTES
1709 013626 003104                .WORD TBUF     ; SEGB = TBUF
1710 013630 000000                .WORD 0         ; OWN = PORT DRIVER
1711 013632 000000                .WORD 0         ;
1712                                ;
1713 013634 000200                .WORD 128.      ; SLEN = 128 BYTES
1714 013636 003104                .WORD TBUF     ; SEGB = TBUF
1715 013640 000000                .WORD 0         ; OWN = PORT DRIVER
1716 013642 000000                .WORD 0         ;
1717                                ;
1718 013644 000200                .WORD 128.      ; SLEN = 128 BYTES
1719 013646 003104                .WORD TBUF     ; SEGB = TBUF
1720 013650 000000                .WORD 0         ; OWN = PORT DRIVER
1721 013652 000000                .WORD 0         ;
1722                                ;
1723 013654 000072                TDRB1C:: .WORD 58.      ; SLEN = 58 BYTES (RUNT PACKET)
1724 013656 003104                .WORD TBUF     ; SEGB = TBUF
1725 013660 101400                .WORD 101400    ; OWN = UNA ;STP,ENP
1726 013662 000000                .WORD 0         ;

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1727      ;
1728 013664 000174      .WORD 124.      ; SLEN = 124 BYTES
1729 013666 003104      .WORD TBUF      ; SEGB = TBUF
1730 013670 000000      .WORD 0        ; OWN = PORT DRIVER
1731 013672 000000      .WORD 0
1732      ;
1733 013674 000174      .WORD 124.      ; SLEN = 124 BYTES
1734 013676 003104      .WORD TBUF      ; SEGB = TBUF
1735 013700 000000      .WORD 0        ; OWN = PORT DRIVER
1736 013702 000000      .WORD 0
1737      ;
1738 013704 000174      .WORD 124.      ; SLEN = 124 BYTES
1739 013706 003104      .WORD TBUF      ; SEGB = TBUF
1740 013710 000000      .WORD 0        ; OWN = PORT DRIVER
1741 013712 000000      .WORD 0
1742      ;
1743 013714 000174      .WORD 124.      ; SLEN = 124 BYTES
1744 013716 003104      .WORD TBUF      ; SEGB = TBUF
1745 013720 101000      .WORD 101000    ; OWN = UNA ;STP
1746 013722 000000      .WORD 0
1747      ;
1748 013724 000174      .WORD 124.      ; SLEN = 124 BYTES
1749 013726 003104      .WORD TBUF      ; SEGB = TBUF
1750 013730 101400      .WORD 101400    ; OWN = UNA ;STP ;ENP
1751 013732 000000      .WORD 0
1752      ;
1753 013734 000174      .WORD 124.      ; SLEN = 124 BYTES
1754 013736 003104      .WORD TBUF      ; SEGB = TBUF
1755 013740 000000      .WORD 0        ; OWN = PORT DRIVER
1756 013742 000000      .WORD 0
1757      ;
1758 013744 000174      .WORD 124.      ; SLEN = 124 BYTES
1759 013746 003104      .WORD TBUF      ; SEGB = TBUF
1760 013750 000000      .WORD 0        ; OWN = PORT DRIVER
1761 013752 000000      .WORD 0
1762      ;
1763 013754 000400      .WORD 256.      ; SLEN = 256 BYTES
1764 013756 003104      .WORD TBUF      ; SEGB = TBUF
1765 013760 101000      .WORD 101000    ; OWN = UNA ;STP
1766 013762 000000      .WORD 0
1767      ;
1768 013764 000400      .WORD 256.      ; SLEN = 256 BYTES
1769 013766 003504      .WORD TBUF2     ; SEGB = TBUF2
1770 013770 100000      .WORD 100000    ; OWN = UNA
1771 013772 000000      .WORD 0
1772      ;
1773 013774 000374      .WORD 252.      ; SLEN = 252 BYTES
1774 013776 004104      .WORD TBUF3     ; SEGB = TBUF3
1775 014000 100400      .WORD 100400    ; OWN = UNA ;ENP
1776 014002 000000      .WORD 0
1777      ;
1778 014004 000174      .WORD 124.      ; SLEN = 124 BYTES
1779 014006 003104      .WORD TBUF      ; SEGB = TBUF
1780 014010 000000      .WORD 0        ; OWN = PORT DRIVER
1781 014012 000000      .WORD 0
1782      ;
1783 014014 000174      .WORD 124.      ; SLEN = 124 BYTES

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[illegible]


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1841 014152 000000 .WORD 0
1842 ;
1843 014154 000174 .WORD 124. ; SLEN = 124 BYTES
1844 014156 003104 .WORD TBUF ; SEGB = TBUF
1845 014160 101400 .WORD 101400 ; OWN = UNA ; STP ; ENP
1846 014162 000000 .WORD 0
1847 ;
1848 014164 000174 .WORD 124. ; SLEN = 124 BYTES
1849 014166 003104 .WORD TBUF ; SEGB = TBUF
1850 014170 101400 .WORD 101400 ; OWN = UNA ; STP ; ENP
1851 014172 000000 .WORD 0
1852 ;
1853 014174 000174 .WORD 124. ; SLEN = 124 BYTES
1854 014176 003104 .WORD TBUF ; SEGB = TBUF
1855 014200 101400 .WORD 101400 ; OWN = UNA ; STP ; ENP
1856 014202 000000 .WORD 0
1857 ;
1858 014204 000174 .WORD 124. ; SLEN = 124 BYTES
1859 014206 003104 .WORD TBUF ; SEGB = TBUF
1860 014210 101400 .WORD 101400 ; OWN = UNA ; STP ; ENP
1861 014212 000000 .WORD 0
1862 ;
1863 ;DEFAULT DATA FOR TEST10
1864 014214 000000 CRCH:: .WORD 0 ; CRC STORAGE
1865 ;DEFAULT UDBB FOR TEST10
1866 014216 004000 UDB10A:: .WORD 4000 ; FLEN = 1024 WORDS
1867 014220 007104 .WORD RBUF ; HDBB = RBUF
1868 014222 000000 .WORD 0
1869 014224 000000 .WORD 0
1870 ;ROM ADDRESS TABLE FOR TEST10
1871 014226 040000 MEM10A:: .WORD 40000 ; ADDRESS OF ROM FIRST 1K
1872 014230 044000 .WORD 44000 ; SECOND 1K
1873 014232 050000 .WORD 50000 ; ETC
1874 014234 054000 .WORD 54000
1875 014236 060000 .WORD 60000
1876 014240 064000 .WORD 64000
1877 014242 070000 .WORD 70000
1878 014244 074000 .WORD 74000
1879 ;DEFAULT UDBB FOR TEST11 AND TEST12
1880 014246 004000 UDB11A:: .WORD 4000 ; FLEN = 1024 WORDS
1881 014250 000000 .WORD 0 ; HDBB = RBUF OR TBUF (LOADED BY TEST)
1882 014252 000000 .WORD 0
1883 014254 000000 .WORD 0 ; IDBB (LOADED BY TEST)
1884 ;WCS DOWNLINE LOAD ADDRESS TABLE FOR TEST11
1885 014256 014000 MEM11A:: .WORD 14000 ; TOP 1K SECTION OF WCS
1886 ;LINK MEMORY ADDRESS TABLE FOR TEST13
1887 014260 100000 MEM13A:: .WORD 100000 ; FIRST 1K BLOCK OF LINK MEMORY
1888 014262 104000 .WORD 104000
1889 014264 110000 .WORD 110000
1890 014266 114000 .WORD 114000
1891 014270 120000 .WORD 120000
1892 014272 124000 .WORD 124000
1893 014274 130000 .WORD 130000
1894 014276 134000 .WORD 134000
1895 014300 140000 .WORD 140000
1896 014302 144000 .WORD 144000
1897 014304 150000 .WORD 150000

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1898 014306	154000	.WORD	154000	
1899 014310	160000	.WORD	160000	
1900 014312	164000	.WORD	164000	
1901 014314	170000	.WORD	170000	
1902 014316	174000	.WORD	174000	
1903		; PHYSICAL ADDRESSES FOR TEST 21		
1904 014320	125252	.WORD	125252	; DEFAULT PHYSICAL ADDRESS
1905 014322	125252	.WORD	125252	
1906 014324	125252	.WORD	125252	
1907 014326	052524	.WORD	52524	; COMPLEMENTED PHYSICAL ADDRESS
1908 014330	052525	.WORD	52525	
1909 014332	052525	.WORD	52525	
1910		; MULTICAST ADDRESS LIST FOR TEST 22		
1911 014334	125253	.WORD	125253	; MULTICAST ADDRESS LIST
1912 014336	125252	.WORD	125252	
1913 014340	125252	.WORD	125252	
1914 014342	125253	.WORD	125253	
1915 014344	052525	.WORD	052525	
1916 014346	125252	.WORD	125252	
1917 014350	125253	.WORD	125253	
1918 014352	125252	.WORD	125252	
1919 014354	052525	.WORD	052525	
1920 014356	125253	.WORD	125253	
1921 014360	177777	.WORD	177777	
1922 014362	052525	.WORD	052525	
1923 014364	125253	.WORD	125253	
1924 014366	000000	.WORD	000000	
1925 014370	125252	.WORD	125252	
1926 014372	177777	.WORD	177777	
1927 014374	000000	.WORD	000000	
1928 014376	177777	.WORD	177777	
1929 014400	177777	.WORD	177777	
1930 014402	052525	.WORD	052525	
1931 014404	125252	.WORD	125252	
1932 014406	177777	.WORD	177777	
1933 014410	125252	.WORD	125252	
1934 014412	052525	.WORD	052525	
1935 014414	177777	.WORD	177777	
1936 014416	000000	.WORD	000000	
1937 014420	052525	.WORD	052525	
1938 014422	177777	.WORD	177777	
1939 014424	177777	.WORD	177777	
1940 014426	125252	.WORD	125252	
1941 014430	052525	.WORD	052525	; COMPLEMENTED ADDRESS LIST
1942 014432	052525	.WORD	052525	
1943 014434	052525	.WORD	052525	
1944 014436	052525	.WORD	052525	
1945 014440	125252	.WORD	125252	
1946 014442	052525	.WORD	052525	
1947 014444	052525	.WORD	052525	
1948 014446	052525	.WORD	052525	
1949 014450	125252	.WORD	125252	
1950 014452	052525	.WORD	052525	
1951 014454	000000	.WORD	000000	
1952 014456	125252	.WORD	125252	
1953 014460	052525	.WORD	052525	
1954 014462	177777	.WORD	177777	

1955	014464	052525	.WORD	052525	
1956	014466	000001	.WORD	000001	
1957	014470	000000	.WORD	000000	
1958	014472	000000	.WORD	000000	
1959	014474	000001	.WORD	000001	
1960	014476	125252	.WORD	125252	
1961	014500	052525	.WORD	052525	
1962	014502	000001	.WORD	000001	
1963	014504	052525	.WORD	052525	
1964	014506	125252	.WORD	125252	
1965	014510	000001	.WORD	000001	
1966	014512	177777	.WORD	177777	
1967	014514	125252	.WORD	125252	
1968	014516	000001	.WORD	000001	
1969	014520	000000	.WORD	000000	
1970	014522	052525	.WORD	052525	
1971					
1972	014524	000174			
1973	014526	003104			
1974	014530	021400			
1975	014532	000000			
1976	014534	000200			
1977	014536	003104			
1978	014540	021400			
1979	014542	000000			
1980	014544	000174			
1981	014546	003104			
1982	014550	001000			
1983	014552	000000			
1984	014554	000174			
1985	014556	003104			
1986	014560	041400			
1987	014562	100000			
1988	014564	000400			
1989	014566	003104			
1990	014570	001000			
1991	014572	000000			
1992	014574	000400			
1993	014576	003504			
1994	014600	000000			
1995	014602	000000			
1996	014604	000374			
1997	014606	004104			
1998	014610	020400			
1999	014612	000000			
2000	014614	000174			
2001	014616	003104			
2002	014620	001400			
2003	014622	000000			
2004	014624	000072			
2005	014626	003104			
2006	014630	021400			
2007	014632	000000			
2008	014634	000200			
2009	014636	007104			
2010	014640	045400			
2011	014642	000000			

	:DEFAULT EXPECTED DATA				
TDR14A::	.WORD	124.	:	EXPECTED TDRB FOR	
	.WORD	TBUF	:	TESTS 14	
	.WORD	021400	:	MTCH,STP,ENP	
	.WORD	0			
TDR15A::	.WORD	128.	:	EXPECTED TDRB FOR	
	.WORD	TBUF	:	TESTS 15,16	
	.WORD	021400	:	MTCH,STP,ENP	
	.WORD	0			
TDR18A::	.WORD	124.	:	FIRST TDRB FOR TEST18	
	.WORD	TBUF	:		
	.WORD	001000	:	STP	
	.WORD	0			
TDR18B::	.WORD	124.	:	SECOND TDRB FOR TEST18	
	.WORD	TBUF	:		
	.WORD	041400	:	ERRS,STP,ENP	
	.WORD	100000	:	BUFL	
TDR20A::	.WORD	256.	:	FIRST TDRB FOR TEST20	
	.WORD	TBUF	:		
	.WORD	001000	:	STP	
	.WORD	0			
TDR20B::	.WORD	256.	:	SECOND TDRB FOR TEST20	
	.WORD	TBUF2	:		
	.WORD	0			
TDR20C::	.WORD	252.	:	THIRD TDRB FOR TEST20	
	.WORD	TBUF3	:		
	.WORD	020400	:	MTCH,ENP	
	.WORD	0			
TDR21X::	.WORD	124.	:	EXPECTED TDRB FOR	
	.WORD	TBUF	:	TESTS21,22	
	.WORD	001400	:	STP,ENP	
	.WORD	0			
TDR25A::	.WORD	58.	:	EXPECTED TDRB FOR	
	.WORD	TBUF	:	TEST25	
	.WORD	021400	:	MTCH,STP,ENP	
	.WORD	0			
TDR14A::	.WORD	128.	:	EXPECTED RDRB FOR	
	.WORD	RBUF	:	TESTS 14,16	
	.WORD	045400	:	ERRS,CRC,STP,ENP	
	.WORD	0			

2012 014644 000200	RDR15A::	.WORD	128.	; EXPECTED RDRB FOR
2013 014646 000104		.WORD	RBUF	; TESTS 15
2014 014650 001400		.WORD	001400	; STP,ENP
2015 014652 000000		.WORD	0	
2016 014654 000100	RDR17A::	.WORD	64.	; FIRST RDRB FOR TEST17
2017 014656 007104		.WORD	RBUF	
2018 014660 041400		.WORD	041400	; ERRS,STP,ENP
2019 014662 120000		.WORD	120000	; BUFL,NCHN
2020 014664 000100	RDR17B::	.WORD	64.	; SECOND RDRB FOR TEST17
2021 014666 007504		.WORD	RBUF2	
2022 014670 100000		.WORD	100000	; OWN - DEUNA
2023 014672 000000		.WORD	0	
2024 014674 000400	RDR20A::	.WORD	256.	; FIRST RDRB FOR TEST20
2025 014676 007104		.WORD	RBUF	
2026 014700 001000		.WORD	001000	; STP
2027 014702 000000		.WORD	0	
2028 014704 000400	RDR20B::	.WORD	256.	; SECOND RDRB FOR TEST20
2029 014706 007504		.WORD	RBUF2	
2030 014710 000000		.WORD	0	
2031 014712 000000		.WORD	0	
2032 014714 000400	RDR20C::	.WORD	256.	; THIRD RDRB FOR TEST20
2033 014716 010104		.WORD	RBUF3	
2034 014720 044400		.WORD	044400	; ERRS, CRC, ENP
2035 014722 000000		.WORD	0	
2036 014724 006474	CRC14A::	.WORD	6474	; EXPECTED CRC FOR TEST 14
2037 014726 131527		.WORD	131527	
2038 014730 006474	CRC15H::	.WORD	6474	; GOOD CRC VALUE FOR TEST15
2039 014732 131527	CRC15L::	.WORD	131527	
2040 014734 000000	CRC16H::	.WORD	0	; BAD CRC VALUE FOR TEST16
2041 014736 000000	CRC16L::	.WORD	0	
2042 014740 106101	CRC20A::	.WORD	106101	; EXPECTED CRC FOR TEST20
2043 014742 101153		.WORD	101153	
2044 014744 065161	CRC21A::	.WORD	65161	; EXPECTED CRC'S FOR TEST 21
2045 014746 050063		.WORD	50063	
2046 014750 065223	CRC21B::	.WORD	65223	
2047 014752 025351		.WORD	25351	
2048 014754 056142	CRC22A::	.WORD	056142	; CRC TABLE FOR TEST 22
2049 014756 171072		.WORD	171072	
2050 014760 111710		.WORD	111710	
2051 014762 043441		.WORD	043441	
2052 014764 066722		.WORD	066722	
2053 014766 111422		.WORD	111422	
2054 014770 025213		.WORD	025213	
2055 014772 044464		.WORD	044464	
2056 014774 152221		.WORD	152221	
2057 014776 116407		.WORD	116407	
2058 015000 152243		.WORD	152243	
2059 015002 176367		.WORD	176367	
2060 015004 100525		.WORD	100525	
2061 015006 130346		.WORD	130346	
2062 015010 077517		.WORD	077517	
2063 015012 062325		.WORD	062325	
2064 015014 173674		.WORD	173674	
2065 015016 005750		.WORD	005750	
2066 015020 004646		.WORD	004646	
2067 015022 157733		.WORD	157733	
2068 015024 063264	CRC22B::	.WORD	063264	

2069	015026	006474	.WORD	006474	
2070	015030	124436	.WORD	124436	
2071	015032	134047	.WORD	134047	
2072	015034	053404	.WORD	053404	
2073	015036	066024	.WORD	066024	
2074	015040	010135	.WORD	010135	
2075	015042	133062	.WORD	133062	
2076	015044	167107	.WORD	167107	
2077	015046	061001	.WORD	061001	
2078	015050	020737	.WORD	020737	
2079	015052	133352	.WORD	133352	
2080	015054	135603	.WORD	135603	
2081	015056	047740	.WORD	047740	
2082	015060	042631	.WORD	042631	
2083	015062	115723	.WORD	115723	
2084	015064	146552	.WORD	146552	
2085	015066	172356	.WORD	172356	
2086	015070	031560	.WORD	031560	
2087	015072	020335	.WORD	020335	
2088	015074	050247	.WORD	050247	
2089	015076	127465	.WORD	127465	
2090	015100	072767	.WORD	072767	: EXPECTED CRC FOR TEST25
2091	015102	162562	.WORD	162562	
2092	015104	005116	.WORD	005116	: EXPECTED CRC FOR TEST27
2093	015106	171012	.WORD	171012	
2094	015110	100014	.WORD	100014	: MODE = FROM,DTCA,INTL
2095	015112	120004	.WORD	120004	: MODE = FROM,DRDC,INTL
2096	015114	100000	.WORD	100000	: MODE = FROM
2097	015116	000004	.WORD	4	: INTL LOOPBACK ONLY
2098	015120	040004	.WORD	040004	: MODE = ENAL,INTL
2099	015122	110004	.WORD	110004	: MODE = FROM,TPAD,INT
2100	015124	000005	.WORD	5	: MODE = INTL,MDUP
2101	015126	000002	.WORD	2	: UDBB FOR TEST28
2102	015130	000000	.WORD	0	
2103	015132	000000	.WORD	0	
2104	015134	000000	.WORD	0	
2105	015136	021040	.WORD	21040	: SWITCH PACK ADDRESS
2106					
2107					
2108	015140	000000	.WORD	0	: PCSRO AT TIME OF ERROR
2109	015142	000000	.WORD	0	: PCSR1 AT TIME OF ERROR
2110	015144	000000	.WORD	0	: RDRB.0 AT TIME OF ERROR
2111	015146	000000	.WORD	0	: RDRB.2 AT TIME OF ERROR
2112	015150	000000	.WORD	0	: RDRB.4 AT TIME OF ERROR
2113	015152	000000	.WORD	0	: RDRB.6 AT TIME OF ERROR
2114	015154	000000	.WORD	0	: EXPECTED RDRB.0 AT TIME OF ERROR
2115	015156	000000	.WORD	0	: EXPECTED RDRB.2 AT TIME OF ERROR
2116	015160	000000	.WORD	0	: EXPECTED RDRB.4 AT TIME OF ERROR
2117	015162	000000	.WORD	0	: EXPECTED RDRB.6 AT TIME OF ERROR
2118	015164	000000	.WORD	0	: TORB.0 AT TIME OF ERROR
2119	015166	000000	.WORD	0	: TORB.2 AT TIME OF ERROR
2120	015170	000000	.WORD	0	: TORB.4 AT TIME OF ERROR
2121	015172	000000	.WORD	0	: TORB.6 AT TIME OF ERROR
2122	015174	000000	.WORD	0	: EXPECTED TORB.0 AT TIME OF ERROR
2123	015176	000000	.WORD	0	: EXPECTED TORB.2 AT TIME OF ERROR
2124	015200	000000	.WORD	0	: EXPECTED TORB.4 AT TIME OF ERROR
2125	015202	000000	.WORD	0	: EXPECTED TORB.6 AT TIME OF ERROR

2126	015204	000000	EDAT::	.WORD	0	; ACTUAL DATA AT TIME OF ERROR	
2127	015206	000000	XDAT::	.WORD	0	; EXPECTED DATA AT TIME OF ERROR	
2128	015210	000000	ECRC::	.WORD	0	; ACTUAL CRC VALUE AT TIME OF ERROR	
2129	015212	000000	ECRCB::	.WORD	0		
2130	015214	000000	XCRC::	.WORD	0	; EXPECTED CRC VALUE AT TIME OF ERROR	
2131	015216	000000	XCRCB::	.WORD	0		
2132							
2133	015220	000000	ECODE::	.WORD	0	; SELF TEST ERROR CODE SHIFTED RIGHT	
2134							
2135	015222	000000	METER::	.WORD	0	; CLOCK TICKS	;MAC001
2136	015224	000000	NEXMEM::	.WORD	0	; NXM TIMEOUT FLAG	
2137	015226	000000	DNIFLG::	.WORD	0	; DNI INTERRUPT FLAG	
2138	015230	000000	FRSTIM::	.WORD	0	; FIRST TIME FLAG	
2139							
2140	015232	177777	PATRN1::	.WORD	177777	; SA0_SAI TEST PATTERN	
2141	015234	000000		.WORD	0		
2142	015236	052525		.WORD	52525		
2143	015240	125252		.WORD	125252		
2156							
2157	015242						
	015242						
	015242	000000	ERRTYP::	.WORD	0		
	015244	000000	ERRNBR::	.WORD	0		
	015246	000000	ERRMSG::	.WORD	0		
	015250	000000	ERRBLK::	.WORD	0		

ERRTBL

L:ERRTBL::


```

2159          .SBTTL  GLOBAL TEXT SECTION
2160
2161          ;
2162          ; THE GLOBAL TEXT SECTION CONTAINS FORMAT STATEMENTS,
2163          ; MESSAGES, AND ASCII INFORMATION THAT ARE USED IN
2164          ; MORE THAN ONE TEST.
2165          ;
2166
2167          ;
2168          ; NAMES OF DEVICES SUPPORTED BY PROGRAM
2169          ;
2170          DEVTYP  <DEUNA>
                                L$DVTYP::
                                .ASCIZ  /DEUNA/
                                .EVEN
                                015252
                                015252
                                015252  104  105  125
                                015255  116  101  000
2171
2172
2173          ; TEST DESCRIPTION
2174          ;
2175          DESCRIPT  <DEUNA - PDP11 FUNCTIONAL DIAGNOSTIC>
                                L$DESC::
                                .ASCIZ  /DEUNA - PDP11 FUNCT
2176          015260
2177          015260
2178          015260  104  105  125
2179          IONAL DIAGNOSTIC/
2180          015263  116  101  040
2181          015266  055  040  120
2182          015271  104  120  061
2183          015274  061  040  106
2184          015277  125  116  103
2185          015302  124  111  117
2186          015305  116  101  114
2187          015310  040  104  111
2188          015313  101  107  116
2189          015316  117  123  124
2190          015321  111  103  000
2191
2192          .EVEN
2193
2194          ;
2195          ; FORMAT STATEMENTS USED IN PRINT CALLS
2196          ;
2197
2198
2199
2200
2201
2202          ;
2203          FRM001::  .ASCIZ  /%N%APCSR%01%A DOES NOT EXIST/
2204          015324  045  116  045
2205          015327  101  120  103
2206          015332  123  122  045
2207          015335  104  061  045
2208          015340  101  040  104
2209          015343  117  105  123
2210          015346  040  116  117
2211          015351  124  040  105
2212          015354  130  111  123
2213          015357  124  000
2214          015361  045  116  045  FRM002::  .ASCIZ  /%N%A EXPECTED DATA = %06%N%A ACTUAL DATA = %06/
2215          015364  101  040  105

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	015367	130	120	105		
	015372	103	124	105		
	015375	104	040	104		
	015400	101	124	101		
	015403	040	075	040		
	015406	045	117	066		
	015411	045	116	045		
	015414	101	040	101		
	015417	103	124	125		
	015422	101	114	040		
	015425	104	101	124		
	015430	101	040	075		
	015433	040	040	040		
	015436	045	117	066		
	015441	000				
2216	015442	045	116	045	FRM003::	.ASCIZ /%N% A PCSR0 = %06%N% A PCSR1 = %06/
	015445	101	040	120		
	015450	103	123	122		
	015453	060	040	075		
	015456	040	045	117		
	015461	066	045	116		
	015464	045	101	040		
	015467	120	103	123		
	015472	122	061	040		
	015475	075	040	045		
	015500	117	066	000		
2217	015503	045	116	045	FRM004::	.ASCIZ /%N% A SELF TEST ERROR CODE = %02/
	015506	101	040	123		
	015511	105	114	106		
	015514	040	124	105		
	015517	123	124	040		
	015522	105	122	122		
	015525	117	122	040		
	015530	103	117	104		
	015533	105	040	075		
	015536	040	045	117		
	015541	062	000			
2218	015543	045	116	045	FRM005::	.ASCIZ /%N% A EXPECTED TDRB.0 = %06%N% A ACTUAL TDRB.0 = %06/
	015546	101	040	105		
	015551	130	120	105		
	015554	103	124	105		
	015557	104	040	124		
	015562	104	122	102		
	015565	053	060	040		
	015570	075	040	045		
	015573	117	066	045		
	015576	116	045	101		
	015601	040	101	103		
	015604	124	125	101		
	015607	114	040	124		
	015612	104	122	102		
	015615	053	060	040		
	015620	075	040	040		
	015623	040	045	117		
	015626	066	000			
2219	015630	045	116	045	FRM006::	.ASCIZ /%N% A EXPECTED TDRB.2 = %06%N% A ACTUAL TDRB.2 = %06/
	015633	101	040	105		

	015636	130	120	105	
	015641	103	124	105	
	015644	104	040	124	
	015647	104	122	102	
	015652	053	062	040	
	015655	075	040	045	
	015660	117	066	045	
	015663	116	045	101	
	015666	040	101	103	
	015671	124	125	101	
	015674	114	040	124	
	015677	104	122	102	
	015702	053	062	040	
	015705	075	040	040	
	015710	040	045	117	
	015713	066	000		
2220	015715	045	116	045	FRM007:: .ASCIZ /ENBA EXPECTED TDRB.4 * #06#ENBA ACTUAL TDRB.4 * #06/
	015720	101	040	105	
	015723	130	120	105	
	015726	103	124	105	
	015731	104	040	124	
	015734	104	122	102	
	015737	053	064	040	
	015742	075	040	045	
	015745	117	066	045	
	015750	116	045	101	
	015753	040	101	103	
	015756	124	125	101	
	015761	114	040	124	
	015764	104	122	102	
	015767	053	064	040	
	015772	075	040	040	
	015775	040	045	117	
	016000	066	000		
2221	016002	045	116	045	FRM008:: .ASCIZ /ENBA EXPECTED TDRB.6 * #06#ENBA ACTUAL TDRB.6 * #06/
	016005	101	040	105	
	016010	130	120	105	
	016013	103	124	105	
	016016	104	040	124	
	016021	104	122	102	
	016024	053	066	040	
	016027	075	040	045	
	016032	117	066	045	
	016035	116	045	101	
	016040	040	101	103	
	016043	124	125	101	
	016046	114	040	124	
	016051	104	122	102	
	016054	053	066	040	
	016057	075	040	040	
	016062	040	045	117	
	016065	066	000		
2222	016067	045	116	045	FRM009:: .ASCIZ /ENBA EXPECTED RDRB.0 * #06#ENBA ACTUAL RDRB.0 * #06/
	016072	101	040	105	
	016075	130	120	105	
	016100	103	124	105	
	016103	104	040	122	

	016106	104	122	102	
	016111	053	060	040	
	016114	075	040	045	
	016117	117	066	045	
	016122	116	045	101	
	016125	040	101	103	
	016130	124	125	101	
	016133	114	040	122	
	016136	104	122	102	
	016141	053	060	040	
	016144	075	040	040	
	016147	040	045	117	
	016152	066	000		
2223	016154	045	116	045	FRM010:: .ASCIZ /NNA EXPECTED RDRB.2 * #06NNA ACTUAL RDRB.2 * #06/
	016157	101	040	105	
	016162	130	120	105	
	016165	103	124	105	
	016170	104	040	122	
	016173	104	122	102	
	016176	053	062	040	
	016201	075	040	045	
	016204	117	066	045	
	016207	116	045	101	
	016212	040	101	103	
	016215	124	125	101	
	016220	114	040	122	
	016223	104	122	102	
	016226	053	062	040	
	016231	075	040	040	
	016234	040	045	117	
	016237	066	000		
2224	016241	045	116	045	FRM011:: .ASCIZ /NNA EXPECTED RDRB.4 * #06NNA ACTUAL RDRB.4 * #06/
	016244	101	040	105	
	016247	130	120	105	
	016252	103	124	105	
	016255	104	040	122	
	016260	104	122	102	
	016263	053	064	040	
	016266	075	040	045	
	016271	117	066	045	
	016274	116	045	101	
	016277	040	101	103	
	016302	124	125	101	
	016305	114	040	122	
	016310	104	122	102	
	016313	053	064	040	
	016316	075	040	040	
	016321	040	045	117	
	016324	066	000		
2225	016326	045	116	045	FRM012:: .ASCIZ /NNA EXPECTED RDRB.6 * #06NNA ACTUAL RDRB.6 * #06/
	016331	101	040	105	
	016334	130	120	105	
	016337	103	124	105	
	016342	104	040	122	
	016345	104	122	102	
	016350	053	066	040	
	016353	075	040	045	

	016356	117	066	045			
	016361	116	045	101			
	016364	040	101	103			
	016367	124	125	101			
	016372	114	040	122			
	016375	104	122	102			
	016400	053	066	040			
	016403	075	040	040			
	016406	040	045	117			
	016411	066	000				
2226	016413	045	116	045	FRM013::	.ASCIZ /ENSA EXPECTED CRC = 06ENSA	06/
	016416	101	040	105			
	016421	130	120	105			
	016424	103	124	105			
	016427	104	040	103			
	016432	122	103	040			
	016435	075	040	045			
	016440	117	066	045			
	016443	116	045	101			
	016446	040	040	040			
	016451	040	040	040			
	016454	040	040	040			
	016457	040	040	040			
	016462	040	040	040			
	016465	040	045	117			
	016470	066	000				
2227	016472	045	116	045	FRM014::	.ASCIZ /ENSA ACTUAL CRC = 06ENSA	06/
	016475	101	040	101			
	016500	103	124	125			
	016503	101	114	040			
	016506	103	122	103			
	016511	040	040	040			
	016514	075	040	045			
	016517	117	066	045			
	016522	116	045	101			
	016525	040	040	040			
	016530	040	040	040			
	016533	040	040	040			
	016536	040	040	040			
	016541	040	040	040			
	016544	040	045	117			
	016547	066	000				
2228	016551	045	116	045	FRM015::	.ASCIZ /ENST/	
	016554	124	000				
2229	016556	045	116	045	FRM016::	.ASCIZ /ENSA ROM MICROCODE VERSION (DECIMAL): 02/	
	016561	101	122	117			
	016564	115	040	115			
	016567	111	103	122			
	016572	117	103	117			
	016575	104	105	040			
	016600	126	105	122			
	016603	123	111	117			
	016606	116	040	050			
	016611	104	105	103			
	016614	111	115	101			
	016617	114	051	072			
	016622	040	045	104			

	016625	062	000			
2230	016627	045	116	045	FRM017::	.ASCIZ /ENB SWITCH PACK = #06/
	016632	101	123	127		
	016635	111	124	103		
	016640	110	040	120		
	016643	101	103	113		
	016646	040	075	040		
	016651	045	117	066		
	016654	000				
2231	016655	045	116	045	FRM018::	.ASCIZ /ENB REPORT STATUS WORD 1: #06/
	016660	101	120	117		
	016663	122	124	040		
	016666	123	124	101		
	016671	124	125	123		
	016674	040	127	117		
	016677	122	104	040		
	016702	061	072	040		
	016705	045	117	066		
	016710	000				
2232	016711	045	116	045	FRM019::	.ASCIZ /ENB A WORD 2: #06/
	016714	101	040	040		
	016717	040	040	040		
	016722	040	040	040		
	016725	040	040	040		
	016730	040	127	117		
	016733	122	104	040		
	016736	062	072	040		
	016741	045	117	066		
	016744	000				
2233	016745	045	116	045	FRM020::	.ASCIZ /ENB A WORD 3: #06/
	016750	101	040	040		
	016753	040	040	040		
	016756	040	040	040		
	016761	040	040	040		
	016764	040	127	117		
	016767	122	104	040		
	016772	063	072	040		
	016775	045	117	066		
	017000	000				
2234	017001	045	116	045	FRM021::	.ASCIZ /ENB A WORD 4: #06/
	017004	101	040	040		
	017007	040	040	040		
	017012	040	040	040		
	017015	040	040	040		
	017020	040	127	117		
	017023	122	104	040		
	017026	064	072	040		
	017031	045	117	066		
	017034	000				
2235					.EVEN	

.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.
;

2237							
2238							
2239							
2240							
2241							
2242							
2243							
2244							
2245							
2246							
2262	017036			BGNMSG	MSG001		MSG001::
	017036						
2263	017036				PRINTB	#FRM001,R2	
	017036	010246					MOV R2, (SP)
	017040	012746	015324				MOV #FRM001, -(SP)
	017044	012746	000002				MOV #2, -(SP)
	017050	010600					MOV SP, R0
	017052	104414					TRAP C\$PNTB
	017054	062706	000006				ADD #6, SP
2264	017060			ENDMSG			
	017060						L10002:
	017060	104423					TRAP C\$MSG
2265				:			
2266	017062			BGNMSG	MSG002		MSG002::
	017062						
2267	017062				PRINTB	#FRM002,R3,R4	
	017062	010446					MOV R4, -(SP)
	017064	010346					MOV R3, -(SP)
	017066	012746	015361				MOV #FRM002, -(SP)
	017072	012746	000003				MOV #3, -(SP)
	017076	010600					MOV SP, R0
	017100	104414					TRAP C\$PNTB
	017102	062706	000010				ADD #10, SP
2268	017106			ENDMSG			
	017106						L10003:
	017106	104423					TRAP C\$MSG
2269				:			
2270	017110			BGNMSG	MSG003		MSG003::
	017110						
2271	017110				PRINTB	#FRM003,EPCSR0,EPCSR1	
	017110	013746	015142				MOV EPCSR1, -(SP)
	017114	013746	015140				MOV EPCSR0, -(SP)
	017120	012746	015442				MOV #FRM003, -(SP)
	017124	012746	000003				MOV #3, -(SP)
	017130	010600					MOV SP, R0
	017132	104414					TRAP C\$PNTB
	017134	062706	000010				ADD #10, SP
2272	017140			ENDMSG			
	017140						L10004:
	017140	104423					TRAP C\$MSG
2273				:			
2274	017142			BGNMSG	MSG004		MSG004::
	017142						
2275	017142				PRINTB	#FRM004, ECODE	
	017142	013746	015220				MOV ECODE, -(SP)
	017146	012746	015503				MOV #FRM004, -(SP)
	017152	012746	000002				MOV #2, -(SP)

```

017156 010600
017160 104414
017162 062706 000006
2276 017166
017166 013746 031244
017172 012746 016551
017176 012746 000002
017202 010600
017204 104414
017206 062706 000006
2277 017212
017212
017212 104423
2278
2279 017214
017214
2280 017214
017214 013746 015164
017220 013746 015174
017224 012746 015543
017230 012746 000003
017234 010600
017236 104414
017240 062706 000010
2281 017244
017244 013746 015166
017250 013746 015176
017254 012746 015630
017260 012746 000003
017264 010600
017266 104414
017270 062706 000010
2282 017274
017274 013746 015170
017300 013746 015200
017304 012746 015715
017310 012746 000003
017314 010600
017316 104414
017320 062706 000010
2283 017324
017324 013746 015172
017330 013746 015202
017334 012746 016002
017340 012746 000003
017344 010600
017346 104414
017350 062706 000010
2284 017354
017354
017354 104423
2285
2286 017356
017356
2287 017356
017356 013746 015144
017362 013746 015154

```

```

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,R0
TRAP C$PNTB
ADD #6,SP
MOV STMSG,-(SP,
MOV #FRM015,-(SP)
MOV #2,(SP)
MOV SP,R0
TRAP C$PNTB
ADD #6,SP
L10005: TRAP C$MSG
MSG005::
MOV ETDRB0,-(SP)
MOV XTDRB0,-(SP)
MOV #FRM005,(SP)
MOV #3,(SP)
MOV SP,R0
TRAP C$PNTB
ADD #10,SP
MOV ETDRB2,-(SP)
MOV XTDRB2,-(SP)
MOV #FRM006,(SP)
MOV #3,(SP)
MOV SP,R0
TRAP C$PNTB
ADD #10,SP
MOV ETDRB4,(SP)
MOV XTDRB4,-(SP)
MOV #FRM007,(SP)
MOV #3,-(SP)
MOV SP,R0
TRAP C$PNTB
ADD #10,SP
MOV ETDRB6,(SP)
MOV XTDRB6,-(SP)
MOV #FRM008,(SP)
MOV #3,-(SP)
MOV SP,R0
TRAP C$PNTB
ADD #10,SP
L10006: TRAP C$MSG
MSG006::
MOV ERDRB0,(SP)
MOV XRDRB0,(SP)

```

```

017366 012746 016067
017372 012746 000003
017376 010600
017400 104414
017402 062706 000010
2288 017406
017406 013746 015146
017412 013746 015156
017416 012746 016154
017422 012746 000003
017426 010600
017430 104414
017432 062706 000010
2289 017436
017436 013746 015150
017442 013746 015160
017446 012746 016241
017452 012746 000003
017456 010600
017460 104414
017462 062706 000010
2290 017466
017466 013746 015152
017472 013746 015162
017476 012746 016326
017502 012746 000003
017506 010600
017510 104414
017512 062706 000010
2291 017516
017516
017516 104423
2292
2293 017520
017520
2294 017520
017520 013746 015204
017524 013746 015206
017530 012746 015361
017534 012746 000003
017540 010600
017542 104414
017544 062706 000010
2295 017550
017550
017550 104423
2296
2297 017552
017552
2298 017552
017552 013746 015216
017556 013746 015214
017562 012746 016413
017566 012746 000003
017572 010600
017574 104414
017576 062706 000010

```

PRINTB #FRM010,XRDRB2 ERDRB2

PRINTB #FRM011,XRDRB4,ERDRB4

PRINTB #FRM012,XRDRB6,ERDRB6

ENDMSG

BGNMSG MSG007

PRINTB #FRM002,XDAT,EDAT

ENDMSG

BGNMSG MSG008

PRINTB #FRM013,XCRC,XCRCB

```

MOV #FRM009,-(SP,
MOV #3,(SP)
MOV SP,R0
TRAP C$PNTB
ADD #10,SP

```

```

MOV ERDRB2,(SP)
MOV XRDRB2,-(SP)
MOV #FRM010,-(SP)
MOV #3,-(SP)
MOV SP,R0
TRAP C$PNTB
ADD #10,SP

```

```

MOV ERDRB4,(SP)
MOV XRDRB4,(SP)
MOV #FRM011,-(SP)
MOV #3,(SP)
MOV SP,R0
TRAP C$PNTB
ADD #10,SP

```

```

MOV ERDRB6,(SP)
MOV XRDRB6,-(SP)
MOV #FRM012,(SP)
MOV #3,-(SP)
MOV SP,R0
TRAP C$PNTB
ADD #10,SP

```

```

L10007:
TRAP C$MSG

```

MSG007::

```

MOV EDAT,-(SP)
MOV XDAT,-(SP)
MOV #FRM002,(SP)
MOV #3,(SP)
MOV SP,R0
TRAP C$PNTB
ADD #10,SP

```

```

L10010:
TRAP C$MSG

```

MSG008::

```

MOV XCRCB,-(SP)
MOV XCRC,(SP)
MOV #FRM013,(SP)
MOV #3,(SP)
MOV SP,R0
TRAP C$PNTB
ADD #10,SP

```

```

2299 017602                                PRINTB  #FRM014,ECRC,ECRCB
      017602 013746 015212
      017606 013746 015210
      017612 012746 016472
      017616 012746 000003
      017622 010600
      017624 104414
      017626 062706 000010
2300 017632                                ENDMSG
      017632
      017632 104423
2301
2302 017634                                BGNMSG  MSG009
      017634
2303 017634                                PRINTB  #FRM018,PCBB
      017634 013746 002264
      017640 012746 016655
      017644 012746 000002
      017650 010600
      017652 104414
      017654 062706 000006
2304 017660                                PRINTB  #FRM019,PCBB+2
      017660 013746 002266
      017664 012746 016711
      017670 012746 000002
      017674 010600
      017676 104414
      017700 062706 000006
2305 017704                                PRINTB  #FRM020,PCBB+4
      017704 013746 002270
      017710 012746 016745
      017714 012746 000002
      017720 010600
      017722 104414
      017724 062706 000006
2306 017730                                PRINTB  #FRM021,PCBB+6
      017730 013746 002272
      017734 012746 017001
      017740 012746 000002
      017744 010600
      017746 104414
      017750 062706 000006
2307 017754                                ENDMSG
      017754
      017754 104423
2308
2309 017756 015 012 122  ERR001:: .ASCIZ  <15><12>/REGISTER ACCESS ERROR/
      017761 105 107 111
      017764 123 124 105
      017767 122 040 101
      017772 103 103 105
      017775 123 123 040
      020000 105 122 122
      020003 117 122 000
2310 020006 015 012 104  ERR002:: .ASCIZ  <15><12>/DATA COMPARE ERROR IN PCSR2/
      020011 101 124 101
      020014 040 103 117

```

```

MOV  ECRCB, (SP)
MOV  ECRC, (SP)
MOV  #FRM014, (SP)
MOV  #3, (SP)
MOV  SP,R0
TRAP C$PNTB
ADD  #10,SP

```

```

L10011:
TRAP  C$MSG

```

```

MSG009::

```

```

MOV  PCBB, (SP)
MOV  #FRM018, (SP)
MOV  #2, -(SP)
MOV  SP,R0
TRAP C$PNTB
ADD  #6,SP

```

```

MOV  PCBB+2, -(SP)
MOV  #FRM019, (SP)
MOV  #2, -(SP)
MOV  SP,R0
TRAP C$PNTB
ADD  #6,SP

```

```

MOV  PCBB+4, -(SP)
MOV  #FRM020, -(SP)
MOV  #2, -(SP)
MOV  SP,R0
TRAP C$PNTB
ADD  #6,SP

```

```

MOV  PCBB+6, -(SP)
MOV  #FRM021, (SP)
MOV  #2, (SP)
MOV  SP,R0
TRAP C$PNTB
ADD  #6,SP

```

```

L10012:
TRAP  C$MSG

```

	020017	115	120	101		
	020022	122	105	040		
	020025	105	122	122		
	020030	117	122	040		
	020033	111	116	040		
	020036	120	103	123		
	020041	122	062	000		
2311	020044	015	012	104	ERR003::	.ASCIZ <15><12>/DATA COMPARE ERROR IN PCSR3/
	020047	101	124	101		
	020052	040	103	117		
	020055	115	120	101		
	020060	122	105	040		
	020063	105	122	122		
	020066	117	122	040		
	020071	111	116	040		
	020074	120	103	123		
	020077	122	063	000		
2312	020102	015	012	104	ERR004::	.ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	020105	116	111	040		
	020110	102	111	124		
	020113	040	106	101		
	020116	111	114	105		
	020121	104	040	124		
	020124	117	040	123		
	020127	105	124	040		
	020132	101	106	124		
	020135	105	122	040		
2313	020140	104	105	126		.ASCIZ /DEVICE RESET /
	020143	111	103	105		
	020146	040	122	105		
	020151	123	105	124		
	020154	040	000			
2314	020156	015	012	123	ERR005::	.ASCIZ <15><12>/SELF TEST FAILURE/
	020161	105	114	106		
	020164	040	124	105		
	020167	123	124	040		
	020172	106	101	111		
	020175	114	125	122		
	020200	105	000			
2315	020202	015	012	127	ERR006::	.ASCIZ <15><12>/WRITING ONE TO CLEAR DNI BIT FAILED/
	020205	122	111	124		
	020210	111	116	107		
	020213	040	117	116		
	020216	105	040	124		
	020221	117	040	103		
	020224	114	105	101		
	020227	122	040	104		
	020232	116	111	040		
	020235	102	111	124		
	020240	040	106	101		
	020243	111	114	105		
	020246	104	000			
2316	020250	015	012	116	ERR007::	.ASCII <15><12>/NO DNI INTERRUPT OCCURED /
	020253	117	040	104		
	020256	116	111	040		
	020261	111	116	124		
	020264	105	122	122		

	020267	125	120	124	
	020272	040	117	103	
	020275	103	125	122	
	020300	105	104	040	
2317	020303	101	106	124	.ASCIZ /AFTER GET PCBB PORT COMMAND/
	020306	105	122	040	
	020311	107	105	124	
	020314	040	120	103	
	020317	102	102	040	
	020322	120	117	122	
	020325	124	040	103	
	020330	117	115	115	
	020333	101	116	104	
	020336	000			
2318	020337	015	012	104	ERROR08:: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	020342	116	111	040	
	020345	102	111	124	
	020350	040	106	101	
	020353	111	114	105	
	020356	104	040	124	
	020351	117	040	123	
	020364	105	124	040	
	020367	101	106	124	
	020372	105	122	040	
2319	020375	116	117	120	.ASCIZ /NOP PORT COMMAND/
	020400	040	120	117	
	020403	122	124	040	
	020406	103	117	115	
	020411	115	101	116	
	020414	104	000		
2320	020416	015	012	104	ERROR09:: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	020421	116	111	040	
	020424	102	111	124	
	020427	040	106	101	
	020432	111	114	105	
	020435	104	040	124	
	020440	117	040	123	
	020443	105	124	040	
	020446	101	106	124	
	020451	105	122	040	
2321	020454	107	105	124	.ASCIZ /GET PCBB PORT COMMAND/
	020457	040	120	103	
	020462	102	102	040	
	020465	120	117	122	
	020470	124	040	103	
	020473	117	115	115	
	020476	101	116	104	
	020501	000			
2322	020502	015	012	104	ERROR10:: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	020505	116	111	040	
	020510	102	111	124	
	020513	040	106	101	
	020516	111	114	105	
	020521	104	040	124	
	020524	117	040	123	
	020527	105	124	040	
	020532	101	106	124	

	020535	105	122	040	
2323	020540	107	105	124	.ASCIZ /GET CMD PORT COMMAND/
	020543	040	103	115	
	020546	104	040	120	
	020551	117	122	124	
	020554	040	103	117	
	020557	115	115	101	
	020562	116	104	000	
2324	020565	015	012	104	ERROR11:: .ASCIZ <15><12>/DATA COMPARE ERROR IN MODE REGISTER/
	020570	101	124	101	
	020573	040	103	117	
	020576	115	120	101	
	020601	122	105	040	
	020604	105	122	122	
	020607	117	122	040	
	020612	111	116	040	
	020615	115	117	104	
	020620	105	040	122	
	020623	105	107	111	
	020626	123	124	105	
	020631	122	000		
2325	020633	015	012	104	ERROR12:: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	020636	116	111	040	
	020641	102	111	124	
	020644	040	106	101	
	020647	111	114	105	
	020652	104	040	124	
	020655	117	040	123	
	020660	105	124	040	
	020663	101	106	124	
	020666	105	122	040	
2326	020671	123	124	101	.ASCIZ /START PORT COMMAND/
	020674	122	124	040	
	020677	120	117	122	
	020702	124	040	103	
	020705	117	115	115	
	020710	101	116	104	
	020713	000			
2327	020714	015	012	124	ERROR13:: .ASCIZ <15><12>/TXI BIT FAILED TO SET /
	020717	130	111	040	
	020722	102	111	124	
	020725	040	106	101	
	020730	111	114	105	
	020733	104	040	124	
	020736	117	040	123	
	020741	105	124	040	
	020744	000			
2328	020745	015	012	127	ERROR14:: .ASCIZ <15><12>/WRITING ONE TO CLEAR TXI BIT FAILED/
	020750	122	111	124	
	020753	111	116	107	
	020756	040	117	116	
	020761	105	040	124	
	020764	117	040	103	
	020767	114	105	101	
	020772	122	040	124	
	020775	130	111	040	
	021000	102	111	124	

	021003	040	106	101		
	021006	111	114	105		
	021011	104	000			
2329	021013	015	012	122	ERR015::	.ASCIZ <15><12>/RXI BIT FAILED TO SET /
	021016	130	111	040		
	021021	102	111	124		
	021024	040	106	101		
	021027	111	114	105		
	021032	104	040	124		
	021035	117	040	123		
	021040	105	124	040		
	021043	000				
2330	021044	015	012	127	ERR016::	.ASCIZ <15><12>/WRITING ONE TO CLEAR RXI BIT FAILED/
	021047	122	111	124		
	021052	111	116	107		
	021055	040	117	116		
	021060	105	040	124		
	021063	117	040	103		
	021066	114	105	101		
	021071	122	040	122		
	021074	130	111	040		
	021077	102	111	124		
	021102	040	106	101		
	021105	111	114	105		
	021110	104	000			
2331	021112	015	012	124	ERR017::	.ASCII <15><12>/TIMEOUT ERROR - DENUA FAILED TO /
	021115	111	115	105		
	021120	117	125	124		
	021123	040	105	122		
	021126	122	117	122		
	021131	040	055	040		
	021134	104	105	116		
	021137	125	101	040		
	021142	106	101	111		
	021145	114	105	104		
	021150	040	124	117		
	021153	040				
2332	021154	122	105	114		.ASCIZ /RELINQUISH OWNERSHIP OF RDRB /
	021157	111	116	121		
	021162	125	111	123		
	021165	110	040	117		
	021170	127	116	105		
	021173	122	123	110		
	021176	111	120	040		
	021201	117	106	040		
	021204	122	104	122		
	021207	102	040	000		
2333	021212	015	012	124	ERR018::	.ASCII <15><12>/TIMEOUT ERROR DENUA FAILED TO /
	021215	111	115	105		
	021220	117	125	124		
	021223	040	105	122		
	021226	122	117	122		
	021231	040	055	040		
	021234	104	105	116		
	021237	125	101	040		
	021242	106	101	111		
	021245	114	105	104		

	021250	040	124	117	
	021253	040			
2334	021254	122	105	114	.ASCIZ /RELINQUISH OWNERSHIP OF TDRE /
	021257	111	116	121	
	021262	125	111	123	
	021265	110	040	117	
	021270	127	116	105	
	021273	122	123	110	
	021276	111	120	040	
	021301	117	106	040	
	021304	124	104	122	
	021307	102	040	000	
2335	021312	015	012	104	ERR019:: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	021315	116	111	040	
	021320	102	111	124	
	021323	040	106	101	
	021326	111	114	105	
	021331	104	040	124	
	021334	117	040	123	
	021337	105	124	040	
	021342	101	106	124	
	021345	105	122	040	
2336	021350	123	124	117	.ASCIZ /STOP PORT COMMAND/
	021353	120	040	120	
	021356	117	122	124	
	021361	040	103	117	
	021364	115	115	101	
	021367	116	104	000	
2337	021372	015	012	104	ERR020:: .ASCII <15><12>/DATA COMPARE ERROR IN /
	021375	101	124	101	
	021400	040	103	117	
	021403	115	120	101	
	021406	122	105	040	
	021411	105	122	122	
	021414	117	122	040	
	021417	111	116	040	
2338	021422	124	122	101	.ASCIZ /TRANSMIT DESCRIPTOR RING/
	021425	116	123	115	
	021430	111	124	040	
	021433	104	105	123	
	021436	103	122	111	
	021441	120	124	117	
	021444	122	040	122	
	021447	111	116	107	
	021452	000			
2339	021453	015	012	104	ERR021:: .ASCII <15><12>/DATA COMPARE ERROR IN /
	021456	101	124	101	
	021461	040	103	117	
	021464	115	120	101	
	021467	122	105	040	
	021472	105	122	122	
	021475	117	122	040	
	021500	111	116	040	
	021503	040			
2340	021504	122	105	103	.ASCIZ /RECEIVE DESCRIPTOR RING/
	021507	105	111	126	
	021512	105	040	104	

	021515	105	123	103		
	021520	122	111	120		
	021523	124	117	122		
	021526	040	122	111		
	021531	116	107	000		
2341	021534	015	012	124	ERR022::	.ASCIZ <15><12>/TRANSMIT RECEIVE DATA COMPARE ERROR /
	021537	122	101	116		
	021542	123	115	111		
	021545	124	055	122		
	021550	105	103	105		
	021553	111	126	105		
	021556	040	104	101		
	021561	124	101	040		
	021564	103	117	115		
	021567	120	101	122		
	021572	105	040	105		
	021575	122	122	117		
	021600	122	040	000		
2342	021603	015	012	103	ERR023::	.ASCIZ <15><12>/CRC COMPARE ERROR /
	021606	122	103	040		
	021611	103	117	115		
	021614	120	101	122		
	021617	105	040	105		
	021622	122	122	117		
	021625	122	040	000		
2343	021630	015	012	111	ERR024::	.ASCIZ <15><12>/INTERNAL ROM CRC COMPARE ERROR /
	021633	116	124	105		
	021636	122	116	101		
	021641	114	040	122		
	021644	117	115	040		
	021647	103	122	103		
	021652	040	103	117		
	021655	115	120	101		
	021660	122	105	040		
	021663	105	122	122		
	021666	117	122	040		
	021671	000				
2344	021672	015	012	122	ERR025::	.ASCIZ <15><12>/RCBI BIT FAILED TO SET /
	021675	103	102	111		
	021700	040	102	111		
	021703	124	040	106		
	021706	101	111	114		
	021711	105	104	040		
	021714	124	117	040		
	021717	123	105	124		
	021722	040	000			
2345	021724	015	012	127	ERR026::	.ASCIZ <15><12>/WRITING ONE TO CLEAR RCBI BIT FAILED/
	021727	122	111	124		
	021732	111	116	107		
	021735	040	117	116		
	021740	105	040	124		
	021743	117	040	103		
	021746	114	105	101		
	021751	122	040	122		
	021754	103	102	111		
	021757	040	102	111		
	021762	124	040	106		

	021765	101	111	114	
	021770	105	104	000	
2346	021773	015	012	124	ERROR27:: .ASCII <15><12>/TIMEOUT ERROR - DENJA FAILED TO RELINQUISH/
	021776	111	115	105	
	022001	117	125	124	
	022004	040	105	122	
	022007	122	117	122	
	022012	040	055	040	
	022015	104	105	116	
	022020	125	101	040	
	022023	106	101	111	
	022026	114	105	104	
	022031	040	124	117	
	022034	040	122	105	
	022037	114	111	116	
	022042	121	125	111	
	022045	123	110		
2347	022047	040	117	127	.ASCIIZ / OWNERSHIP OF FIRST TORB/
	022052	116	105	122	
	022055	123	110	111	
	022060	120	040	117	
	022063	106	040	106	
	022066	111	122	123	
	022071	124	040	124	
	022074	104	122	102	
	022077	000			
2348	022100	015	012	124	ERROR28:: .ASCII <15><12>/TIMEOUT ERROR - DENJA FAILED TO RELINQUISH/
	022103	111	115	105	
	022106	117	125	124	
	022111	040	105	122	
	022114	122	117	122	
	022117	040	055	040	
	022122	104	105	116	
	022125	125	101	040	
	022130	106	101	111	
	022133	114	105	104	
	022136	040	124	117	
	022141	040	122	105	
	022144	114	111	116	
	022147	121	125	111	
	022152	123	110		
2349	022154	040	117	127	.ASCIIZ / OWNERSHIP OF SECOND TORB/
	022157	116	105	122	
	022162	123	110	111	
	022165	120	040	117	
	022170	106	040	127	
	022173	105	103	117	
	022176	116	104	040	
	022201	124	104	122	
	022204	102	000		
2350	022206	015	012	124	ERROR29:: .ASCII <15><12>/TIMEOUT ERROR - DENJA FAILED TO RELINQUISH/
	022211	111	115	105	
	022214	117	125	124	
	022217	040	105	122	
	022222	122	117	122	
	022225	040	055	040	
	022230	104	105	116	

	022233	125	101	040	
	022236	106	101	111	
	022241	114	105	104	
	022244	040	124	117	
	022247	040	122	105	
	022252	114	111	116	
	022255	121	125	111	
	022260	123	110		
2351	022262	040	117	127	.ASCIZ / OWNERSHIP OF THIRD TORB/
	022265	116	105	122	
	022270	123	110	111	
	022273	120	040	117	
	022276	106	040	124	
	022301	110	111	122	
	022304	104	040	124	
	022307	104	122	102	
	022312	000			
2352	022313	015	012	124	ERROR30:: .ASCII <15><12>/TIMEOUT ERROR - DENUA FAILED TO RELINQUISH/
	022316	111	115	105	
	022321	117	125	124	
	022324	040	105	122	
	022327	122	117	122	
	022332	040	055	040	
	022335	104	105	116	
	022340	125	101	040	
	022343	106	101	111	
	022346	114	105	104	
	022351	040	124	117	
	022354	040	122	105	
	022357	114	111	116	
	022362	121	125	111	
	022365	123	110		
2353	022367	040	117	127	.ASCIZ / OWNERSHIP OF FIRST RDRB/
	022372	116	105	122	
	022375	123	110	111	
	022400	120	040	117	
	022403	106	040	106	
	022406	111	122	123	
	022411	124	040	122	
	022414	104	122	102	
	022417	000			
2354	022420	015	012	124	ERROR31:: .ASCII <15><12>/TIMEOUT ERROR - DENUA FAILED TO RELINQUISH/
	022423	111	115	105	
	022426	117	125	124	
	022431	040	105	122	
	022434	122	117	122	
	022437	040	055	040	
	022442	104	105	116	
	022445	125	101	040	
	022450	106	101	111	
	022453	114	105	104	
	022456	040	124	117	
	022461	040	122	105	
	022464	114	111	116	
	022467	121	125	111	
	022472	123	110		
2355	022474	040	117	127	.ASCIZ / OWNERSHIP OF SECOND RDRB/

	022477	116	105	122	
	022502	123	110	111	
	022505	120	040	117	
	022510	106	040	123	
	022513	105	103	117	
	022516	116	104	040	
	022521	122	104	122	
	022524	102	000		
2356	022526	015	012	124	ERR032:: .ASCII <15><12>/TIMEOUT ERROR - DENUA FAILED TO RELINQUISH/
	022531	111	115	105	
	022534	117	125	124	
	022537	040	105	122	
	022542	122	117	122	
	022545	040	055	040	
	022550	104	105	116	
	022553	125	101	040	
	022556	106	101	111	
	022561	114	105	104	
	022564	040	124	117	
	022567	040	122	105	
	022572	114	111	116	
	022575	121	125	111	
	022600	123	110		
2357	022602	040	117	127	.ASCIZ / OWNERSHIP OF THIRD RDRB/
	022605	116	105	122	
	022610	123	110	111	
	022613	120	040	117	
	022616	106	040	124	
	022621	110	111	122	
	022624	104	040	122	
	022627	104	122	102	
	022632	000			
2358	022633	015	012	104	ERR033:: .ASCII <15><12>/DATA COMPARE ERROR IN
	022636	101	124	101	
	022641	040	103	117	
	022644	115	120	101	
	022647	122	105	040	
	022652	105	122	122	
	022655	117	122	040	
	022660	111	116	040	
2359	022663	106	111	122	.ASCIZ /FIRST TRANSMIT DESCRIPTOR RING/
	022666	123	124	040	
	022671	124	122	101	
	022674	116	123	115	
	022677	111	124	040	
	022702	104	105	123	
	022705	103	122	111	
	022710	120	124	117	
	022713	122	040	122	
	022716	111	116	107	
	022721	000			
2360	022722	015	012	104	ERR034:: .ASCII <15><12>/DATA COMPARE ERROR IN /
	022725	101	124	101	
	022730	040	103	117	
	022733	115	120	101	
	022736	122	105	040	
	022741	105	122	122	

	022744	117	122	040	
	022747	111	116	040	
2361	022752	123	105	103	.ASCIZ /SECOND TRANSMIT DESCRIPTOR RING/
	022755	117	116	104	
	022760	040	124	122	
	022763	101	116	123	
	022766	115	111	124	
	022771	040	104	105	
	022774	123	103	122	
	022777	111	120	124	
	023002	117	122	040	
	023005	122	111	116	
	023010	107	000		
2362	023012	015	012	104	ERR035:: .ASCII <15><12>/DATA COMPARE ERROR IN /
	023015	101	124	101	
	023020	040	103	117	
	023023	115	120	101	
	023026	122	105	040	
	023031	105	122	122	
	023034	117	122	040	
	023037	111	116	040	
2363	023042	124	110	111	.ASCIZ /THIRD TRANSMIT DESCRIPTOR RING/
	023045	122	104	040	
	023050	124	122	101	
	023053	116	123	115	
	023056	111	124	040	
	023061	104	105	123	
	023064	103	122	111	
	023067	120	124	117	
	023072	122	040	122	
	023075	111	116	107	
	023100	000			
2364	023101	015	012	104	ERR036:: .ASCII <15><12>/DATA COMPARE ERROR IN /
	023104	101	124	101	
	023107	040	103	117	
	023112	115	120	101	
	023115	122	105	040	
	023120	105	122	122	
	023123	117	122	040	
	023126	111	116	040	
2365	023131	106	111	122	.ASCIZ /FIRST RECEIVE DESCRIPTOR RING/
	023134	123	124	040	
	023137	122	105	103	
	023142	105	111	126	
	023145	105	040	104	
	023150	105	123	103	
	023153	122	111	120	
	023156	124	117	122	
	023161	040	122	111	
	023164	116	107	000	
2366	023167	015	012	104	ERR037:: .ASCII <15><12>/DATA COMPARE ERROR IN /
	023172	101	124	101	
	023175	040	103	117	
	023200	115	120	101	
	023203	122	105	040	
	023206	105	122	122	
	023211	117	122	040	

	023214	111	116	040		
2367	023217	123	105	103		.ASCIZ /SECOND RECEIVE DESCRIPTOR RING/
	023222	117	116	104		
	023225	040	122	105		
	023230	103	105	111		
	023233	126	105	040		
	023236	104	105	123		
	023241	103	122	111		
	023244	120	124	117		
	023247	122	040	122		
	023252	111	116	107		
	023255	000				
2368	023256	015	012	104	ERR039::	.ASCII <15><12>/DATA COMPARE ERROR IN /
	023261	101	124	101		
	023264	040	103	117		
	023267	115	120	101		
	023272	122	105	040		
	023275	105	122	122		
	023300	117	122	040		
	023303	111	116	040		
2369	023306	124	110	111		.ASCIZ /THIRD RECEIVE DESCRIPTOR RING/
	023311	122	104	040		
	023314	122	105	103		
	023317	105	111	126		
	023322	105	040	104		
	023325	105	123	103		
	023330	122	111	120		
	023333	124	117	122		
	023336	040	122	111		
	023341	116	107	000		
2370	023344	015	012	105	ERR039::	.ASCII <15><12>/ERROR - LOOPBACK SUCCESSFUL WITH/
	023347	122	122	117		
	023352	122	040	055		
	023355	040	114	117		
	023360	117	120	102		
	023363	101	103	113		
	023366	040	123	125		
	023371	103	103	105		
	023374	123	123	106		
	023377	125	114	040		
	023402	127	111	124		
	023405	110				
2371	023406	015	012	111		.ASCIZ <15><12>/INVALID DESTINATION ADDRESS /
	023411	116	126	101		
	023414	114	111	104		
	023417	040	104	105		
	023422	123	124	111		
	023425	116	101	124		
	023430	111	117	116		
	023433	040	101	104		
	023436	104	122	105		
	023441	123	123	040		
	023444	000				
2372	023445	015	012	102	ERR040::	.ASCII <15><12>/BUFL BIT FAILED TO SET /
	023450	125	106	114		
	023453	040	102	111		
	023456	124	040	106		

	023461	101	111	114	
	023464	105	104	040	
	023467	124	117	040	
	023472	123	105	124	
	023475	040			
2373	023476	127	110	105	.ASCIZ /WHEN ATTEMPTING TO TRANSMIT A RUNT PACKET/
	023501	116	040	101	
	023504	124	124	105	
	023507	115	120	124	
	023512	111	116	107	
	023515	040	124	117	
	023520	040	124	122	
	023523	101	116	123	
	023526	115	111	124	
	023531	040	101	040	
	023534	122	125	116	
	023537	124	040	120	
	023542	101	103	113	
	023545	105	124	000	
2374	023550	015	012	120	ERR041:: .ASCIZ <15><12>/PAD RUNT PACKET FAILURE /
	023553	101	104	040	
	023556	122	125	116	
	023561	124	040	120	
	023564	101	103	113	
	023567	105	124	040	
	023572	106	101	111	
	023575	114	125	122	
	023600	105	040	000	
2375	023603	015	012	127	ERR042:: .ASCIZ <15><12>/WCS MEMORY DATA COMPARE ERROR /
	023606	103	123	040	
	023611	115	105	115	
	023614	117	122	131	
	023617	040	104	101	
	023622	124	101	040	
	023625	103	117	115	
	023630	120	101	122	
	023633	105	040	105	
	023636	122	122	117	
	023641	122	040	000	
2376	023644	015	012	114	ERR043:: .ASCIZ <15><12>/LINK MEMORY DATA COMPARE ERROR /
	023647	111	116	113	
	023652	040	115	105	
	023655	115	117	122	
	023660	131	040	104	
	023663	101	124	101	
	023666	040	103	117	
	023671	115	120	101	
	023674	122	105	040	
	023677	105	122	122	
	023702	117	122	040	
	023705	000			
2377	023706	015	012	104	ERR044:: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	023711	116	111	040	
	023714	102	111	124	
	023717	040	106	101	
	023722	111	114	105	
	023725	104	040	124	

	023730	117	040	123	
	023733	105	124	040	
	023736	101	106	124	
	023741	105	122	040	
2378	023744	122	105	101	.ASCIZ /READ COUNTERS PORT COMMAND/
	023747	104	040	103	
	023752	117	125	116	
	023755	124	105	122	
	023760	123	040	120	
	023763	117	122	124	
	023766	040	103	117	
	023771	115	115	101	
	023774	116	104	000	
2379	023777	015	012	104	ERR045:: .ASCII <15><12>/DNI BIT FAILED TO SET AFTER /
	024002	116	111	040	
	024005	102	111	124	
	024010	040	106	101	
	024013	111	114	105	
	024016	104	040	124	
	024021	117	040	123	
	024024	105	124	040	
	024027	101	106	124	
	024032	105	122	040	
2380	024035	123	105	114	.ASCIZ /SELF TEST PORT COMMAND/
	024040	106	040	124	
	024043	105	123	124	
	024046	040	120	117	
	024051	122	124	040	
	024054	103	117	115	
	024057	115	101	116	
	024062	104	000		
2381	024064	015	012	105	ERR046:: .ASCII <15><12>/ERROR - LOUPBACK SUCCESSFUL WITH/
	024067	122	122	117	
	024072	122	040	055	
	024075	040	114	117	
	024100	117	120	102	
	024103	101	103	113	
	024106	040	123	125	
	024111	103	103	105	
	024114	123	123	106	
	024117	125	114	040	
	024122	127	111	124	
	024125	110			
2382	024126	015	012	110	.ASCIZ <15><12>/HALF DUPLEX MODE SET /
	024131	101	114	106	
	024134	040	104	125	
	024137	120	114	105	
	024142	130	040	115	
	024145	117	104	105	
	024150	040	123	105	
	024153	124	040	000	
2383	024156	015	012	105	ERR047:: .ASCII <15><12>/ERROR DIAGNOSTIC TYPE PACKET /
	024161	122	122	117	
	024164	122	040	055	
	024167	040	104	111	
	024172	101	107	116	
	024175	117	123	124	

	024200	111	103	040	
	024203	124	131	120	
	024206	105	040	120	
	024211	101	103	113	
	024214	105	124	040	
2384	024217	122	105	103	.ASCIZ /RECEIVED FROM ANOTHER NODE/
	024222	105	111	126	
	024225	105	104	040	
	024230	106	122	117	
	024233	115	040	101	
	024236	116	117	124	
	024241	110	105	122	
	024244	040	116	117	
	024247	104	105	000	
2385	024252	015	012	123	ERR048:: .ASCIZ <15><12>/SERI BIT FAILED TO SET /
	024255	105	122	111	
	024260	040	102	111	
	024263	124	040	106	
	024266	101	111	114	
	024271	105	104	040	
	024274	124	117	040	
	024277	123	105	124	
	024302	040	000		
2386	024304	015	012	127	ERR049:: .ASCIZ <15><12>/WRITING ONE TO CLEAR SERI BIT FAILED/
	024307	122	111	124	
	024312	111	116	107	
	024315	040	117	116	
	024320	105	040	124	
	024323	117	040	103	
	024326	114	105	101	
	024331	122	040	123	
	024334	105	122	111	
	024337	040	102	111	
	024342	124	040	106	
	024345	101	111	114	
	024350	105	104	000	
2387	024353	015	012	105	ERR050:: .ASCII <15><12>/ERROR SUMMARY BIT FAILED TO SET IN /
	024356	122	122	117	
	024361	122	040	123	
	024364	125	115	115	
	024367	101	122	131	
	024372	040	102	111	
	024375	124	040	106	
	024400	101	111	114	
	024403	105	104	040	
	024406	124	117	040	
	024411	123	105	124	
	024414	040	111	116	
	024417	040			
2388	024420	120	117	122	.ASCIZ /PORT STATUS WORD 2/
	024423	124	040	123	
	024426	124	101	124	
	024431	125	123	040	
	024434	127	117	122	
	024437	104	040	062	
	024442	000			
2389	024443	015	012	103	ERR051:: .ASCII <15><12>/COLLISION TEST ERROR BIT FAILED TO SET IN /

	024446	117	114	114
	024451	111	123	111
	024454	117	116	040
	024457	124	105	123
	024462	124	040	105
	024465	122	122	117
	024470	122	040	102
	024473	111	124	040
	024476	106	101	111
	024501	114	105	104
	024504	040	124	117
	024507	040	123	105
	024512	124	040	111
	024515	116	040	
2390	024517	120	117	122
	024522	124	040	123
	024525	124	101	124
	024530	125	123	040
	024533	127	117	122
	024536	104	040	062
2391	024541	000		

.ASCIZ /PORT STATUS WORD 2/

.EVEN

```

2393      .SBTTL  GLOBAL SUBROUTINES SECTION
2453      ;*****
2454      ;
2455      ;THIS ROUTINE TURNS ON THE CLOCK
2456      ;
2457      ;*****
2458
2459      TIMON:: SETPRI  @PRI05      ;SET PROCESSOR PRIORITY TO 5
2460      024542      012700  000240      MOV      @IE,BCLKCSR      ;ENABLE CLOCK INTERRUPTS
2461      024542      104441      MOV      @PRI05,R0
2462      024546      012777  000100  155470      RTS      PC      TRAP
2463      024556      000207      ;SPRI
2464
2465      ;*****
2466      ;
2467      ;THIS ROUTINE TURNS THE CLOCK OFF
2468      ;
2469      ;*****
2470
2471      TIMOFF::CLR      BCLKCSR      ;CLEAR INTERRUPT ENABLE
2472      024560      005077  155462      SETPRI  @PRI07      ;PUT PRIORITY BACK UP
2473      024564      012700  000340      MOV      @PRI07,R0
2474      024570      104441      TRAP
2475      024572      000207      RTS      PC      C$SPRI

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408:

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; PCSR1 > EPCSR1
; TURN OFF THE TIMER
; SET CARRY

; TURN OFF THE TIMER
; DNI SET SO CLEAR CARRY
; RESTORE R4
; RESTORE R1
; RESTORE R0
; AND RETURN

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2552 024676
2553 024676 010346
2554 024700 010446
2555 024702 010503
2556 024704 012304
2557 024706 012304
2558 024710 012304
2559 024712 100002
2560 024714 000261
2561 024716 000401
2562 024720 000241
2563 024722 012604
2564 024724 012603
2565 024726 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 R3, -(SP)      ; SAVE R3
      MOV R4, -(SP)      ; SAVE R4
      MOV R5, R3         ; R3 POINTS TO DESCRIPTOR RING
      MOV (R3)+, R4      ; INDEX TO THIRD RING ENTRY
      MOV (R3)+, R4
      MOV (R3)+, R4
      BPL 10H            ; OWN = 0 ?
                        ; YES
      SEC                ; NO, SET CARRY = 1
      BR 20H
10H:  CLC                ; CLEAR CARRY
20H:  MOV (SP)+, R4      ; RESTORE R4
      MOV (SP)+, R3      ; RESTORE R3
      RTS               ; AND RETURN
      PC

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2567          :*****>*****<*****
2568          :
2569          :      SUBROUTINE   CHKRCE
2570          :
2571          :      THIS ROUTINE WAITS FOR RCBI TO SET.
2572          :
2573          :      INPUTS:           NONE
2574          :
2575          :      OUTPUTS:         IF RCBI SETS
2576          :                               THEN CARRY = 0
2577          :
2578          :                               IF RCBI FAILS TO SET
2579          :                                   THEN CARRY = 1
2580          :                                   PCSRO -> FPSCRO
2581          :                                   PCSR1 -> EPCSR1
2582          :
2583          :
2584          :      CALLING SEQUENCE:
2585          :              JSR       PC,CHKRCE
2586          :
2587          :*****
2588
2589 024730      CHKRCE::
2590 024730      010046      MOV     R0,-(SP)                ; SAVE R0
2591 024732      010146      MOV     R1,-(SP)                ; SAVE R1
2592 024734      010446      MOV     R4,-(SP)                ; SAVE R4
2593
2594      ;MAC001;
2595      ;MAC001; LOOP FOR APPROX 2 SEC
2596      ;MAC001 MOV     #3,R1                                ; INIT OUTER LOOP
2597      ;MAC001104:    CLR     R0                            ; INNER LOOP
2598      ;MAC001204:    MOV     @PCSR0,R4                      ; PCSRO -> R4
2599      ;MAC001 BIT     @RCBI,R4                             ; RCBI SET ?
2600      ;MAC001 BNE     304                                  ; YES
2601      ;MAC001 DEC     R0                                    ; INNER LOOP EXHAUSTED ?
2602      ;MAC001 BNE     204                                  ; NO, CHECK FOR RCBI AGAIN
2603      ;MAC001 DEC     R1                                    ; OUTER LOOP EXHAUSTED ?
2604      ;MAC001 BNE     204                                  ; NO, KEEP CHECKING FOR RCBI
2605      ;MAC001;
2606      ;MAC001;
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2892      ;MAC00
```

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GLOBAL SUBROUTINES SECTION

SEQ 73

2612	024764	005737	015222		TST	METER	; HAS TIMER EXPIRED?	; MAC001
2613	024770	001367			BNE	10:	; NOT YET	; MAC001
2614	024772	010437	015140		MOV	R4,EPCSR0	; PCSR0 -> EPCSR0	
2615	024776	017737	155226	015142	MOV	EPCSR1,EPCSR1	; PCSR1 -> EPCSR1	
2616	025004	004737	024560		JSH	PC,TIMOFF	; TURN OFF THE TIMER	; MAC001
2617	025010	000261			SEC		; SET CARRY	
2618	025012	000403			BR	40:		; MAC001
2619	025014	004737	024560	30:	JSR	PC,TIMOFF	; TURN OFF THE TIMER	; MAC001
2620	025020	000241			CLC		; RCBI SET SO CLEAR CARRY	
2621	025022	012604		40:	MOV	(SP)+,R4	; RESTORE R4	
2622	025024	012601			MOV	(SP)+,R1	; RESTORE R1	
2623	025026	012600			MOV	(SP)+,R0	; RESTORE R0	
2624	025030	000207			RTS	PC	; AND RETURN	

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2657 025032
2658 025032 010046
2659 025034 010346
2660 025036 010446
2661 025040 012700 000003
2662 025044 012703 015154
2663 025050 010504
2664 025052 022423
2665
2666 025054 001010
2667 025056 005300
2668 025060 001374
2669 025062 011400
2670 025064 042700 007777
2671 025070 020013
2672 025072 001001
2673 025074 000411
2674 025076 012703 015144

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```

*****
SUBROUTINE - CHKRD
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,CHKRD
*****

```

```

CHKRD::
MOV      R0, -(SP)      ; SAVE R0
MOV      R3, -(SP)      ; SAVE R3
MOV      R4, -(SP)      ; SAVE R4
MOV      #3, R0          ; DO THREE COMPARES
MOV      @XRDRB0, R3     ; R3 POINTS TO EXPECTED DATA
MOV      R5, R4          ; R4 POINTS TO ACTUAL RDRB
104:     CMP      (R4)+, (R3)+
                ; COMPARE RDRB TO EXPECTED DATA
                ; ERROR ?
                ; YES
                ; NO, DONE COMPARING ?
                ; NO, KEEP ON COMPARING
                ; RDRB.6 -> R0
                ; MASK OUT TDR VALUE
                ; COMPARE ERROR ?
                ; YES
                ; R3 POINTS TO ACTUAL TABLE
BNE      204
DEC      R0
BNE      104
MOV      (R4), R0
BIC      @TDRMSK, R0
CMP      R0, (R3)
BNE      204
BR       304
204:     MOV      @ERDRB0, R3

```

2675	025102	010504		MOV	R5,R4		; R4 POINTS TO ACTUAL RDRS
2676	025104	012423		MOV	(R4)+,(R3)+		; LOAD ACTUAL TABLE
2677	025106	012423		MOV	(R4)+,(R3)+		
2678	025110	012423		MOV	(R4)+,(R3)+		
2679	025112	012423		MOV	(R4)+,(R3)+		
2680	025114	000261		SEC			; SET CARRY
2681	025116	000401		BR	404		
2682	025120	000241	304:	CLC			; CLEAR CARRY
2683	025122	012604	404:	MOV	(SP)+,R4		; RESTORE R4
2684	025124	012603		MOV	(SP)+,R3		; RESTORE R3
2685	025126	012600		MOV	(SP)+,R0		; RESTORE R0
2686	025130	000207		RTS	PC		; AND RETURN

```

*****
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
                PCSR0 -> EPSCRO
                PCSR1  > EPCSR1

CALLING SEQUENCE:
                JSR      PC,CHKRXI
*****

```

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

2738 025212 000261
2739 025214 000403
2740 025216 004737 024560
2741 025222 000241
2742 025224 012604
2743 025226 012601
2744 025230 012600
2745 025232 000207

SEC
BR 404
304: JSR PC,TIMOFF
CLC
404: MOV (SP)+,R4
MOV (SP)+,R1
MOV (SP)+,R0
RTS PC

; SET CARRY
; TURN OFF THE TIMER
; RXI SET SO CLEAR CARRY
; RESTORE R4
; RESTORE R1
; RESTORE R0
; AND RETURN

;MAC001
;MAC002

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2768 025234
2769 025234 010046
2770 025236 010446
2771 025240 017704 154764
2772 025244 042704 140377
2773 025250 022704 000000
2774 025254 001414
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2777 025256 005104
2778 025260 042704 140377
2779 025264 012700 000010
2780 025270 006204
2781 025272 005300
2782 025274 001375
2783 025276 010437 015220
2784 025302 000261
2785 025304 000401
2786 025306 000241
2787 025310 012604
2788 025312 012600
2789 025314 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
; MATCH THE LED'S      ;MAC001
;MAC001
COM      R4
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
BR      20$
10$:     CLC
20$:     MOV      (SP)+,R4
MOV      (SP)+,R0
RTS      PC
; SELF TEST PASSED CLEAR CARRY
; RESTORE R4
; RESTORE R0
; AND RETURN

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025320 010346
025322 010446
025324 012700 000004
025330 012703 015174
025334 010504
025336 022423

025340 001003
025342 005300
025344 001374
025346 000411
025350 012703 015164
025354 010504
025356 012423
025360 012423
025362 012423
025364 012423
025366 000261
025370 000401
025372 000241
025374 012604
025376 012603
025400 012600
025402 000207

```

.....
SUBROUTINE - CHKTDR
:
: THIS SUBROUTINE COMPARES A TRANSMIT DESCRIPTOR RING ENTRY
: WITH EXPECTED DATA.
:
: INPUTS:          R5 = ADDRESS OF TDRB TO BE COMPARED
:
: IMPLICIT INPUTS: XTDRPO = 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
104:    CMP      (R4)+, (R3)+   ; COMPARE TDRB TO EXPECTED DATA
      ; ERROR ?
      ; YES
      BNE      204
      DEC      R0
      BNE      104
      BR       304
204:    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)+
      SEC
      ; SET CARRY
      BR       404
304:    CLC
      ; CLEAR CARRY
404:    MOV      (SP)+, R4     ; RESTORE R4
      MOV      (SP)+, R3     ; RESTORE R3
      MOV      (SP)+, R0     ; RESTORE R0
      RTS      PC            ; AND RETURN

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2873 025406 010146
2874 025410 010446
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2888 025412 012737 000176 015222
2889 025420 004737 024542
2890 025424 017704 154576
2891 025430 032704 010000
2892 025434 001015
2893 025436
2894 025440 005737 015222
2895 025444 001367
2896 025446 010437 015140
2897 025452 017737 154552 015142
2898 025460 004737 024560

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```
2899 025464 000261      SEC
2900 025466 000403      BR      401
2901 025470 004737 024560 301: JSR      PC,TIMOFF
2902 025474 000241      CLC
2903 025476 012604      401: MOV      (SP),R4
2904 025500 012601      MOV      (SP),R1
2905 025502 012600      MOV      (SP),R0
2906 025504 000207      RTS      PC

; SET CARRY
; TURN OFF THE TIMER
; TXI SET SO CLEAR CARRY
; RESTORE R4
; RESTORE R1
; RESTORE R0
; AND RETURN

;MAC001
;MAC001
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025506 010446
025510 017704 154512
025514 032704 100000
025520 001007
025522 010437 015140
025526 017737 154476 015142
025534 000261
025536 000401
025540 000241
025542 012604
025544 000207

```

*****
SUBROUTINE - CHKSER
THIS ROUTINE CHECKS FOR THE SERI BIT IN PCSRO.
INPUTS: NONE
OUTPUTS:      IF SERI BIT SET THEN CARRY = 0
               IF SERI BIT NOT SET THEN CARRY = 1
               PCSRO -> EPCSR0
               PCSR1 -> EPCSR1

CALLING SEQUENCE:
JSR      PC,CHKSER
*****

CHKSER:  MOV     R4, -(SP)           ;SAVE R4
         MOV     @PCSRO,R4          ;GET PCSRO CONTENTS
         BIT     @SERI,R4           ;IS SERI BIT SET?
         BNE     10$                ;YES
         MOV     R4,EPCSR0          ;NO, SAVE PCSRO CONTENTS
         MOV     @PCSR1,EPCSR1      ;GET PCSR1 CONTENTS TOO
         SEC                     ;INDICATE NO SERI BIT
         BR      20$                ;LEAVE
10$:     CLC                       ;INDICATE SERI BIT SET
20$:     MOV     (SP)+,R4           ;RESTORE R4
         RTS      PC

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2941 .....
2942 :
2943 : SUBROUTINE - CLRDN1
2944 :
2945 : THIS SUBROUTINE PERFORMS A WRITE ONE TO CLEAR OPERATION ON
2946 : THE DNI BIT AND VERIFIES ITS SUCCESS.
2947 :
2948 : INPUTS: NONE
2949 :
2950 : OUTPUTS: IF SUCCESSFUL ( DNI = 0 )
2951 :           THEN CARRY = 0
2952 :
2953 :           IF UNSUCCESSFUL ( DNI = 1 )
2954 :             THEN CARRY = 1
2955 :             PCSR0 -> EPCSR0
2956 :             PCSR1 -> EPCSR1
2957 :
2958 : CALLING SEQUENCE:
2959 : JSR PC,CLRDNI
2960 : .....
2961 :
2962 : CLRDNI::
2963 025546      MOV      R4, -(SP)           ; SAVE R4
2964 025546 010446      MOV      @DNI, @PCSR0UB ; WRITE ONE TO CLEAR DNI BIT ;RSJ001
2965 025550 112777 000010 154460      MOV      @PCSR0, R4 ; PCSR0 -> R4
2966 025556 017704 154444      BIT      @DNI, R4 ; DNI = 0 ?
2967 025562 032704 004000      BEQ      101 ; YES
2968 025566 001407      MOV      R4, EPCSR0 ; NO, PCSR0 -> EPCSR0
2969 025570 010437 015140      MOV      @PCSR1, EPCSR1 ; PCSR1 -> EPCSR1
2970 025574 017737 154430 015142      SEC      ; SET CARRY
2971 025602 000261      BR      201
2972 025604 000401      101: CLC      ; CLEAR CARRY
2973 025606 000241      201: MOV      (SP), R4 ; RESTORE R4
2974 025610 012604      RTS      PC ; AND RETURN
2975 025612 000207

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*****
SUBROUTINE CLRRCE

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

INPUTS: NONE

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

                IF UNSUCCESSFUL ( RCBI = 1 )
                THEN CARRY = 1
                PCSR0 -> EPCSR0
                PCSR1 -> EPCSR1

CALLING SEQUENCE:
                JSR      PC,CLRRCE
*****

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3000 025614
3001 025614 010446
3002 025616 112777 000004 154412
3003 025624 017704 154376
3004 025630 032704 002000
3005 025634 001407
3006 025636 010437 015140
3007 025642 017737 154362 015142
3008 025650 000261
3009 025652 000401
3010 025654 000241
3011 025656 012604
3012 025660 000207

```

CLRRCE::
MOV      R4, -(SP)           ; SAVE R4
MOVB     @RCBIB, @PCSR0UB    ; WRITE ONE TO CLEAR RCBI BIT ;RSJ001
MOV      @PCSR0, R4          ; PCSR0 -> R4
BIT      @RCBI, R4           ; RCBI = 0 ?
BEQ      101                 ; YES
MOV      R4, EPCSR0          ; NO, PCSR0 -> EPCSR0
MOV      @PCSR1, @EPCSR1     ; PCSR1 -> EPCSR1
SEC                      ; SET CARRY
BR        201
101:     CLC                  ; CLEAR CARRY
201:     MOV      (SP)+, R4    ; RESTORE R4
RTS      PC                  ; AND RETURN

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*****
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
*****

```

3037 025662
3038 025662 010446
3039 025664 112777 000040 154344
3040 025672 017704 154330
3041 025676 032704 020000
3042 025702 001407
3043 025704 010437 015140
3044 025710 017737 154314 015142
3045 025716 000261
3046 025720 000401
3047 025722 000241
3048 025724 012604
3049 025726 000207

```

CLRRXI::
MOV      R4, -(SP)           ; SAVE R4
MOVB     @RXIB, @PCSR0UR     ; WRITE ONE TO CLEAR RXI BIT ;RSJ001
MOV      @PCSR0, 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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3074 025730
3075 025730 010446
3076 025732 112777 000020 154276
3077 025740 017704 154262
3078 025744 032704 010000
3079 025750 001407
3080 025752 010437 015140
3081 025756 017737 154246 015142
3082 025764 000261
3083 025766 000401
3084 025770 000241
3085 025772 012604
3086 025774 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 ;RSJ001
MOV      @PCSRO, R4              ; PCSRO -> R4
BIT      @TXI, R4                ; TXI = 0 ?
BEQ      101                     ; YES
MOV      R4, EPCSRO              ; NO, PCSRO -> EPCSRO
MOV      @PCSR1, @EPCSR1         ; PCSR1 -> EPCSR1
SEC                        ; SET CARRY
BR       201

101:     CLC                      ; CLEAR CARRY
201:     MOV      (SP)+, R4        ; RESTORE R4
RTS      PC                      ; AND RETURN

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```
*****
SUBROUTINE  CLRSER

THIS SUBROUTINE PERFORMS A WRITE ONE TO CLEAR OPERATION ON
THE SERI BIT AND VERIFIES IT'S SUCCESS.

INPUTS: NONE

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

                IF UNSUCCESSFUL ( SERI = 1 )
                THEN CARRY = 1
                PCSR0 -> EPCSR0
                PCSR1 -> EPCSR1

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

3110 025776
3111 025776
3112 026000
3113 026006
3114 026012
3115 026016
3116 026020
3117 026024
3118 026032
3119 026034
3120 026036
3121 026040
3122 026042

010446
112777 000200 154230
017704 154214
032704 100000
001407
010437 015140
017737 154200 015142
000261
000401
000241
012604
000207

```
CLRSER::
MOV      R4, -(SP)           ; SAVE R4
MOVB     @SERI8, @PCSR0UB    ; WRITE ONE TO CLEAR SERI BIT ;RSJ001
MOV      @PCSR0, R4          ; PCSR0 -> R4
BIT      @SERI, R4           ; SERI = 0 ?
BEQ      10$                 ; YES
MOV      R4, EPCSR0          ; NO, PCSR0 -> EPCSR0
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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3147 026044
3148 026044 010046
3149 026046 010346
3150 026050 010446
3151 026052 010500
3152 026054 012703 003120
3153 026060 012704 007120
3154 026064 022324
3155 026066 001003
3156 026070 005300
3157 026072 001374
3158 026074 000406
3159 026076 014337 015206
3160 026102 014437 015204
3161 026106 000261
3162 026110 000401
3163 026112 000241
3164 026114 012604
3165 026116 012603
3166 026120 012600
3167 026122 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+12.,R3   ; R3 POINTS TO EXPECTED DATA
MOV      @RBUF+12.,R4   ; R4 POINTS TO ACTUAL DATA
104:     CMP      (R3)+,(R4)+ ; DATA COMPARE ?
        BNE      204     ; NO
        DEC      R0      ; YES, DONE ?
        BNE      104     ; NO
        BR       304     ; YES
204:     MOV      -(R3),XDAT ; SAVE EXPECTED DATA
        MOV      -(R4),EDAT ; SAVE ACTUAL ERROR DATA
        SEC      ; SET CARRY
        BR       404
304:     CLC      ; CLEAR CARRY
404:     MOV      (SP)+,R4  ; RESTORE R4
        MOV      (SP)+,R3  ; RESTORE R3
        MOV      (SP)+,R0  ; RESTORE R0
        RTS      PC       ; AND RETURN

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3196 026124 010346
3197 026126 010446
3198 026130 012703 015214
3199 026134 010504
3200 026136 022324
3201 026140 001004
3202 026142 022324
3203 026144 001002
3204 026146 000241
3205 026150 000406
3206 026152 012703 015210
3207 026156 010504
3208 026160 012423
3209 026162 012423
3210 026164 000261
3211 026166 012604
3212 026170 012603
3213 026172 000207

```

```

*****
SUBROUTINE  CMPCRC
THIS SUBROUTINE COMPARES A CRC VALUE WITH
AN EXPECTED CRC VALUE.
INPUTS:      R5 = ADDRESS OF ACTUAL CRC VALUE TO BE COMPARED.
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
*****
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      104           ; NO
CMP      (R3)+,(R4)+    ; SECOND CRC WORD COMPARE ?
BNE      104           ; NO
CLC                     ; YES. CLEAR CARRY
BR       204
104:     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
204:     MOV      (SP)+,R4 ; RESTORE R4
MOV      (SP)+,R3      ; RESTORE R3
RTS      PC            ; AND RETURN

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3238 026174
3239 026174 010046
3240 026176 010346
3241 026200 010446
3242 026202 010500
3243 026204 012703 003104
3244 026210 012704 007104
3245 026214 022324
3246 026216 001003
3247 026220 005300
3248 026222 001374
3249 026224 000406
3250 026226 J14337 015206
3251 026232 014437 015204
3252 026236 000261
3253 026240 000401
3254 026242 000241
3255 026244 012604
3256 026246 012603
3257 026250 012600
3258 026252 000207

```

*****
SUBROUTINE  CMPMEM

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

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
104:     CMP      (R3)+,(R4)+ ; DATA COMPARE ?
        BNE      204     ; NO
        DEC      R0      ; YES, DONE ?
        BNE      104     ; NO
        BR       304     ; YES
204:     MOV      -(R3),XDAT ; SAVE EXPECTED DATA
        MOV      -(R4),EDAT ; SAVE ACTUAL ERROR DATA
        SEC              ; SET CARRY
        BR       404
304:     CLC              ; CLEAR CARRY
404:     MOV      (SP)+,R4 ; RESTORE R4
        MOV      (SP)+,R3 ; RESTORE R3
        MOV      (SP)+,R0 ; RESTORE R0
        RTS      PC      ; AND RETURN

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*****
SUBROUTINE  CMPRNT

THIS SUBROUTINE COMPARES THE RECEIVE BUFFER (RBUF) DATA FIELD
TO VERIFY ZERO PADDING HAS OCCURED.

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,CMPRNT
*****

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3283 026254
3284 026254 010046
3285 026256 010346
3286 026260 010446
3287 026262 010500
3288 026264 012703 000000
3289 026270 012704 007176
3290 026274 020324
3291 026276 001003
3292 026300 005300
3293 026302 001374
3294 026304 000406
3295 026306 010337 015206
3296 026312 014437 015204
3297 026316 000261
3298 026320 000401
3299 026322 000241
3300 026324 012604
3301 026326 012603
3302 026330 012600
3303 026332 000207

```

CMPRNT::
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      @ZERO,R3       ; R3 IS EXPECTED DATA (ZERO'S)
MOV      @RBUF+58,R4    ; R4 POINTS TO ACTUAL DATA
10$:     CMP      R3,(R4) ; DATA = ZERO'S ?
BNE      20$           ; 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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3326 026336 010146
3327 026340 010246
3328 026342 010346
3329 026344 010546
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3331 026346 012702 007104
3332 026352 012703 004000
3333 026356 013704 014214
3334 026362 012705 120001
3335
3336 026366 112200
3337 026370 042700 177400
3338 C_6374 074004
3339 026376 012701 000010
3340 026402 000241
3341 026404 006004
3342 026406 103001
3343 026410 074504
3344 026412 077105
3345 026414 077314
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3347 026416 012605
3348 026420 012603
3349 026422 012602
3350 026424 012601
3351 026426 012600
3352 026430 000207

```

.....
SUBROUTINE  CRCBLK
THIS SUBROUTINE CALCULATES A 16 BIT CRC
ON A BLOCK OF DATA.

IMPLICIT
INPUTS:      RBUF = ADDRESS OF DATA BLOCK
              BYTE COUNT = 2048. WORDS*2

OUTPUTS:      R4 = CRC

CALLING SEQUENCE:
              JSR  PC,CRCBLK
.....

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

;
MOV  @RBUF,R2      ; R2 = ADDRESS OF DATA BLOCK
MOV  @2048.,R3      ; R3 = 2048. WORDS * 2
MOV  CRCH,R4        ; INITIAL CRC
MOV  @POLYH,R5      ; CRC POLYNOMIAL

18:  MOVB  (R2)+,R0  ; GET NEXT BYTE
      BIC  @+C377,R0 ; CLEAR HIGH BYTE
      XOR  R0,R4     ; MERGE BYTE WITH OLD CRC
      MOV  @8.,R1    ; LOOP COUNT
24:  CLC           ; CLEAR CARRY
      ROR  R4        ; SHIFT RIGHT THE CRC
      BCC  34        ; SKIP IF BIT ZERO NOT SET
      XOR  R5,R4     ; EXCLUSIVE OR IN THE POLY
34:  SOB  R1,24      ; AND LOOP ON ALL 8 BITS
      SOB  R3,14

;
MOV  (SP)+,R5      ; RESTORE R5
MOV  (SP)+,R3      ; RESTORE R3
MOV  (SP)+,R2      ; RESTORE R2
MOV  (SP)+,R1      ; RESTORE R1
MOV  (SP)+,R0      ; RESTORE R0
RTS  PC            ; AND RETURN

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3374 026432
3375 026432 010046
3376 026434 010346
3377 026436 010546
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3379 026440 012700 000006
3380 026444 012703 073237
3381 026450 012705 073154
3382
3383 026454 112537 073172
3384 026460 004737 026514
3385 026464 113723 073173
3386 026470 004737 026552
3387 026474 113723 073173
3388 026500 105723
3389 026502 077014
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3391 026504 012605
3392 026506 012603
3393 026510 012600
3394 026512 000207

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.....
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
      ;
101:  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      R0,101        ; 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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3417 026514 010146
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3419 026516 013701 073172
3420 026522 042701 177417
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3422 026526 006201
3423 026530 006201
3424 026532 006201
3425 026534 006201
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3427 026536 062701 073263
3428 026542 111137 073173
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3430 026546 012601
3431 026550 000207

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.....
:
: 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
:      MOVB     (R1),HEXVAL      ; AND LOAD HEXVAL
:
:      MOV      (SP)+,R1        ; RESTORE R1
:      RTS      PC              ; AND RETURN

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3454 026552 010146
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3456 026554 013701 073172
3457 026560 042701 177760
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3459 026564 062701 073263
3460 026570 111137 073173
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3462 026574 012601
3463 026576 000207

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*****
;
;      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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026602 010346
026604 010446
026606 012701 002000
026612 011504
026614 012703 003104
026620 010423
026622 062704 000002
026626 005301
026630 001373
026632 012604
026634 012603
026636 012601
026640 000207

```

*****
:
: 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
:
*****
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
101: MOV      R4,(R3)+        ; LOAD TBUF
: ADD      #2,R4             ; ADD 2 TO DATA
: DEC      R1                ; DONE 1K BLOCK ?
: BNE      101               ; NO
: MOV      (SP)+,R4          ; RESTORE R4
: MOV      (SP)+,R3          ; RESTORE R3
: MOV      (SP)+,R1          ; RESTORE R1
: RTS      PC                ; AND RETURN

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3515 026642
3516 026642 010146
3517 026644 010246
3518 026646 010346
3519 026650 010446
3520 026652 012701 002000
3521 026656 011504
3522 026660 012703 003104
3523 026664 010402
3524 026666 005102
3525 026670 010223
3526 026672 062704 000002
3527 026676 005301
3528 026700 001371
3529 026702 012604
3530 026704 012603
3531 026706 012602
3532 026710 012601
3533 026712 000207

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*****
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
104:     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      104            ; 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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3553 026714 010346
3554 026716 010446
3555 026720 010504
3556 026722 012703 002256
3557 026726 012423
3558 026730 012423
3559 026732 012423
3560 026734 012604
3561 026736 012603
3562 026740 000207

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:*****
:
:      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

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3581 026742
3582 026742 010346
3583 026744 010446
3584 026746 012703 002264
3585 026752 010504
3586 026754 012423
3587 026756 012423
3588 026760 012423
3589 026762 012423
3590 026764 012604
3591 026766 012603
3592 026770 000207

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:*****
:
:      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
:*****

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```

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.

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3611 026772
3612 026772 012777 002264 153232
3613 027000 012777 000000 153226
3614 027006 000207

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*****
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
*****

LDPCSR::
MOV    #PCBB,SPCSR2      ; ADDRESS OF PCBB - PCSR2
MOV    #ZERO,SPCSR3      ; CLEAR PCSR3
RTS     PC                ; AND RETURN

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3634 027010 010046
3635 027012 010346
3636 027014 010446
3637 027016 012700 000020
3638 027022 012703 002644
3639 027026 010504
3640 027030 012423
3641 027032 005300
3642 027034 001375
3643 027036 012604
3644 027040 012603
3645 027042 012600
3646 027044 000207

```

*****
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

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3665 027046
3666 027046 010046
3667 027050 010346
3668 027052 010446
3669 027054 012700 000020
3670 027060 012703 002604
3671 027064 010504
3672 027066 012423
3673 027070 075300
3674 027072 001375
3675 027074 012604
3676 027076 012603
3677 027100 012600
3678 027102 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         ; F.1 = 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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3698 027104 010046
3699 027106 010346
3700 027110 010446
3701 027112 012700 000100
3702 027116 012703 002704
3703 027122 010504
3704 027124 012423
3705 027126 005300
3706 027130 001375
3707 027132 012604
3708 027134 012603
3709 027136 012600
3710 027140 000207

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*****
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
*****
LDTDRX::
MOV          R0,-(SP)      ; SAVE R0
MOV          R3,-(SP)      ; SAVE R3
MOV          R4,-(SP)      ; SAVE R4
MOV          #64,R0        ; LOAD 64 WORDS
MOV          @TDRX,R3      ; ADDRESS OF TDRX -> R3
MOV          R5,R4         ; R4 - ADDRESS OF DEFAULT TDRB
104: MOV      (R4)+,(R3)+   ; LOAD WORD INTO TDRB
DEC          R0             ; DONE ?
BNE          104           ; 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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3730 027142
3731 027142 010146
3732 027144 010346
3733 027146 010446
3734 027150 010001
3735 027152 012703 002274
3736 027156 010504
3737 027160 012423
3738 027162 005301
3739 027164 001375
3740 027166 012604
3741 027170 012603
3742 027172 012601
3743 027174 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

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3761 027176
3762 027176 010346
3763 027200 010446
3764 027202 012704 015214
3765 027206 010503
3766 027210 012324
3767 027212 012324
3768 027214 012604
3769 027216 012603
3770 027220 000207

```

.....
:
: 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
:
.....

```

```

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

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027222
027222 010346
027224 010446
027226 012704 015154
027232 010503
027234 012324
027236 012324
027240 012324
027242 012324
027244 012604
027246 012603
027250 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

```

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3808
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3817 027252
3818 027252 010346
3819 027254 010446
3820 027256 012704 015174
3821 027262 010503
3822 027264 012324
3823 027266 012324
3824 027270 012324
3825 027272 012324
3826 027274 012604
3827 027276 012603
3828 027300 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      @XTDRBO,R4        ; R4 POINTS TO XTDRBO
MOV      R5,R3             ; R3 POINTS TO DATA
MOV      (R3),-(R4)        ; LOAD XTDRBO TABLE
MOV      (R3),-(R4)
MOV      (R3),-(R4)
MOV      (R3),-(R4)
MOV      (SP),R4           ; RESTORE R4
MOV      (SP),R3           ; RESTORE R3
RTS      PC                ; AND RETURN

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3852 027302
3853 027302 010446
3854 027304 017704 152716
3855 027310 032704 020000
3856 027314 001407
3857 027316 010437 015140
3858 027322 017737 152702 015142
3859 027330 000261
3860 027332 000401
3861 027334 000241
3862 027336 012604
3863 027340 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 100 ; YES
MOV R4, EPCSRO ; NO, PCSRO -> EPCSRO
MOV @PCSR1, EPCSR1 ; PCSR1 -> EPCSR1
SEC ; SET CARRY
BR 200
100: CLC ; CLEAR CARRY
200: MOV (SP)+, R4 ; RESTORE R4
RTS PC ; AND RETURN

```



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3888 027342
3889 027342 010046
3890 027344 010346
3891 027346 010546
3892
3893 027350 012703 007104
3894 027354 012700 002000
3895 027360 005023
3896 027362 005300
3897 027364 001375
3898
3899
3900 027366 012705 002256
3901 027372 012703 003104
3902 027376 012523
3903 027400 012523
3904 027402 012523
3905
3906 027404 012705 002256
3907 027410 012523
3908 027412 012523
3909 027414 012523
3910
3911 027416 005023
3912
3913 027420 012700 001771
3914 027424 012705 015232
3915 027430 011523
3916 027432 005300
3917 027434 001375
3918 027436 012605
3919 027440 012603
3920 027442 012600
3921 027444 000207

```

```

*****
SUBROUTINE  SETBUF
:
:   THIS ROUTINE SETS UP THE TRANSMIT AND RECEIVE BUFFERS
:   FOR A 128 BYTE DATA LOOPBACK.
:   A. CLEAR RECEIVE BUFFER RBUF
:   B. LOAD TRANSMIT BUFFER TBUF
:
:   INPUTS:          NONE
:
:   IMPLICIT INPUTS:  DEST:: = DESTINATION ADDRESS
:
:   OUTPUTS:          RBUF IS CLEARED
:                     TBUF IS SET UP FOR TRANSMIT
:
:   CALLING SEQUENCE:
:                     JSR    PC,SETBUF
*****

SETBUF::
      MOV     R0, -(SP)           ; SAVE R0
      MOV     R3, -(SP)           ; SAVE R3
      MOV     R5, -(SP)           ; SAVE R5
; CLEAR RBUF (1024 WORDS)
      MOV     @RBUF, R3           ; POINT TO RBUF
      MOV     #1024, R0           ; COUNT 1024 WORDS
100:   CLR     (R3)                ; CLEAR BUFFER
      DEC     R0                  ; DONE ?
      BNE     101                 ; NO
; SET UP TRANSMIT BUFFER TBUF
; LOAD DESTINATION ADDRESS
      MOV     @DEST, R5           ; POINT TO DESTINATION ADDRESS
      MOV     @TBUF, R3           ; POINT TO TBUF
      MOV     (R5), (R3)          ; LOAD DESTINATION ADDRESS
      MOV     (R5), (R3)
      MOV     (R5), (R3)
; LOAD SOURCE ADDRESS
      MOV     @DEST, R5           ; LOAD FOR LATER COMPARISON
      MOV     (R5), (R3)
      MOV     (R5), (R3)
      MOV     (R5), (R3)
; CLEAR TYPE FIELD
      CLR     (R3)                ; CLEAR TYPE FIELD
; LOAD DATA FIELD (1017 WORDS)
      MOV     #1017, R0           ; COUNT 1017 WORDS
      MOV     @PATRN1, R5         ; POINT TO DATA PATTERN
200:   MOV     (R5), (R3)          ; LOAD DATA PATTERN
      DEC     R0                  ; DONE ?
      BNE     201                 ; NO
      MOV     (SP), R5            ; YES, RESTORE R5
      MOV     (SP), R3            ; RESTORE R3
      MOV     (SP), R0            ; RESTORE R0
      RTS     PC                  ; AND RESTORE

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027446
027446 010446
027450 112777 000377 152560
027456 105077 152544
027462 105077 152540
027466 012746 000062
027472
027472 005316
027474 003376
027476 005726
027500 017704 152522
027504 001011
027506 017704 152516
027512 042704 177770
027516 022704 000002
027522 001002
027524 000241
027526 000401
027530 000261
027532 012604
027534 000207

```
.....  
: SUBROUTINE TINIT  
:  
: THIS SUBROUTINE IS CALLED AT THE BEGINNING OF A TEST  
: TO DETERMINE IF A DEVICE RESET IS REQUIRED BEFORE  
: THE REST OF THE TEST IS EXECUTED.  
:  
: 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  
MOVB #TIMASK,BPCSR0UB ; ATTEMPT TO CLEAR PCSRO UPPER BYTE  
CLRB BPCSR0 ; AND LOWER BYTE  
CLRB BPCSR0 ; AND AGAIN TO CLEAR COMMAND FIELD  
MOV #50,-(SP) ; INITIATE APPROX 50US WAIT LOOP  
50: DEC (SP) ; COUNT DOWN  
BGT 50 ; DO UNTIL 0  
TST (SP) ; POP THE STACK TO CLEAN UP  
MOV BPCSR0,R4 ; PCSRO = 0 ?  
BNE 100 ; NO, A RESET IS REQUIRED  
MOV BPCSR1,R4 ; PCSR1 -> R4  
BIC #SMASK,R4 ; MASK DELTA STATE  
CMP #READY,R4 ; STATE = READY ?  
BNE 100 ; NO, A RESET IS REQUIRED  
; NO RESET REQUIRED CLEAR CARRY  
CLC  
BR 200  
100: SEC ; A RESET IS REQUIRED SET CARRY  
200: MOV (SP)+,R4 ; RESTORE R4  
RTS PC ; AND RETURN
```



```
3981      .TITLE MISCELLANEOUS SECTIONS
3982      .SBTTL  REPORT CODING SECTION
4011
4012
4013
4014      ;
4015      ; THE REPORT CODING SECTION CONTAINS THE
4016      ; "PRINTS" CALLS THAT GENERATE STATISTICAL REPORTS.
4017      ;
4018
4019 027536      BGNRPT
027536
4020
4032
4033 027536      EXIT      RPT
027536      000167
027540      000000
4034
4046
4047      .EVEN
4048
4049 027542      ENDRPT
027542
027542      104425

L1RPT.:
      .WORD      JSJMP
      .WORD      L10013-2
L10013:
      TRAP      C1RPT
```

.SBTTL PROTECTION TABLE

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

4051			
4052			
4053			
4054			
4055			
4056			
4057			
4058	027544	BGNPROT	
	027544		L#PROT::
4059			
4060	027544	-1	OFFSET INTO P-TABLE FOR CSR ADDRESS
4061	027546	1	OFFSET INTO P-TABLE FOR MASSBUS ADDRESS
4062	027550	-1	OFFSET INTO P-TABLE FOR DRIVE NUMBER
4063			
4064	027552	ENDPROT	
4065			

```

4080          .SBTTL  INITIALIZE SECTION
4081
4082          ;
4083          ; THE INITIALIZE SECTION CONTAINS THE CODING THAT IS PERFORMED
4084          ; AT THE BEGINNING OF EACH PASS.
4085          ;
4086
4087 027552          BGNINIT
027552
4088
4112
4113
4114 027552          READDEF  @EF.CONTINUE          ; WAS A CONTINUE COMMAND ENTERED?
027552 012700 000036          MOV          @EF.CONTINUE,R0
027556 104447          TRAP
4115 027560          BCCOMplete          300          ; YES, LEAVE INIT CODE
027560 103554          BCS          300
4116 027562          READDEF  @EF.PWR          ; WAS THERE A POWER FAILURE?
027562 012700 000034          MOV          @EF.PWR,R0
027566 104447          TRAP
4117          ;MAC001 BCCOMplete          300          ; YES, LEAVE INIT CODE
4118 027570          BNCOMplete          20          ; NO
027570 103007          BCC
4119          ;
4120          ; DELAY A PERIOD OF TIME (APPROX 25 SECS ) FOR SELF TEST TO FINISH
4121          ;
4122 027572 012701 000150          MOV          @150,R1          ; INIT OUTER LOOP
4123 027576 005000          CLR          R0          ; INIT INNER LOOP
4124 027600 005300          30: DEC          R0
4125 027602 001376          BNE          30
4126 027604 005301          DEC          R1
4127 027606 001374          BNE          30
4128 027610          20: READDEF  @EF.NEW          ; NEW PASS ?
027610 012700 000035          MOV          @EF.NEW,R0
027614 104447          TRAP
4129 027616          BNCOMplete          100          ; NO
027616 103062          BCC          100
4130 027620          READDEF  @EF.START          ; START ?
027620 012700 000040          MOV          @EF.START,R0
027624 104447          TRAP
4131 027626          BNCOMplete          50          ; NO
027626 103051          BCC          50
4132 027630 000005          RESET          ; CLEAR THE WORLD
4133 027632 012737 000001 015230          MOV          @1,FRSTIM          ; SET FIRST TIME FLAG
4134 027640          CLOCK          L,R1          ; GET LINE CLOCK INFO
027640 012700 000114          MOV          @L,R0
027644 104462          TRAP
027646 010001          MOV          R0,R1
4135 027650          BCCOMplete          10          ;
027650 103411          BCS          10
4136 027652          PRINTF  @NOCLK          ; ERROR MESSAGE
027652 012746 030114          MOV          @NOCLK,(SP)
027656 012746 000001          MOV          @1,(SP)
027662 010600          MOV          SP,R0
027664 104417          TRAP
027666 062706 000004          ADD          @4,SP
4137 027672 000504          BR          20          ; CANNOT CONTINUE

```

```

4138 027674 012137 002244 14: MOV (R1)+,CLKCSR ;LINE CLOCK CSR ;MAC001
4139 027700 012102 MOV (R1)+,R2 ;GET CLOCK PRIORITY ;MAC001
4140 027702 072227 000005 ASH #5,R2 ;MAC001
4141 027706 010237 002250 MOV R2,CLKBR ;MAC001
4142 027712 012137 002252 MOV (R1)+,CLKVEC ;VECTOR ;MAC001
4143 027716 012137 002254 MOV (R1)+,CLKFRE ;FREQUENCY ;MAC001
4144 027722 SETVEC CLKVEC,#CLKSRV,CLKBR ;SETUP CLOCK INTERRUPT VECTOR ;MAC001
      027722 013746 002250 MOV CLKBR,(SP)
      027726 012746 030240 MOV #CLKSRV,-(SP)
      027732 013746 002252 MOV CLKVEC,-(SP)
      027736 012746 000003 MOV #3,-(SP)
      027742 104437 TRAP C$SVEC
      027744 062706 000010 ADD #10,SP
4145 027750 000402 BR 64
4146 027752 005037 015230 54: CLR FRSTIM ;CLEAR FIRST TIME FLAG
4147 027756 012737 177777 002244 64: MOV #-1,UNIT ;YES, INITIALIZE UNIT NUMBER
4148 027764 005237 002244 104: INC UNIT ;SET UP FOR NEXT UNIT
4149 027770 023737 002244 002012 CMP UNIT,L$UNIT ;TESTED ALL AVAILABLE UNITS?
4150 027776 003042 BGT 204 ;YES, LEAVE
4151 030000 GPHARD UNIT,R1 ;GET P-TABLE POINTER FOR THIS UNIT
      030000 013700 002244 MOV UNIT,R0
      030004 104442 TRAP C$GPHRD
      030006 010001 MOV R0,R1
4152 030010 BNCOMPLETE 104 ;THIS ONE IS NOT AVAILABLE
      030010 103365 BCC 104
4153 030012 012137 002226 MOV (R1)+,PCSR0 ;SAVE PCSR0
4154 030016 012137 002240 MOV (R1)+,INTVEC ;SAVE VECTOR
4155 030022 013737 002226 002236 MOV PCSR0,PCSR0UB ;SET UP ADDRESS OF UPPER BYTE OF PCSR0 ;RSJ001
4156 030030 062737 000001 002236 ADD #1,PCSR0UB
4157 030036 013737 002226 002230 MOV PCSR0,PCSR1 ;SET UP PCSR1
4158 030044 062737 030002 002230 ADD #2,PCSR1
4159 030052 013737 002230 002232 MOV PCSR1,PCSR2 ;SET UP PCSR2
4160 030060 062737 000002 002232 ADD #2,PCSR2
4161 030066 013737 002232 002234 MOV PCSR2,PCSR3 ;SET UP PCSR3
4162 030074 062737 000002 002234 ADD #2,PCSR3
4163 030102 000403 BR 304 ;LEAVE
4164 030104 005037 015230 204: CLR FRSTIM ;CLEAR FIRST TIME FLAG
4165 030110 DOCLN ;ABORT PASS
      030110 104444 TRAP C$DOCLN
4166 030112 304: ENDINIT
      030112 104411 L10015: TRAP C$INIT
4167 030114 103 101 116 NOCLK: .ASCIZ /CANNOT CONTINUE - NEED LINE CLOCK/ ;MAC001
      030117 116 117 124
      030122 040 103 117
      030125 116 124 111
      030130 116 125 105
      030133 040 055 040
      030136 116 105 105
      030141 104 040 114
      030144 111 116 105
      030147 040 103 114
      030152 117 103 113
      030155 000
4180 .EVEN

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030156 104461

.SBTTL AUTODROP SECTION

```

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

```

BGNAUTO

L\$AUTO::

ENDAUTO

L10016: TRAP C\$AUTO

.SBTTL CLEANUP CODING SECTION

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

4202					
4203					
4204					
4205					
4206					
4207					
4208					
4209	030160		BGNCLN		
	030160			L\$CLEAN::	
4210					
4219					
4220	030160		EXIT CLN		
	030160	104432		TRAP	C\$EXIT
	030162	000002		.WORD	L10017 .
4221					
4233					
4234			.EVEN		
4235					
4236	030164		ENDCLN		
	030164			L10017:	
	030164	104412		TRAP	C\$CLEAN


```

4238      .SBTTL  DROP UNIT SECTION
4239
4240      ;**
4241      ; THE DROP-UNIT SECTION CONTAINS THE CODING THAT CAUSES A DEVICE
4242      ; TO NO LONGER BE TESTED.
4243      ;
4244
4245 030166      BGNDU
4246      030166      L$DJ.;
4255
4256 030166      EXIT  DU
4257      030166      .WORD  J$JMP
4258      030170      000167      .WORD  L10020 2
4259      030170      000000
4269
4270      .EVEN
4271
4272 030172      ENDDU
4273      030172      L10020:
4274      030172      104453      TRAP  C$DU

```

```
4274 SBTTL ADD UNIT SECTION
4275
4276 ;
4277 ; THE ADD-UNIT SECTION CONTAINS ANY CODE THE PROGRAMMER WISHES
4278 ; TO BE EXECUTED IN CONJUNCTION WITH THE ADDING OF A UNIT BACK
4279 ; TO THE TEST CYCLE.
4280 ;
4281
4282 030174 BGNAU
4283 030174 L$AU::
4284
4292
4293 030174 EXIT AU
4294 030174 000167 .WORD J$JMP
4295 030176 000000 .WORD L10021 2
4296
4297
4306 .EVEN
4307
4308
4309 030200 ENDAU
4310 030200
4311 030200 104452 L10021: TRAP C$AU
```



```

4311      .TITLE  GLOBAL INTERRUPT SERVICE ROUTINES
4312
4313      .SBTTL  ISRNXM - NON-EXISTANT MEMORY INTERRUPT SERVICE ROUTINE
4314
4315      ;.....
4316      ;
4317      ; FUNCTIONAL DESCRIPTION:
4318      ;
4319      ;     THIS ROUTINE IS ASSIGNED TO VECTOR 4 BY THE ACCESS TESTS.
4320      ;     WHEN AN ACCESS IS ATTEMPTED ON NON-EXISTENT MEMORY
4321      ;     THE NEXMEM FLAG IS SET.
4322      ;
4323      ;.....
4324
4325      BGNSRV  ISRNXM
4326      030202 012737 000001 015224      MOV      #1,NEXMEM      ;SET NXM FLAG
4327      030210                                ENDSRV
4328      030210 000002                                L:0022:      RTI

```

```
4330 .SBTTL ISRDN1 - DNI INTERRUPT SERVICE ROUTINE
4331
4332 ;*****
4333 ;
4334 ; FUNCTIONAL DESCRIPTION:
4335 ;
4336 ; THIS ROUTINE IS ASSIGNED TO THE DEUNA'S INTERRUPT VECTOR BY
4337 ; TEST 9.
4338 ; WHEN AN INTERRUPT OCCURS THE DNIFLG FLAG IS SET IF DNI IS SET.
4339 ;
4340 ;*****
4341
4342
4343 030212          BGNSRV  ISRDN1
4344 030212
4345 030212 010446          MOV     R4, -(SP)          ; SAVE R4
4346 030214 017704 152006    MOV     @PCSR0, R4        ; PCSR0 -> R4
4347 030220 032704 004000    BIT     @DNI, R4          ; DNI SET?
4348 030224 001403          BEQ     101                ; NO, EXIT
4349 030226 012737 000001 015226 101: MOV     @1, DNIFLG ; YES, SET DNIFLG FLAG
4350 030234 012604          MOV     (SP)+, R4          ; RESTORE R4
4351
4352 030236          ENDSRV
4353 030236
4354 030236 000002          L10023- RTI
```

```

4354
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4360
4361
4362
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4364
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4366
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4369
4370 030240
      030240
4371 030240 005737 015222
4372 030244 001402
4373 030246 005337 015222
4374 030252
4375 030252
      030252
      030252 000002
4376

```

```

*****
:
: 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  201        ;YES, STOP COUNTING
      DEC  METER      ;COUNT TICKS
201:
ENDSRV

```

```

CLKSRV::
L10024: RTI

```

4379
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.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

SETVEC #4, #ISRDN1, #PRI07

T1:;
; SET UP TIMEOUT TRAP VECTOR

MOV #PRI07, -(SP)
MOV #ISRDN1, -(SP)
MOV #4, -(SP)
MOV #3, -(SP)
TRAP C\$VEC
ADD #10, SP

CLR NEXMEM

; CLEAR NXM TIMEOUT FLAG

CLR R2

; R2 = WHICH PCSR IS BEING TESTED

MOV #PCSRO, R1

; DOES PCSR EXIST?

TST NEXMEM

BEQ 104

; YES

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

DOCLN

; AND ABORT PASS

TRAP C\$DCLN

104: CLRVEC #4

MOV #4, R0
TRAP C\$CVEC

ENDTST

L10025:

TRAP C\$ETST

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4506

.SBTTL TEST 2: PCSR1 READ ACCESS TEST

: THIS TEST WILL VERIFY THAT A DEVICE IS PRESENT AT THE PCSR1
: UNIBUS ADDRESS SPECIFIED.
: TEST SEQUENCE:
: 1. READ PCSR1
: *****

BGNTST

SETVEC #4,0ISRNXH,0PRI07

T2::
; SET UP TIMEOUT TRAP VECTOR
MOV #PRI07,-(SP)
MOV #ISRNXH,-(SP)
MOV #4,-(SP)
MOV #3,-(SP)
TRAP C\$VEC
ADD #10,SP

CLR NEXMEM
MOV #1,R2
MOV #PCSR1,R1
TST NEXMEM
BEQ 104
ERRDF 002,ERR001,MSG001

; CLEAR NXM TIMEOUT FLAG
; R2 = WHICH PCSR IS BEING TESTED
; DOES PCSR EXIST?

; YES
; NO, PRINT DEVICE FATAL ERROR MESSAGE

TRAP C\$ERRDF
WORD 2
WORD ERR001
WORD MSG001

DODU UNIT

; DROP UNIT

MOV UNIT,R0
TRAP C\$DODU

DOCLN

; AND ABORT PASS

TRAP C\$DOCLN

104: CLRVEC #4

MOV #4,R0
TRAP C\$CVEC

ENDTST

L10026:

TRAP C\$ETST

030352
030352
030352 012746 000340
030356 012746 030202
030362 012746 000004
030366 012746 000003
030372 104437
030374 062706 000010
030400 005037 015224
030404 012702 000001
030410 017701 151614
030414 005737 015224
030420 001410
030422 104455
030424 000002
030426 017756
030430 017036
030432 013700 002244
030436 104451
030440 104444
030442 012700 000004
030446 104436
030450 104401

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4520 030452
030452
4521 030452
030452 012746 000340
030453 012746 030202
030462 012746 000004
030466 012746 000003
030472 104437
030474 062706 000010
4522 030500 005037 015224
4523 030504 012702 000002
4524 030510 017701 151516
4525 030514 005737 015224
4526 030520 001410
4527 030522
030522 104455
030524 000003
030526 017756
030530 017036
4528 030532
030532 013700 002244
030536 104451
4529 030540
030540 104444
4530 030542
030542 012700 000004
030546 104436
4531 030550
030550
030550 104401

.SBTTL TEST 3: 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

SETVEC #4, #ISRNXM, #PRI07

T3::
; 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
MOV #2, R2
MOV #PCSR2, R1
TST NEXMEM
BEQ 104
ERRDF 003, ERR001, MSG001

; CLEAR NXM TIMEOUT FLAG
; R2 = WHICH PCSR IS BEING TESTED
; DOES PCSR EXIST?

; YES
; NO, PRINT DEVICE FATAL ERROR MESSAGE

TRAP C#ERDF
.WORD 3
.WORD ERR001
.WORD MSG001

DDDU UNIT

; DROP UNIT

MOV UNIT, R0
TRAP C#DDDU

GOCLN

; AND ABORT PASS

TRAP C#DCLN

104: CLRVEC #4

MOV #4, R0
TRAP C#CVEC

ENDTST

L10027: TRAP C#ETST


```

4533
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4544 030552
      030552
4545 030552
      030552 012746 000340
      030556 012746 030202
      030562 012746 000004
      030566 012746 000003
      030572 104437
      030574 062706 000010
4546 030600 005037 015224
4547 030604 012702 000003
4548 030610 017701 151420
4549 030614 005737 015224
4550 030620 001410
4551 030622
      030622 104455
      030624 000004
      030626 017756
      030630 017036
4552 030632
      030632 013700 002244
      030636 104451
4553 030640
      030640 104444
4554 030642
      030642 012700 000004
      030646 104436
4555 030650
      030650
      030650 104401

.SBTTL TEST 4: PCSR3 READ ACCESS TEST
*****
THIS TEST WILL VERIFY THAT A DEVICE IS PRESENT AT THE PCSR3
UNIBUS ADDRESS SPECIFIED.

TEST SEQUENCE:
1. READ PCSR3
*****
BGNTST
      SETVEC #4,#ISRNXM,#PRI07
      T4::
      ; SET UP TIMEOUT TRAP VECTOR
      MOV #PRI07,-(SP)
      MOV #ISRNXM,-(SP)
      MOV #4,-(SP)
      MOV #3,-(SP)
      TRAP C$VEC
      ADD #10,SP
      CLR NEXMEM
      MOV #3,R2
      MOV #PCSR3,R1
      TST NEXMEM
      BEQ 104
      ERRDF 004,ERR001,MSG001
      ; CLEAR NXM TIMEOUT FLAG
      ; R2 = WHICH PCSR IS BEING TESTED
      ; DOES PCSR EXIST?
      ; YES
      ; NO, PRINT DEVICE FATAL ERROR MESSAGE
      TRAP C$ERRDF
      .WORD 4
      .WORD ERR001
      .WORD MSG001
      DODU UNIT
      ; DROP UNIT
      MOV UNIT,R0
      TRAP C$DODU
      DOCLN
      ; AND ABORT PASS
      TRAP C$DOCLN
      104: CLRVEC #4
      MOV #4,R0
      TRAP C$CVEC
      ENDTST
      L10030:
      TRAP C$ETST

```

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4572
4573
4574
4575 030652      BGNTST
      030652
4576
4577 030652 012701 015232
4578 030656 012705 000004
4579 030662 012103
4580
4581 030664      BGNSEG
      030664 104404
4582
4583 030666 010377 151340
4584 030672 017704 151334
4585 030676 042703 000001
4586 030702 020304
4587 030704 001404
4588
4589 030706      ERRHRD 005,ERR002,MSG002
      030706 104456
      030710 000005
      030712 020006
      030714 017062
4590
4591 030716      204:
4592 030716      ENDSEG
      030716
      030716 104405
4593 030720 005305
4594 030722 001357
4595
4596 030724      ENDTST
      030724
      030724 104401

```

 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

```

      T5::
104:  MOV    #PATTRN1,R1      ; GET ADDRESS OF DATA PATTERNS
      MOV    #4,R5           ; COUNT 4 PATTERNS (PASSES)
      MOV    (R1)+,R3        ; DATA PATTERN -> R3

      BGNSEG
                                TRAP    C18SEG

      MOV    R3,BPCSR2       ; DATA PATTERN -> PCSR2
      MOV    BPCSR2,R4       ; READ PCSR2
      BIC    #1,R3           ; MASK BIT00
      CMP    R3,R4           ; DATA COMPARE?
      SEQ    204             ; YES. CONTINUE

      ERRHRD 005,ERR002,MSG002 ; NO. REPORT ERROR
                                TRAP    C12HRD
                                .WORD   5
                                .WORD   ERR002
                                .WORD   MSG002

204:  ENDSEG
                                100004:
                                TRAP    C1ESEG

      DEC    R5              ; DONE?
      BNE    104             ; NO

      ENDTST
                                L10031:
                                TRAP    C1ETST

```



```

4598 .SBTTL TEST 6: PCSR3 STATIC BIT TEST
4599
4600 *****
4601 :
4602 :   THIS TEST WILL CHECK PCSR3 FOR ALL SA0 AND SA1 ERRORS.
4603 :   THE HOST WILL WRITE PATTERNS TO PCSR3 AND READ THEM
4604 :   BACK TO VERIFY.
4605 :
4606 :   NOTE: PCSR3 BIT02 THRU BIT15 SHOULD ALWAYS BE A ZERO.
4607 :   THESE BITS WILL BE MASKED BEFORE DOING THE COMPARE.
4608 :
4609 :   TEST SEQUENCE:
4610 :       1. WRITE PATTERN TO PCSR3
4611 :       2. COMPARE MASKED PATTERN WITH PCSR3 CONTENTS
4612 :       3. REPEAT STEPS 1 AND 2 FOR ALL PATTERNS
4613 :
4614 : *****
4615
4616 030726      BGNTST
4617 03C 76
4618 030726 012701 015232
4619 030732 012705 000004
4620 030736 012103
4621
4622 030740      BGNSEG
4623 030740 104404
4624 030742 010377 151266
4625 030746 017704 151262
4626 030752 042703 177774
4627 030756 020304
4628 030760 001404
4629
4630 030762      ERPHRD 006,ERR003,MSG002
4631 030762 104456
4632 030764 000006
4633 030766 020044
4634 030770 017062
4635
4636 030772      204:
4637 030772      ENDSEG
4638 030772
4639 030772 104405
4640 030774 005305
4641 030776 001357
4642
4643 031000      DEC R5
4644 031000      BNE 104
4645 031000      ENDTST
4646
4647 031000 104401

```

T6::
 ; GET ADDRESS OF DATA PATTERNS
 ; COUNT 4 PATTERNS (PASSES)
 ; DATA PATTERN -> R3
 TRAP C#BSEG
 ; DATA PATTERN -> PCSR3
 ; READ PCSR3
 ; MASK BIT02 THRU BIT15
 ; DATA COMPARE?
 ; YES. CONTINUE
 ; NO. REPORT ERROR
 TRAP C#ERPHRD
 .WORD 6
 .WORD ERR003
 .WORD MSG002
 100004: TRAP C#ESEG
 L10032: TRAP C#ETST

```

4639 .SBTTL TEST 7: SELF TEST
4640
4641 :*****
4642 :
4643 :   THIS TEST VERIFIES THAT THE ROM BASED SELF TEST
4644 :   CAN BE RUN SUCCESSFULLY WHEN INVOKED VIA
4645 :   THE SELF TEST PORT COMMAND.
4646 :
4647 :   TEST SEQUENCE:
4648 :       1. ISSUE THE SELF TEST PORT COMMAND
4649 :       2. WAIT FOR DNI
4650 :       3. CHECK LITE BITE REGISTER FOR SUCCESSFUL SELF TEST
4651 :       4. WRITE ONE TO CLEAR DNI
4652 :*****
4653
4654
4655 031002          BGNTST
4656 031002          JSR      PC,TINIT          ; IS A DEVICE RESET NEEDED?
4657 031006          BCC      25$              ; NO
4658 031010          MOV      @RSET,@PCSR0      ; YES, RESET DEUNA
4659 031016          JSR      PC,CHKDNI         ; DNI ?
4660 031022          BCC      20$              ; YES
4661 031024          ERHRD    007.,ERR004,MSG003 ; NO, REPORT ERROR
4662 031024          104456
4663 031026          000007
4664 031030          020102
4665 031032          017110
4666 031034          ESCAPE TST                ; AND ABRT TEST
4667 031034          104410
4668 031036          000204
4669
4670 031040          004737 025546
4671 031044          103006
4672 031046          104456
4673 031050          000010
4674 031052          020202
4675 031054          017110
4676 031056          ESCAPE TST                ; AND ABORT
4677 031056          104410
4678 031060          000162
4679
4680 031062          012777 000003 151136
4681
4682

```

25\$: MOV @SLFT,@PCSR0 ; RUN SELF TEST
 ;MAC001: WAIT FOR SELF TEST DNI
 ;MAC001: LOOP FOR APPROX 20 SEC (11/24 CPU)
 ;MAC001 MOV @28.,R1 ; INIT OUTER LOOP
 ;MAC00126\$: CLR R0 ; INNER LOOP
 ;MAC00127\$: MOV @PCSR0,R4 ; PCSRO -> R4
 ;MAC001 BIT @DNI,R4 ; DNI SET ?
 ;MAC001 BNE 30\$; YES
 ;MAC001 DEC R0 ; INNER LOOP EXHAUSTED ?
 ;MAC001 BNE 27\$; NO, CHECK FOR DNI AGAIN
 ;MAC001 DEC R1 ; OUTER LOOP EXHAUSTED ?
 ;MAC001 BNE 27\$; NO, KEEP CHECKING FOR DNI

TRAP C\$ERHRD 7
 .WORD ERR004
 .WORD MSG003
 TRAP C\$ESCAPE L10033 .
 TRAP C\$ERHRD 8
 .WORD ERR006
 .WORD MSG003
 TRAP C\$ESCAPE L10033 .

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

4716			;LOCAL STORAGE FOR TEST 7		
4717	031244	000000	STMSG::	.WORD	0
4718			;SELF TEST MESSAGE TABLE		
4719	031246	031446	STTBL::	.WORD	MSG00
4720	031250	031472		.WORD	MSG01
4721	031252	031521		.WORD	MSG02
4722	031254	031534		.WORD	MSG03
4723	031256	031573		.WORD	MSG04
4724	031260	031636		.WORD	MSG05
4725	031262	031671		.WORD	MSG06
4726	031264	031742		.WORD	MSG07
4727	031266	032014		.WORD	MSG10
4728	031270	032070		.WORD	MSG11
4729	031272	032117		.WORD	MSG12
4730	031274	032134		.WORD	MSG13
4731	031276	032170		.WORD	MSG14
4732	031300	032204		.WORD	MSG15
4733	031302	032220		.WORD	MSG16
4734	031304	032234		.WORD	MSG17
4735	031306	032250		.WORD	MSG20
4736	031310	032273		.WORD	MSG21
4737	031312	032307		.WORD	MSG22
4738	031314	032323		.WORD	MSG23
4739	031316	032337		.WORD	MSG24
4740	031320	032353		.WORD	MSG25
4741	031322	032367		.WORD	MSG26
4742	031324	032403		.WORD	MSG27
4743	031326	032417		.WORD	MSG30
4744	031330	032474		.WORD	MSG31
4745	031332	032546		.WORD	MSG32
4746	031334	032621		.WORD	MSG33
4747	031336	032665		.WORD	MSG34
4748	031340	032736		.WORD	MSG35
4749	031342	033001		.WORD	MSG36
4750	031344	033052		.WORD	MSG37
4751	031346	033115		.WORD	MSG40
4752	031350	033205		.WORD	MSG41
4753	031352	033272		.WORD	MSG42
4754	031354	033360		.WORD	MSG43
4755	031356	033437		.WORD	MSG44
4756	031360	033523		.WORD	MSG45
4757	031362	033601		.WORD	MSG46
4758	031364	033615		.WORD	MSG47
4759	031366	033631		.WORD	MSG50
4760	031370	033717		.WORD	MSG51
4761	031372	034002		.WORD	MSG52
4762	031374	034066		.WORD	MSG53
4763	031376	034143		.WORD	MSG54
4764	031400	034225		.WORD	MSG55
4765	031402	034301		.WORD	MSG56
4766	031404	034315		.WORD	MSG57
4767	031406	034331		.WORD	MSG60
4768	031410	034354		.WORD	MSG61
4769	031412	034407		.WORD	MSG62
4770	031414	034442		.WORD	MSG63
4771	031416	034471		.WORD	MSG64
4772	031420	034504		.WORD	MSG65

; SELF TEST MESSAGE ADDRESS

4773	031422	034525			.WORD	SMSG66	
4774	031424	034546			.WORD	SMSG67	
4775	031426	034571			.WORD	SMSG70	
4776	031430	034612			.WORD	SMSG71	
4777	031432	034645			.WORD	SMSG72	
4778	031434	034671			.WORD	SMSG73	
4779	031436	034705			.WORD	SMSG74	
4780	031440	034721			.WORD	SMSG75	
4781	031442	034735			.WORD	SMSG76	
4782	031444	034751			.WORD	SMSG77	
4783							
4784	031446	116	105	126	;ASCII MESSAGES		
	031451	105	122	040	SMSG00::	.ASCII	/NEVER GOT STARTED/
	031454	107	117	124			
	031457	040	123	124			
	031462	101	122	124			
	031465	105	104				
4785	031467	015	012	000	.ASCIIZ	<15><12>	
4786	031472	103	120	125	SMSG01::	.ASCII	/CPU INSTRUCTION TEST/
	031475	040	111	116			
	031500	123	124	122			
	031503	125	103	124			
	031506	111	117	116			
	031511	040	124	105			
	031514	123	124				
4787	031516	015	012	000	.ASCIIZ	<15><12>	
4788	031521	122	117	115	SMSG02::	.ASCII	/ROM TEST/
	031524	040	124	105			
	031527	123	124				
4789	031531	015	012	000	.ASCIIZ	<15><12>	
4790	031534	127	122	111	SMSG03::	.ASCII	/WRITEABLE CONTROL STORE TEST/
	031537	124	105	101			
	031542	102	114	105			
	031545	040	103	117			
	031550	116	124	122			
	031553	117	114	040			
	031556	123	124	117			
	031561	122	105	040			
	031564	124	105	123			
	031567	124					
4791	031570	015	012	000	.ASCIIZ	<15><12>	
4792	031573	124	061	061	SMSG04::	.ASCII	/I11 UNIBUS ADDRESS REGISTER TEST/
	031576	040	125	116			
	031601	111	102	125			
	031604	123	040	101			
	031607	104	104	122			
	031612	105	123	123			
	031615	040	122	105			
	031620	107	111	123			
	031623	124	105	122			
	031626	040	124	105			
	031631	123	124				
4793	031633	015	012	000	.ASCIIZ	<15><12>	
4794	031636	122	105	103	SMSG05::	.ASCII	/RECEIVER UNIBUS DMA TEST/
	031641	105	111	126			
	031644	105	122	040			
	031647	125	116	111			

;MAC001

;MAC001

	031652	102	125	123			
	031655	040	104	115			
	031660	101	040	124			
	031663	105	123	124			
4795	031666	015	012	000		.ASCIZ <15><12>	
4796	031671	120	103	123	MSG06::	.ASCII /PCSR1 LOWER BYTE AND T11 DMA READ TEST/	;MAC001
	031674	122	061	040			
	031677	114	117	127			
	031702	105	122	040			
	031705	102	131	124			
	031710	105	040	101			
	031713	116	104	040			
	031716	124	061	061			
	031721	040	104	115			
	031724	101	040	122			
	031727	105	101	104			
	031732	040	124	105			
	031735	123	124				
4797	031737	015	012	000		.ASCIZ <15><12>	
4798	031742	120	103	123	MSG07::	.ASCII /PCSR0 UPPER BYTE AND T11 DMA WRITE TEST/	;MAC001
	031745	122	060	040			
	031750	125	120	120			
	031753	105	122	040			
	031756	102	131	124			
	031761	105	040	101			
	031764	116	104	040			
	031767	124	061	061			
	031772	040	104	115			
	031775	101	040	127			
	032000	122	111	124			
	032003	105	040	124			
	032006	105	123	124			
4799	032011	015	012	000		.ASCIZ <15><12>	
4800	032014	120	103	123	MSG10::	.ASCII /PCSR0 LOWER BYTE AND LINK MEMORY DMA TEST/	;MAC001
	032017	122	060	040			
	032022	114	117	127			
	032025	105	122	040			
	032030	102	131	124			
	032033	105	040	101			
	032036	116	104	040			
	032041	114	111	116			
	032044	113	040	115			
	032047	105	115	117			
	032052	122	131	040			
	032055	104	115	101			
	032060	040	124	105			
	032063	123	124				
4801	032065	015	012	000		.ASCIZ <15><12>	
4802	032070	120	103	123	MSG11::	.ASCII /PCSR2 AND PCSR3 TEST/	;MAC001
	032073	122	062	040			
	032076	101	116	104			
	032101	040	120	103			
	032104	123	122	063			
	032107	040	124	105			
	032112	123	124				
4803	032114	015	012	000		.ASCIZ <15><12>	
4804	032117	124	111	115	MSG12::	.ASCII /TIMER TEST/	

	032122	105	122	040			
	032125	124	105	123			
	032130	124					
4805	032131	015	012	000	.ASCIZ	<15><12>	
4806	032134	120	110	131	.ASCII	/PHYSICAL ADDRESS ROM TEST/	;MAC001
	032137	123	111	103			
	032142	101	114	040			
	032145	101	104	104			
	032150	122	105	123			
	032153	123	040	122			
	032156	117	115	040			
	032161	124	105	123			
	032164	124					
4807	032165	015	012	000	.ASCIZ	<15><12>	
4808	032170	125	116	104	.ASCII	/UNDEFINED/	
	032173	105	106	111			
	032176	116	105	104			
4809	032201	015	012	000	.ASCIZ	<15><12>	
4810	032204	125	116	104	.ASCII	/UNDEFINED/	
	032207	105	106	111			
	032212	116	105	104			
4811	032215	015	012	000	.ASCIZ	<15><12>	
4812	032220	125	116	104	.ASCII	/UNDEFINED/	
	032223	105	106	111			
	032226	116	105	104			
4813	032231	015	012	000	.ASCIZ	<15><12>	
4814	032234	125	116	104	.ASCII	/UNDEFINED/	
	032237	105	106	111			
	032242	116	105	104			
4815	032245	015	012	000	.ASCIZ	<15><12>	
4816	032250	114	111	116	.ASCII	/LINK MEMORY TEST/	
	032253	113	040	115			
	032256	105	115	117			
	032261	122	131	040			
	032264	124	105	123			
	032267	124					
4817	032270	015	012	000	.ASCIZ	<15><12>	
4818	032273	125	116	104	.ASCII	/UNDEFINED/	
	032276	105	106	111			
	032301	116	105	104			
4819	032304	015	012	000	.ASCIZ	<15><12>	
4820	032307	125	116	104	.ASCII	/UNDEFINED/	
	032312	105	106	111			
	032315	116	105	104			
4821	032320	015	012	000	.ASCIZ	<15><12>	
4822	032323	125	116	104	.ASCII	/UNDEFINED/	
	032326	105	106	111			
	032331	116	105	104			
4823	032334	015	012	000	.ASCIZ	<15><12>	
4824	032337	125	116	104	.ASCII	/UNDEFINED/	
	032342	105	106	111			
	032345	116	105	104			
4825	032350	015	012	000	.ASCIZ	<15><12>	
4826	032353	125	116	104	.ASCII	/UNDEFINED/	
	032356	105	106	111			
	032361	116	105	104			
4827	032364	015	012	000	.ASCIZ	<15><12>	

4828	032367	125	116	104	MSG26::	.ASCII	/UNDEFINED/	
	032372	105	106	111				
	032375	116	105	104				
4829	032400	015	012	000		.ASCIZ	<15><12>	
4830	032403	125	116	104	MSG27::	.ASCII	/UNDEFINED/	
	032406	105	106	111				
	032411	116	105	104				
4831	032414	015	012	000		.ASCIZ	<15><12>	
4832	032417	114	117	103	MSG30::	.ASCII	/LOCAL LOOPBACK TEST	TRANSMITTER TIMEOUT/
	032422	101	114	040				
	032425	114	117	117				
	032430	120	102	101				
	032433	103	113	040				
	032436	124	105	123				
	032441	124	040	055				
	032444	040	040	124				
	032447	122	101	116				
	032452	123	115	111				
	032455	124	124	105				
	032460	122	040	124				
	032463	111	115	105				
	032466	117	125	124				
4833	032471	015	012	000		.ASCIZ	<15><12>	
4834	032474	114	117	103	MSG31::	.ASCII	/LOCAL LOOPBACK TEST	RECEIVER TIMEOUT/
	032477	101	114	040				
	032502	114	117	117				
	032505	120	102	101				
	032510	103	113	040				
	032513	124	105	123				
	032516	124	040	055				
	032521	040	040	122				
	032524	105	103	105				
	032527	111	126	105				
	032532	122	040	124				
	032535	111	115	105				
	032540	117	125	124				
4835	032543	015	012	000		.ASCIZ	<15><12>	
4836	032546	114	117	103	MSG32::	.ASCII	/LOCAL LOOPBACK TEST	BUFFER COMPARISON/
	032551	101	114	040				
	032554	114	117	117				
	032557	120	102	101				
	032562	103	113	040				
	032565	124	105	123				
	032570	124	040	055				
	032573	040	040	102				
	032576	125	106	106				
	032601	105	122	040				
	032604	103	117	115				
	032607	120	101	122				
	032612	123	111	117				
	032615	116						
4837	032616	015	012	000		.ASCIZ	<15><12>	
4838	032621	114	117	103	MSG33::	.ASCII	/LOCAL LOOPBACK TEST	BYTE COUNT/
	032624	101	114	040				
	032627	114	117	117				
	032632	120	102	101				
	032635	103	113	040				

	032640	124	105	123		
	032643	124	040	055		
	032646	040	040	102		
	032651	131	124	105		
	032654	040	103	117		
	032657	125	116	124		
4039	032662	015	012	000		
4840	032665	114	117	103	MSG34::	.ASCIIZ <15><12> .ASCII /LOCAL LOOPBACK TEST - RECEIVER STATUS/
	032670	101	114	040		
	032673	114	117	117		
	032676	120	102	101		
	032701	103	113	040		
	032704	124	105	123		
	032707	124	040	055		
	032712	040	040	122		
	032715	105	103	105		
	032720	111	126	105		
	032723	122	040	123		
	032726	124	101	124		
	032731	125	123			
4841	032733	015	012	000		
4842	032736	114	117	103	MSG35::	.ASCIIZ <15><12> .ASCII /LOCAL LOOPBACK TEST - CRC ERROR/
	032741	101	114	040		
	032744	114	117	117		
	032747	120	102	101		
	032752	103	113	040		
	032755	124	105	123		
	032760	124	040	055		
	032763	040	040	103		
	032766	122	103	040		
	032771	105	122	122		
	032774	117	122			
4843	032776	015	012	000		
4844	033001	114	117	103	MSG36::	.ASCIIZ <15><12> .ASCII /LOCAL LOOPBACK TEST - MATCH BIT ERROR/
	033004	101	114	040		
	033007	114	117	117		
	033012	120	102	101		
	033015	103	113	040		
	033020	124	105	123		
	033023	124	040	055		
	033026	040	040	115		
	033031	101	124	103		
	033034	110	040	102		
	033037	111	124	040		
	033042	105	122	122		
	033045	117	122			
4845	033047	015	012	000		
4846	033052	114	117	103	MSG37::	.ASCIIZ <15><12> .ASCII /LOCAL LOOPBACK TEST TDR ERROR/
	033055	101	114	040		
	033060	114	117	117		
	033063	120	102	101		
	033066	103	113	040		
	033071	124	105	123		
	033074	124	040	055		
	033077	040	040	124		
	033102	104	122	040		
	033105	105	122	122		

	033110	117	122			
4847	033112	015	012	000	.ASCIZ	<15><12>
4848	033115	124	122	101	.ASCII	/TRANSMITTER BUFFER ADDRESS TEST TRANSMITTER TIMEOUT/
	033120	116	123	115		
	033123	111	124	124		
	033126	105	122	040		
	033131	102	125	106		
	033134	106	105	122		
	033137	040	101	104		
	033142	104	122	105		
	033145	123	123	040		
	033150	124	105	123		
	033153	124	040	055		
	033156	040	124	122		
	033161	101	116	123		
	033164	115	111	124		
	033167	124	105	122		
	033172	040	124	111		
	033175	115	105	117		
	033200	125	124			
4849	033202	015	012	000	.ASCIZ	<15><12>
4850	033205	124	122	101	.ASCII	/TRANSMITTER BUFFER ADDRESS TEST - RECEIVER TIMEOUT/
	033210	116	123	115		
	033213	111	124	124		
	033216	105	122	040		
	033221	102	125	106		
	033224	106	105	122		
	033227	040	101	104		
	033232	104	122	105		
	033235	123	123	040		
	033240	124	105	123		
	033243	124	040	055		
	033246	040	122	105		
	033251	103	105	111		
	033254	126	105	122		
	033257	040	124	111		
	033262	115	105	117		
	033265	125	124			
4851	033267	015	012	000	.ASCIZ	<15><12>
4852	033272	124	122	101	.ASCII	/TRANSMITTER BUFFER ADDRESS TEST - BUFFER COMPARISON/
	033275	116	123	115		
	033300	111	124	124		
	033303	105	122	040		
	033306	102	125	106		
	033311	106	105	122		
	033314	040	101	104		
	033317	104	122	105		
	033322	123	123	040		
	033325	124	105	123		
	033330	124	040	055		
	033333	040	102	125		
	033336	106	106	105		
	033341	122	040	103		
	033344	117	115	120		
	033347	101	122	123		
	033352	111	117	116		
4853	033355	015	012	000	.ASCIZ	<15><12>

4854	033360	124	122	101	MSG43::	.ASCII	/TRANSMITTER BUFFER ADDRESS TEST	BYTE COUNT/
	033363	116	123	115				
	033366	111	124	124				
	033371	105	122	040				
	033374	?	125	106				
	033377	06	105	122				
	033402	040	101	104				
	033405	104	122	105				
	033410	123	123	040				
	033413	124	105	123				
	033416	124	040	055				
	033421	040	102	131				
	033424	124	105	040				
	033427	103	117	125				
	033432	116	124					
4855	033434	015	012	000	MSG44::	.ASCIIZ	<15><12>	
4856	033437	124	122	101		.ASCII	/TRANSMITTER BUFFER ADDRESS TEST	RECEIVER STATUS/
	033442	116	123	115				
	033445	111	124	124				
	033450	105	122	040				
	033453	102	125	106				
	033456	106	105	122				
	033461	040	101	104				
	033464	104	122	105				
	033467	123	123	040				
	033472	124	105	123				
	033475	124	040	055				
	033500	040	122	105				
	033503	103	105	111				
	033506	126	105	122				
	033511	040	123	124				
	033514	101	124	125				
	033517	123						
4857	033520	015	012	000	MSG45::	.ASCIIZ	<15><12>	
4858	033523	124	122	101		.ASCII	/TRANSMITTER BUFFER ADDRESS TEST	CRC ERROR/
	033526	116	123	115				
	033531	111	124	124				
	033534	105	122	040				
	033537	102	125	106				
	033542	106	105	122				
	033545	040	101	104				
	033550	104	122	105				
	033553	123	123	040				
	033556	124	105	123				
	033561	124	040	055				
	033564	040	103	122				
	033567	103	040	105				
	033572	122	122	117				
	033575	122						
4859	033576	015	012	000	MSG46::	.ASCIIZ	<15><12>	
4860	033601	125	116	104		.ASCII	/UNDEFINED/	
	033604	105	106	111				
	033607	116	105	104				
4861	033612	015	012	000	MSG47::	.ASCIIZ	<15><12>	
4862	033615	125	116	104		.ASCII	/UNDEFINED/	
	033620	105	106	111				
	033623	116	105	104				

4863	033626	015	012	000		.ASCIZ <15><12>	
4864	033631	122	105	103	MSG50::	.ASCII /RECEIVER BUFFER ADDRESS TEST	TRANSMITTER TIMEOUT/
	033634	105	111	126			
	033637	105	122	040			
	033642	102	125	106			
	033645	106	105	122			
	033650	040	101	104			
	033653	104	122	105			
	033656	123	123	040			
	033661	124	105	123			
	033664	124	040	055			
	033667	040	040	124			
	033672	122	101	116			
	033675	123	115	111			
	033700	124	124	105			
	033703	122	040	124			
	033706	111	115	105			
	033711	117	125	124			
4865	033714	015	012	000		.ASCIZ <15><12>	
4866	033717	122	105	103	MSG51::	.ASCII /RECEIVER BUFFER ADDRESS TEST	RECEIVER TIMEOUT/
	033722	105	111	126			
	033725	105	122	040			
	033730	102	125	106			
	033733	106	105	122			
	033736	040	101	104			
	033741	104	122	105			
	033744	123	123	040			
	033747	124	105	123			
	033752	124	040	055			
	033755	040	040	122			
	033760	105	103	105			
	033763	111	126	105			
	033766	122	040	124			
	033771	111	115	105			
	033774	117	125	124			
4867	033777	015	012	000		.ASCIZ <15><12>	
4868	034002	122	105	103	MSG52::	.ASCII /RECEIVER BUFFER ADDRESS TEST	BUFFER COMPARISON/
	034005	105	111	126			
	034010	105	122	040			
	034013	102	125	106			
	034016	106	105	122			
	034021	040	101	104			
	034024	104	122	105			
	034027	123	123	040			
	034032	124	105	123			
	034035	124	040	055			
	034040	040	040	102			
	034043	125	106	106			
	034046	105	122	040			
	034051	103	117	115			
	034054	120	101	122			
	034057	123	111	117			
	034062	116					
4869	034063	015	012	000		.ASCIZ <15><12>	
4870	034066	122	105	103	MSG53::	.ASCII /RECEIVER BUFFER ADDRESS TEST	BYTE COUNT/
	034071	105	111	126			
	034074	105	122	040			

	034077	102	125	106			
	034102	106	105	122			
	034105	040	101	104			
	034110	104	122	105			
	034113	123	123	040			
	034116	124	105	123			
	034121	124	040	055			
	034124	040	040	102			
	034127	131	124	105			
	034132	040	103	117			
	034135	125	116	124			
4871	034140	015	012	000			
4872	034143	122	105	103	MSG54::	.ASCIZ <15><12> .ASCII /RECEIVER BUFFER ADDRESS TEST - RECEIVER STATUS/	
	034146	105	111	126			
	034151	105	122	040			
	034154	102	125	106			
	034157	106	105	122			
	034162	040	101	104			
	034165	104	122	105			
	034170	123	123	040			
	034173	124	105	123			
	034176	124	040	055			
	034201	040	040	122			
	034204	105	103	105			
	034207	111	126	105			
	034212	122	040	123			
	034215	124	101	124			
	034220	125	123				
4873	034222	015	012	000			
4874	034225	122	105	103	MSG55::	.ASCIZ 15><12> .ASCII /RECEIVER BUFFER ADDRESS TEST CRC ERROR/	
	034230	105	111	126			
	034233	105	122	040			
	034236	102	125	106			
	034241	106	105	122			
	034244	040	101	104			
	034247	104	122	105			
	034252	123	123	040			
	034255	124	105	123			
	034260	124	040	055			
	034263	040	040	103			
	034266	122	103	040			
	034271	105	122	122			
	034274	117	122				
4875	034276	015	012	000			
4876	034301	125	116	104	MSG56::	.ASCIZ <15><12> .ASCII /UNDEFINED/	
	034304	105	106	111			
	034307	116	105	104			
4877	034312	015	012	000			
4878	034315	125	116	104	MSG57::	.ASCIZ <15><12> .ASCII /UNDEFINED/	
	034320	105	106	111			
	034323	116	105	104			
4879	034326	015	012	000			
4880	034331	122	125	116	MSG60::	.ASCIZ <15><12> .ASCII /RUNT PACKET TEST/	;MAC001
	034334	124	040	120			
	034337	101	103	113			
	034342	105	124	040			
	034345	124	105	123			

	034350	124						
4881	034351	015	012	000		.ASCIZ	<15><12>	
4882	034354	115	111	116	MSG61::	.ASCII	/MINIMUM PACKET SIZE TEST/	;MAC001
	034357	111	115	125				
	034362	115	040	120				
	034365	101	103	113				
	034370	105	124	040				
	034373	123	111	132				
	034376	105	040	124				
	034401	105	123	124				
4883	034404	015	012	000		.ASCIZ	<15><12>	
4884	034407	115	101	130	MSG62::	.ASCII	/MAXIMUM PACKET SIZE TEST/	;MAC001
	034412	111	115	125				
	034415	115	040	120				
	034420	101	103	113				
	034423	105	124	040				
	034426	123	111	132				
	034431	105	040	124				
	034434	105	123	124				
4885	034437	015	012	000		.ASCIZ	<15><12>	
4886	034442	117	126	105	MSG63::	.ASCII	/OVERSIZE PACKET TEST/	
	034445	122	123	111				
	034450	132	105	040				
	034453	120	101	103				
	034456	113	105	124				
	034461	040	124	105				
	034464	123	124					
4887	034466	015	012	000		.ASCIZ	<15><12>	
4888	034471	103	122	103	MSG64::	.ASCII	/CRC TEST/	;MAC001
	034474	040	124	105				
	034477	123	124					
4889	034501	015	012	000		.ASCIZ	<15><12>	
4890	034504	103	117	114	MSG65::	.ASCII	/COLLISION TEST/	
	034507	114	111	123				
	034512	111	117	116				
	034515	040	124	105				
	034520	123	124					
4891	034522	015	012	000		.ASCIZ	<15><12>	
4892	034525	110	105	101	MSG66::	.ASCII	/HEARTBEAT TEST/	;MAC001
	034530	122	124	102				
	034533	105	101	124				
	034536	040	124	105				
	034541	123	124					
4893	034543	015	012	000		.ASCIZ	<15><12>	
4894	034546	110	101	114	MSG67::	.ASCII	/HALF DUPLEX TEST/	;MAC001
	034551	106	040	104				
	034554	125	120	114				
	034557	105	130	040				
	034562	124	105	123				
	034565	124						
4895	034566	015	012	000		.ASCIZ	<15><12>	
4896	034571	115	125	114	MSG70::	.ASCII	/MULTICAST TEST/	
	034574	124	111	103				
	034577	101	123	124				
	034602	040	124	105				
	034605	123	124					
4897	034607	015	012	000		.ASCIZ	<15><12>	

4898	034612	101	104	104	MSG71::	.ASCII	/ADDRESS RECOGNITION TEST/
	034615	122	105	123			
	034620	123	040	122			
	034623	105	103	117			
	034626	107	116	111			
	034631	124	111	117			
	034634	116	040	124			
	034637	105	123	124			
4899	034642	015	012	000	MSG72::	.ASCIZ	<15><12>
4900	034645	105	130	124		.ASCII	/EXTERNAL LOOPBACK/
	034650	105	122	116			
	034653	101	114	040			
	034656	114	117	117			
	034661	120	102	101			
	034664	103	113				
4901	034666	015	012	000	MSG73::	.ASCIZ	<15><12>
4902	034671	125	116	104		.ASCII	/UNDEFINED/
	034674	105	106	111			
	034677	116	105	104			
4903	034702	015	012	000	MSG74::	.ASCIZ	<15><12>
4904	034705	125	116	104		.ASCII	/UNDEFINED/
	034710	105	106	111			
	034713	116	105	104			
4905	034716	015	012	000	MSG75::	.ASCIZ	<15><12>
4906	034721	125	116	104		.ASCII	/UNDEFINED/
	034724	105	106	111			
	034727	116	105	104			
4907	034732	015	012	000	MSG76::	.ASCIZ	<15><12>
4908	034735	125	116	104		.ASCII	/UNDEFINED/
	034740	105	106	111			
	034743	116	105	104			
4909	034746	015	012	000	MSG77::	.ASCIZ	<15><12>
4910	034751	103	117	115		.ASCII	/COMPLETED - NO ERRORS/
	034754	120	114	105			
	034757	124	105	104			
	034762	040	055	040			
	034765	116	117	040			
	034770	105	122	122			
	034773	117	122	123			
4911	034776	015	012	000		.ASCIZ	<15><12>
4912						.EVEN	

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

```

Address	Offset	Value	Label	Instruction	Comment	Trap	Value
4935	035002		BGNTST				
4936	035002	004737 027446		JSR PC,TINIT	; IS A DEVICE RESET NEEDED?		
4937	03500C	103025		BCC 25H	; NO		
4938	035010	012777 000040 145210		MOV #RSET,SPCSRO	; YES, RESET DEJNA		
4939	035016	004737 024574		JSR PC,CHKDNI	; DNI ?		
4940	035022	103006		BCC 20H	; YES		
4941	035024			ERRHRD 012.,ERR004,MSG003	; NO, REPORT ERROR	TRAP	C\$ERRHRD
	035024	104456				.WORD	12
	035026	000014				.WORD	ERR004
	035030	020102				.WORD	MSG003
	035032	017110					
4942	035034		ESCAPE TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	035034	104410				.WORD	L10034
	035036	000236					
4943							
4944	035040	004737 025546	20H:	JSR PC,CLRDN1	; WRITE ONE TO CLEAR DNI		
4945					; ERROR		
4946	035044	103006		BCC 25H	; NO		
4947	035046			ERRHRD 013.,ERR006,MSG003	; YES, REPORT ERROR	TRAP	C\$ERRHRD
	035046	104456				.WORD	13
	035050	000015				.WORD	ERR006
	035052	020202				.WORD	MSG003
	035054	017110					
4948	035056		ESCAPE TST		; AND ABCRT	TRAP	C\$ESCAPE
	035056	104410				.WORD	L10034
	035060	000214					
4949							
4950	035062	012777 000006 145136	25H:	MOV #PNOP,SPCSRO	; ISSUE A NOP PORT COMMAND		
4951	035070	004737 024574		JSR PC,CHKDNI	; DNI ?		
4952	035074	103006		BCC 30H	; YES		
4953	035076			ERRHRD 014.,ERR008,MSG003	; NO, REPORT ERROR	TRAP	C\$ERRHRD
	035076	104456				.WORD	14
	035100	000016				.WORD	ERR008
	035102	020337				.WORD	MSG003
	035104	017110					

4954	035106			ESCAPE	TST		; AND ABORT TEST		
	035106	104410						TRAP	C\$ESCAPE
	035110	000164						.WORD	L10034
4955									
4956	035112	004737	025546	30\$:	JSR	PC,CLRDN1	; WRITE ONE TO CLEAR DNI		
4957							; ERROR		
4958	035116	103006			BCC	40\$	; NO		
4959	035120				ERRHRD	015.,ERR006,MSG003	; YES, REPORT ERROR		
	035120	104456						TRAP	C\$ERHRD
	035122	000017						.WORD	15
	035124	020202						.WORD	ERR006
	035126	017110						.WORD	MSG003
4960	035130				ESCAPE	TST	; AND ABORT		
	035130	104410						TRAP	C\$ESCAPE
	035132	000142						.WORD	L10034
4961									
4962	035134	012705	013104	40\$:	MOV	#NOPF,R5	; POINT TO DEFAULT NOP FUNCTION		
4963	035140	004737	026742		JSR	PC,LDPCCB	; LOAD FUNCTION INTO PCBB		
4964	035144	004737	026772		JSR	PC,LDPCSR	; ADDRESS OF PCBB > PCSR2:3		
4965	035150	012777	000001	145050	MOV	#GETPCB,SPCSR0	; ISSUE A GETPCB PORT COMMAND		
4966	035156	004737	024574		JSR	PC,CHKDNI	; DNI?		
4967	035162	103006			BCC	50\$	; YES		
4968	035164				ERRHRD	016.,ERR009,MSG003	; NO, REPORT ERROR		
	035164	104456						TRAP	C\$ERHRD
	035166	000020						.WORD	16
	035170	020416						.WORD	ERR009
	035172	017110						.WORD	MSG003
4969	035174				ESCAPE	TST	; AND ABORT TEST		
	035174	104410						TRAP	C\$ESCAPE
	035176	000076						.WORD	L10034
4970									
4971	035200	004737	025546	50\$:	JSR	PC,CLRDN1	; WRITE ONE TO CLEAR DNI		
4972							; ERROR ?		
4973	035204	103006			BCC	60\$	; NO		
4974	035206				ERRHRD	017.,ERR006,MSG003	; YES, REPORT ERROR		
	035206	104456						TRAP	C\$ERHRD
	035210	000021						.WORD	17
	035212	020202						.WORD	ERR006
	035214	017110						.WORD	MSG003
4975	035216				ESCAPE	TST	; AND ABORT TEST		
	035216	104410						TRAP	C\$ESCAPE
	035220	000054						.WORD	L10034
4976									
4977	035222	012777	000002	144776	60\$:	MOV	#GETCMD,SPCSR0	; ISSUE A GETCMD PORT COMMAND	
4978	035230	004737	024574		JSR	PC,CHKDNI	; DNI ?		
4979	035234	103006			BCC	70\$	; YES		
4980	035236				ERRHRD	018.,ERR010,MSG003	; NO, REPORT ERROR		
	035236	104456						TRAP	C\$ERHRD
	035240	000022						.WORD	18
	035242	020502						.WORD	ERR010
	035244	017110						.WORD	MSG003
4981	035246				ESCAPE	TST	; AND ABORT TEST		
	035246	104410						TRAP	C\$ESCAPE
	035250	000024						.WORD	L10034
4982									
4983	035252	004737	025546	70\$:	JSR	PC,CLRDN1	; WRITE ONE TO CLEAR DNI		
4984							; ERROR ?		

4985	035256	103006	BCC	804	, NO		
4986	035260		ERRMRD	019..ERR006,MSG003	, YES, REPORT ERROR		
	035260	104456				TRAP	C1ERRMRD
	035262	000023				.WORD	19
	035264	020202				.WORD	ERR006
	035266	017110				.WORD	MSG003
4987	035270		ESCAPE	TST	, AND ABORT TEST		
	035270	104410				TRAP	C1ESCAPE
	035272	000002				.WORD	L10034
4988	035274		804:				
4989	035274		ENDTST				
	035274				L10034:		
	035274	104401				TRAP	C1ETST

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.SBTTL TEST 9: INTERRUPT LOGIC TEST

: THIS TEST VERIFIES THAT A DEUNA 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

JSR PC,TIM1T ; IS A DEVICE RESET NEEDED?
BCC 251 ; NO
MOV @RSET,BPCSR0 ; YES, RESET DEUNA
JSR PC,CHKDNI ; DNI ?
BCC 201 ; YES
ERRHRD 020,,ERR004,MSG003 ; NO, REPORT ERROR
ESCAPE TST ; AND ABORT TEST
201: JSR PC,CLRDNI ; WRITE ONE TO CLEAR DNI
BCC 251 ; ERROR
ERRHRD 021,,ERR006,MSG003 ; YES, REPORT ERROR
ESCAPE TST ; AND ABORT
; SET UP INTERRUPT VECTOR
251: SETVEC INTVEC,@ISRDN1,UNAPRI
CLR DNIFLG ; CLEAR DNI INTERRUPT FLAG
; ISSUE GET PCBB PORT COMMAND WITH INTERRUPTS ENABLED
401: MOV @INTE,BPCSR0 ; ENABLE INTERRUPTS
MOV @NOPF,R5 ; POINT TO DEFAULT NOP FUNCTION

TRAP C1ERRRD
.WORD 20
.WORD ERR004
.WORD MSG003
TRAP C1ESCAPE
.WORD L10035
TRAP C1ERRRD
.WORD 21
.WORD ERR006
.WORD MSG003
TRAP C1ESCAPE
.WORD L10035
MOV UNAPRI,-(SP)
MOV @ISRDN1,-(SP)
MOV INTVEC,(SP)
MOV @3,-(SP)
TRAP C1SVEC
ADD #10,SP
MOV @PRI04,R0
TRAP C1SPRI

144714

144602

5027	035430	004737	026742		JSR	PC,LDPCBB		; LOAD FUNCTION INTO PCBB	
5028	035434	004737	026772		JSR	PC,LDPCSR		; ADDRESS OF PCBB -> PCSR2:3	
5029	035440	012777	000101	144560	MOV	#GETPCB!INTE,BPCSR0		; ISSUE A GETPCBB PORT COMMAND	
5030									
5031									
5032									
5033									
5034									
5035									
5036									
5037									
5038									
5039									
5040									
5041	035446	012737	000176	015222					
5042	035454	004737	024542						
5043	035460								
	035460	012700	000200						
	035464	104441							
5044	035466	005737	015226		501:	TST	DNIFLG		
5045	035472	001022				BNE	701		
5046	035474					BREAK			
	035474	104422							
5047	035476	005737	015222			TST	METER		
5048	035502	001371				BNE	501		
5049	035504	004737	024560			JSR	PC,TIMOFF		
5050	035510					ERRHRD	022.,ERR007		
	035510	104456							
	035512	000026							
	035514	020250							
	035516	000000							
5051	035520					CLRVEC	INTVEC		
	035520	013700	002240						
	035524	104436							
5052	035526					SETPRI	#PRI07		
	035526	012700	000340						
	035532	104441							
5053	035534					ESCAPE	TST		
	035534	104410							
	035536	000044							
5054									
5055									
5056	035540	004737	024560						
5057	035544								
	035544	013700	002240						
	035550	104436							
5058	035552					SETPRI	#PRI07		
	035552	012700	000340						
	035556	104441							
5059	035560	004737	025546			JSR	PC,CLRDNI		
5060									
5061	035564	103006				BCC	801		
5062	035566					ERRHRD	023.,ERR006,MSG003		
	035566	104456							
	035570	000027							
	035572	020202							
	035574	017110							

5063	035576		ESCAPE	TST							
	035576	104410									
	035600	000002									
5064	035602		804:								
5065	035602			ENDTST							
	035602										
	035602	104401									

AND ABORT

TRAP
.WORD

C#ESCAPE
L10035

L10035:

TRAP

C#ETST

.SBTTL TEST 10: 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
:
*****

```

5086	035604			BGNTST				
	035604					T10::		
5087	035604	004737	027446	JSR	PC,TINIT	:	IS A DEVICE RESET NEEDED?	
5088	035610	103025		BCC	301	:	NO	
5089	035612	012777	000040 144406	MOV	#RSET,BPCSR0	:	YES, RESET DEINA	
5090	035620	004737	024574	JSR	PC,CHKDNI	:	DNI ?	
5091	035624	103006		BCC	201	:	YES	
5092	035626			ERRMRD	024.,ERR004,MSG003	:	NO, REPORT ERROR	
	035626	104456				TRAP	C\$ERRMRD	
	035630	000030				.WORD	24	
	035632	020102				.WORD	ERR004	
	035634	017110				.WORD	MSG003	
5093	035636			ESCAPE	TST	:	AND ABORT TEST	
	035636	104410				TRAP	C\$ESCAPE	
	035640	000272				.WORD	L10036	
5094				:				
5095	035642	004737	025546	201:	JSR	PC,CLRDN1	:	WRITE ONE TO CLEAR DNI
5096						:	ERROR ?	
5097	035646	103006		BCC	301	:	NO	
5098	035650			ERRMRD	025.,ERR006,MSG003	:	YES, REPORT ERROR	
	035650	104456				TRAP	C\$ERRMRD	
	035652	000031				.WORD	25	
	035654	020202				.WORD	ERR006	
	035656	017110				.WORD	MSG003	
5099	035660			ESCAPE	TST	:	AND ABORT TEST	
	035660	104410				TRAP	C\$ESCAPE	
	035662	000250				.WORD	L10036	
5100				:				
5101	035664	004737	026772	301:	JSR	PC,LDPCSR	:	ADDRESS OF PCBB -> PCSR2!3
5102	035670	012777	000001 144330	MOV	#GETPCB,BPCSR0	:	ISSUE GET_PCBB PORT COMMAND	
5103	035676	004737	024574	JSR	PC,CHKDNI	:	DNI ?	
5104	035702	103006		BCC	401	:	YES	
5105	035704			ERRMRD	026.,ERR009,MSG003	:	NO, REPORT ERROR	
	035704	104456				TRAP	C\$ERRMRD	
	035706	000032				.WORD	26	
	035710	020416				.WORD	ERR009	
	035712	017110				.WORD	MSG003	
5106	035714			ESCAPE	TST	:	AND ABORT TEST	

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

5144 036076 004737 026334
5145 036102 010437 014214
5146 036106 077042
5147
5148
5149 036110 005737 014214
5150 036114 001406
5151 036116
036116 104456
036120 000036
036122 021630
036124 000000
5152 036126
036126 104410
036130 000002
5153 036132
5154 036132
036132
036132 104401

801: JSR PC,CRCBLK
MOV R4,CRCB
SOB R0,601

; VERIFY CRC
TST CRCH
BEQ 951
ERRHRD 030.,ERR024

ESCAPE TST

951: ENDTST

; CALCULATE CRC ON 1K RBUF
; CRC -> CRCH
; DO ALL 8K BY 1K BLOCKS

; CRC = 0 ?
; YES
; NO, ROM CRC ERROR, REPORT ERROR
TRAP C\$ERRHRD
.WORD 30
.WORD ERR024
.WORD 0

; AND ABORT TEST
TRAP C\$ESCAPE
.WORD L10036

L10036: TRAP C\$ETST


```

THIS TEST READS AND WRITES THE INTERNAL WCS MEMORY.
THE DUMP/LOAD INTERNAL MEMORY FUNCTIONS ARE USED TO
READ/WRITE THE RESERVED DOWNLINE LOAD PORTION OF THE WCS MEMORY.
THE TOP 1K OF WCS.

TEST SEQUENCE:

1.  LOAD TBUF WITH DATA = ADDRESS
2.  LOAD TOP 1K OF INTERNAL WCS MEMORY WITH TBUF
3.  RESETUP TBUF FOR DATA COMPARE
4.  CLEAR RBUF
5.  DUMP INTERNAL WCS MEMORY -> RBUF
6.  COMPARE RBUF WITH TBUF
7.  REPEAT STEPS 1 THRU 6 WITH COMPLIMENT DATA

```

				BGNTST	T11::		
5177	036134				: IS A DEVICE RESET NEEDED?		
	036134				:		
5178	036134	004737	027446	JSR PC,TINIT	: NO		
5179	036140	103025		BCC 30:	:		
5180	036142	012777	000040	MOV #RSET,BPCSR0	: YES, RESET DEUNA		
5181	036150	004737	024574	JSR PC,CHKDNI	: DNI ?		
5182	036154	103006		BCC 20:	: YES		
5183	036156			ERRHRD 031.,ERROR04,MSG003	: NO, REPORT ERROR		
	036156	104456				TRAP	C\$ERRHRD
	036160	000037				.WORD	31
	036162	020102				.WORD	ERROR04
	036164	017110				.WORD	MSG003
5184	036166			ESCAPE TST	: AND ABORT TEST		
	036166	104410				TRAP	C\$ESCAPE
	036170	000716				.WORD	L10037 .
5185				i			
5186	036172	004737	025546	JSR PC,CLRDN1	: WRITE ONE TO CLEAR DNI		
5187					: ERROR ?		
5188	036176	103006		BCC 30:	: NO		
5189	036200			ERRHRD 032.,ERROR06,MSG003	: YES, REPORT ERROR		
	036200	104456				TRAP	C\$ERRHRD
	036202	000040				.WORD	32
	036204	020202				.WORD	ERROR06
	036206	017110				.WORD	MSG003
5190	036210			ESCAPE TST	: AND ABORT TEST		
	036210	104410				TRAP	C\$ESCAPE
	036212	000674				.WORD	L10037 .
5191				j			
5192	036214	004737	026772	JSR PC,LDPCSR	: ADDRESS OF PCBB -> PCSR2!3		
5193	036220	012777	000001	MOV #GETPCB,BPCSR0	: ISSUE GET_PCBB PORT COMMAND		
5194	036226	004737	024574	JSR PC,CHKDNI	: DNI ?		
5195	036232	103006		BCC 40:	: YES		
5196	036234			ERRHRD 033.,ERROR09,MSG003	: NO, REPORT ERROR		
	036234	104456				TRAP	C\$ERRHRD
	036236	000041				.WORD	33
	036240	020416				.WORD	ERROR09

```

5197 036242 017110          ESCAPE TST          ; AND ABORT TEST          .WORD MSG003
      036244          104410          TRAP C$ESCAPE
      036246          000640          .WORD L10037 .

5198 036250 C04737 025546      404: JSR PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
5200 036254 103006          ECC 504      ; ERROR ?
5202 036256          104456          ; NO
      036260          000042          ; YES, REPORT ERROR
      036262          020202          TRAP C$ERRRD
      036264          017110          .WORD 34
      036266          104410          .WORD ERR006
      036270          000616          .WORD MSG003

5203 036272 012703 014256      ESCAPE TST          ; AND ABORT TEST          TRAP C$ESCAPE
      036274          104410          .WORD L10037 .
      036276          000616          .WORD

5204 036278 012703 014256      ;WRITE TOP 1K DOWNLINE LOAD WCS WITH DATA = ADDRESS
5205 036280 012703 014256      504: MOV #MEM11A,R3      ; R3 POINTS TO WCS ADDRESS TABLE
5206 036282 012703 014256      ;WRITE TBUF WITH DATA = ADDRESS
5207 036284 012703 014256      604: MOV R3,R5          ; R5 POINTS TO ADDRESS
5208 036286 012703 014256      JSR PC,LDBUF          ; LOAD TBUF WITH ADDRESS DATA PATTERN
5209 036288 012703 014256      ;LOAD INTERNAL WCS MEMORY
5210 036290 012703 014256      MOV #LDNEM,R5          ; DEFAULT LOAD INTERNAL MEMORY
5211 036292 012703 014256      JSR PC,LDPDB          ; LOAD FUNCTION -> PCDB
5212 036294 012703 014256      MOV #UDB11A,R5          ; DEFAULT UDB
5213 036296 012703 014256      MOV #4,R0             ; FOUR WORDS
5214 036298 012703 014256      JSR PC,LDUDB          ; LOAD INTO UDB
5215 036300 012703 014256      MOV #TBUF,UDB+2        ; LOAD TBUF ADDRESS -> UDB+2
5216 036302 012703 014256      MOV (R3),UDB+6         ; LOAD WCS ADDRESS -> UDB+6
5217 036304 012703 014256      MOV #GETCMD,SPCSRO      ; ISSUE GET COMMAND PORT COMMAND
5218 036306 012703 014256      JSR PC,CHKDNI          ; DNI ?
5219 036308 012703 014256      BCC 704              ; YES
5220 036310 012703 014256      ERRRD 035.,ERR010,MSG003 ; NO, REPORT ERROR
5221 036312 012703 014256      036314 104456          TRAP C$ERRRD
5222 036316 012703 014256      036318 000043          .WORD 35
5223 036320 012703 014256      036322 020502          .WORD ERPC10
5224 036324 012703 014256      036326 017110          .WORD MSG003
5225 036328 012703 014256      ESCAPE TST          ; AND ABORT TEST          TRAP C$ESCAPE
5226 036330 012703 014256      036332 104410          .WORD L10037 .
5227 036334 012703 014256      036336 000516          .WORD
5228 036338 012703 014256      704: JSR PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
5229 036340 012703 014256      BCC 804              ; ERROR ?
5230 036342 012703 014256      ERRRD 036.,ERR006,MSG003 ; NO
5231 036344 012703 014256      036346 104456          ; YES, REPORT ERROR
5232 036348 012703 014256      036350 000044          TRAP C$ERRRD
5233 036352 012703 014256      036354 020202          .WORD 36
5234 036356 012703 014256      036358 017110          .WORD ERR006
5235 036360 012703 014256      ESCAPE TST          ; AND ABORT TEST          .WORD MSG003
5236 036362 012703 014256      036364 104410          TRAP C$ESCAPE
5237 036366 012703 014256      036368 000474          .WORD L10037 .
5238 036370 012703 014256      ;READ TOP 1K DOWNLINE LOAD WCS AND COMPARE DATA
5239 036372 012703 014256      804: MOV #MEM11A,R3      ; R3 POINTS TO WCS ADDRESS TABLE
5240 036374 012703 014256

```

Address	Hex	Dec	Hex	Dec	Assembly	Comments	Trap	Word	Label
5233					; SETUP RBUF FOR DATA COMPARE				
5234					1004: MOV R3,R5	; R5 POINTS TO ADDRESS			
5235	036420	010305			JSR PC,LDBUF	; LOAD TBUF WITH ADDRESS DATA PATTERN			
5236	036422	004737	026600		; CLEAR RBUF				
5237					MOV #RBUF,R4	; CLEAR RBUF			
5238	036426	012704	007104		MOV #1024.,R0				
5239	036432	012700	002000		1104: CLR (R4)+				
5240	036436	005024			SOS R0,1104				
5241	036440	077002			; DUMP INTERNAL WCS MEMORY INTO RBUF				
5242					MOV #CMPMEM,R5	; DEFAULT: DUMP INTERNAL MEMORY			
5243	036442	012705	013304		JSR PC,LDPCCB	; LOAD FUNCTION -> PCBB			
5244	036446	004737	026742		MOV #UDB11A,R5	; DEFAULT UDBB			
5245	036452	012705	014246		MOV #4,R0	; FOUR WORDS			
5246	036456	012700	000004		JSR PC,LUDBB	; LOAD INTO UDBB			
5247	036462	004737	027142		MOV #RBUF,UDBB+2	; LOAD RBUF ADDRESS -> UDBB+2			
5248	036466	012737	007104	002276	MOV (R3),UDBB+6	; LOAD WCS ADDRESS -> UDBB+6			
5249	036474	011337	002302		MOV #GETCMD,BPCSR0	; ISSUE GET COMMAND PORT COMMAND			
5250	036500	012777	000002	143520	JSR PC,CHKDNI	; DNI ?			
5251	036506	004737	024574		BCC 1204	; YES			
5252	036512	103006			ERRHRD 037.,ERR010,MSG003	; NO, REPORT ERROR			
5253	036514						TRAP		C\$ERRHRD
	036514	104456					.WORD		37
	036516	000045					.WORD		ERR010
	036520	020502					.WORD		MSG003
	036522	017110							
5254	036524				ESCAPE TST	; AND ABORT TEST			
	036524	104410					TRAP		C\$ESCAPE
	036526	000360					.WORD		L10037
5255									
5256	036530	004737	025546		1204: JSR PC,CLRDN1	; WRITE ONE TO CLEAR DNI			
5257						; ERROR ?			
5258	036534	103006			BCC 1304	; NO			
5259	036536				ERRHRD 038.,ERR006,MSG003	; YES, REPORT ERROR			
	036536	104456					TRAP		C\$ERRHRD
	036540	000046					.WORD		38
	036542	020202					.WORD		ERR006
	036544	017110					.WORD		MSG003
5260	036546				ESCAPE TST	; AND ABORT TEST			
	036546	104410					TRAP		C\$ESCAPE
	036550	000336					.WORD		L10037
5261									
5262					; COMPARE RBUF WITH TBUF				
5263									
5264	036552	012705	002000		1304: MOV #1024.,R5	; COMPARE 1024. WORDS OF DATA			
5265	036556	004737	026174		JSR PC,CMPMEM	; DATA COMPARE ERROR ?			
5266	036562	103006			BCC 1404	; NO			
5267	036564				ERRHRD 039.,ERR042,MSG007	; YES, REPORT ERROR			
	036564	104456					TRAP		C\$ERRHRD
	036566	000047					.WORD		39
	036570	023603					.WORD		ERR042
	036572	017520					.WORD		MSG007
5268	036574				ESCAPE TST	; AND ABORT TEST			
	036574	104410					TRAP		C\$ESCAPE
	036576	000310					.WORD		L10037
5269									
5270									

5272					WRITE TOP 1K DOWNLINE LOAD WCS WITH DATA - COMPLIMENT OF ADDRESS	
5273	036600	012703	014256	1404:	MOV @MEM11A,R3	R3 POINTS TO WCS ADDRESS TABLE
5274						
5275					WRITE RBUF WITH DATA - ADDRESS	
5276	036604	010305		1604:	MOV R3,R5	R5 POINTS TO ADDRESS
5277	036606	004737	026642		JSR PC,LDBUFC	LOAD TBUF WITH COMPLIMENTED DATA
5278					LOAD INTERNAL WCS MEMORY	
5279	036612	012705	013314		MOV @DMPMEM,R5	DEFAULT LOAD INTERNAL MEMORY
5280	036616	004737	026742		JSR PC,LDPCCB	LOAD FUNCTION -> PCBB
5281	036622	012705	014246		MOV @UDB11A,R5	DEFAULT UDBB
5282	036626	012700	000004		MOV #4,R0	FOUR WORDS
5283	036632	004737	027142		JSR PC,LDUDBB	LOAD INTO UDBB
5284	036636	012737	003104	002276	MOV @TBUF,UDBB+2	LOAD TBUF ADDRESS -> UDBB+2
5285	036644	011337	002302		MOV (R3),UDBB+6	LOAD WCS ADDRESS -> UDBB+6
5286	036650	012777	000002	143350	MOV @GETCMD,SPCSRO	ISSUE GET COMMAND PORT COMMAND
5287	036656	004737	024514		JSR PC,CHKDNI	DNI ?
5288	036662	103006			BCC 1704	YES
5289	036664				ERRHRD 040.,ERR010,MSG003	NO, REPORT ERROR
	036664	104456				TRAP C\$ERRHRD
	036666	000050				.WORD 40
	036670	020502				.WORD ERR010
	036672	017110				.WORD MSG003
5290	036674				ESCAPE TST	AND ABORT TEST
	036674	104410				TRAP C\$ESCAPE
	036676	000210				.WORD L10037
5291						
5292	036700	004737	025546	1704:	JSR PC,CLRDN1	WRITE ONE TO CLEAR DNI
5293						ERROR ?
5294	036704	103006			BCC 1804	NO
5295	036706				ERRHRD 041.,ERR006,MSG003	YES, REPORT ERROR
	036706	104456				TRAP C\$ERRHRD
	036710	000051				.WORD 41
	036712	020202				.WORD ERR006
	036714	017110				.WORD MSG003
5296	036716				ESCAPE TST	AND ABORT TEST
	036716	104410				TRAP C\$ESCAPE
	036720	000166				.WORD L10037
5297						
5298					READ TOP 1K DOWNLINE LOAD WCS AND COMPARE DATA	
5299	036722	012703	014256	1804:	MOV @MEM11A,R3	R3 POINTS TO WCS ADDRESS TABLE
5300						
5301					SETUP TBUF FOR DATA COMPARE	
5302	036726	010305		2004:	MOV R3,R5	R5 POINTS TO ADDRESS
5303	036730	004737	026642		JSR PC,LDBUFC	LOAD TBUF WITH COMPLIMENTED DATA
5304					CLEAR RBUF	
5305	036734	012704	007104		MOV @RBUF,R4	CLEAR RBUF
5306	036740	012700	002000		MOV #1024.,R0	
5307	036744	005024		2104:	CLR (R4).	
5308	036746	077002			SOS R0,2104	
5309					DUMP INTERNAL WCS MEMORY INTO RBUF	
5310	036750	012705	013304		MOV @DMPMEM,R5	DEFAULT DUMP INTERNAL MEMORY
5311	036754	004737	026742		JSR PC,LDPCCB	LOAD FUNCTION -> PCBB
5312	036760	012705	014246		MOV @UDB11A,R5	DEFAULT UDBB
5313	036764	012700	000004		MOV #4,R0	FOUR WORDS
5314	036770	004737	027142		JSR PC,LDUDBB	LOAD INTO UDBB
5315	036774	012737	007104	002276	MOV @RBUF,UDBB+2	LOAD RBUF ADDRESS -> UDBB+2
5316	037002	011337	002302		MOV (R3),UDBB+6	LOAD WCS ADDRESS -> UDBB+6

Address	Offset	Hex Data	Assembly	Comment	Trap Word	Trap Comment
5317	037006	012777	MOV	#GETCMD,SPCSRO		
5318	037014	004737	JSR	PC,CHKDNI		
5319	037020	103006	BCC	220:		
5320	037022		ERRHRD	042.,ERR010,MSG003		
	037022	104456			TRAP	C\$ERRHRD
	037024	000052			.WORD	42
	037026	020502			.WORD	ERR010
	037030	017110			.WORD	MSG003
5321	037032		ESCAPE	TST		
	037032	104410			TRAP	C\$ESCAPE
	037034	000052			.WORD	L10037
5322						
5323	037036	004737	JSR	PC,CLRDN1		
5324						
5325	037042	103006	BCC	230:		
5326	037044		ERRHRD	043.,ERR006,MSG003		
	037044	104456			TRAP	C\$ERRHRD
	037046	000053			.WORD	43
	037050	020202			.WORD	ERR006
	037052	017110			.WORD	MSG003
5327	037054		ESCAPE	TST		
	037054	104410			TRAP	C\$ESCAPE
	037056	000030			.WORD	L10037
5328						
5329						
5330						
5331	037060	012705	MOV	#1024.,R5		
5332	037064	004737	JSR	PC,CMPHEM		
5333	037070	103006	BCC	240:		
5334	037072		ERRHRD	044.,ERR042,MSG007		
	037072	104456			TRAP	C\$ERRHRD
	037074	000054			.WORD	44
	037076	023603			.WORD	ERR042
	037100	017520			.WORD	MSG007
5335	037102		ESCAPE	TST		
	037102	104410			TRAP	C\$ESCAPE
	037104	000002			.WORD	L10037
5336						
5337	037106					
5338	037106		ENDTST			
	037106					
	037106	104401				

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5340 .SBTTL TEST 12: READ/WRITE MODE FUNCTION TEST
5341
5342 ;*****
5343 ;
5344 ; THIS TEST VERIFIES THE READ/WRITE MODE FUNCTIONS.
5345 ;
5346 ; TEST SEQUENCE:
5347 ; 1. WRITE MODE REGISTER WITH ALL ONES
5348 ; 2. READ AND COMPARE MODE REGISTER
5349 ; 3. WRITE MODE REGISTER WITH ALL ZEROS
5350 ; 4. READ AND COMPARE MODE REGISTER
5351 ;*****
5352
5353
5354 BGNTST
5355 037110 004737 027446 JSR PC.TINIT ; T12:: IS A DEVICE RESET NEEDED?
5356 037110 103025 BCC 30$ ; NO
5357 037114 012777 000040 143102 MOV #RSET,SPCSR0 ; YES, RESET DEUNA
5358 037124 004737 024574 JSR PC.CHKDNI ; DNI ?
5359 037130 103006 BCC 20$ ; YES
5360 037132 104456 ERRHRD 045.,ERR004,MSG003 ; NO, REPORT ERROR
5361 037132 000055 TRAP C$ERHRD
5362 037134 020102 .WORD 45
5363 037136 017110 .WORD ERR004
5364 037140 017110 .WORD MSG003
5365 037142 104410 ESCAPE TST ; AND ABORT TEST
5366 037142 000506 TRAP C$ESCAPE
5367 037144 000506 .WORD L10040
5368
5369 037146 004737 025546 ; 20$: JSR PC.CLRDNI ; WRITE ONE TO CLEAR DNI
5370 037152 103006 BCC 30$ ; ERROR ?
5371 037154 104456 ERRHRD 046.,ERR006,MSG003 ; NO
5372 037156 000056 TRAP C$ERHRD
5373 037160 020202 .WORD 46
5374 037162 017110 .WORD ERR006
5375 037164 104410 ESCAPE TST ; AND ABORT TEST
5376 037166 000464 TRAP C$ESCAPE
5377 037170 004737 026772 ; 30$: JSR PC.LDPCSR ; ADDRESS OF PCBB -> PCSR2:3
5378 037174 012777 000001 143024 MOV #GETPCB,SPCSR0 ; ISSUE GET_PCBB PORT COMMAND
5379 037202 004737 024574 JSR PC.CHKDNI ; DNI?
5380 037206 103006 BCC 40$ ; YES
5381 037210 104456 ERRHRD 047.,ERR009,MSG003 ; NO, REPORT ERROR
5382 037212 000057 TRAP C$ERHRD
5383 037214 020416 .WORD 47
5384 037216 017110 .WORD ERR009
5385 037220 104410 ESCAPE TST ; AND ABORT TEST
5386 037222 000430 TRAP C$ESCAPE
5387 037224 004737 025546 ; 40$: JSR PC.CLRDNI ; WRITE ONE TO CLEAR DNI
5388 037226 000430 .WORD L10040
5389
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Address	Offset	Value	Label	Operation	Comment	Trap Word	Trap Value
5378	037230	103006		BCC	501		
5379	037232			ERRHRD	048.,ERR006,MSG003		
	037232	104456				TRAP	C1ERRHRD
	037234	000060				.WORD	48
	037236	020202				.WORD	ERR006
	037240	017110				.WORD	MSG003
5380	037242			ESCAPE	TST		
	037242	104410				TRAP	C1ESCAPE
	037244	000406				.WORD	L10040
5381							
5382							
5383	037246	012705	013244				
5384	037252	004737	026742				
5385	037256	012737	175015	002266			
5386	037264	012777	000002	142734			
5387	037272	004737	024574				
5388	037276	103006					
5389	037300						
	037300	104456				TRAP	C1ERRHRD
	037302	000061				.WORD	49
	037304	020502				.WORD	ERR010
	037306	017110				.WORD	MSG003
5390	037310						
	037310	104410				TRAP	C1ESCAPE
	037312	000340				.WORD	L10040-
5391							
5392	037314	004737	025546				
5393							
5394	037320	103006					
5395	037322						
	037322	104456				TRAP	C1ERRHRD
	037324	000062				.WORD	50
	037326	020202				.WORD	ERR006
	037330	017110				.WORD	MSG003
5396	037332						
	037332	104410				TRAP	C1ESCAPE
	037334	000316				.WORD	L10040
5397							
5398							
5399	037336	012705	013234				
5400	037342	004737	026742				
5401	037346	012777	000002	142652			
5402	037354	004737	024574				
5403	037360	103006					
5404	037362						
	037362	104456				TRAP	C1ERRHRD
	037364	000063				.WORD	51
	037366	020502				.WORD	ERR010
	037370	017110				.WORD	MSG003
5405	037372						
	037372	104410				TRAP	C1ESCAPE
	037374	000256				.WORD	L10040
5406							
5407	037376	004737	025546				
5408							
5409	037402	103006					
5410	037404						

037404	104456					TRAP	C1ERRRD
037406	000064					.WORD	52
037410	020202					.WORD	ERR006
037412	017110					.WORD	MSG003
5411 037414				ESCAPE	TST		: AND ABORT TEST
037414	104410					TRAP	C1ESCAPE
037416	000234					.WORD	L10040
5412							
5413 037420							
5414 03742C	012703	175015					
5415 037424	013704	002266					
5416 037430	020304						
5417 037432	001406						
5418 037434							
037434	104456					TRAP	C1ERRRD
037436	000065					.WORD	53
037440	020565					.WORD	ERR011
037442	017062					.WORD	MSG002
5419 037444				ESCAPE	TST		: AND ABORT TEST
037444	104410					TRAP	C1ESCAPE
037446	000204					.WORD	L10040
5420							
5421							
5422							
5423 037450	012705	013244					
5424 037454	004737	026742					
5425 037460	012737	000000	002266				
5426 037466	012777	000002	142532				
5427 037474	004737	024574					
5428 037500	103006						
5429 037502							
037502	104456					TRAP	C1ERRRD
037504	000066					.WORD	54
037506	020502					.WORD	ERR010
037510	017110					.WORD	MSG003
5430 037512				ESCAPE	TST		: AND ABORT TEST
037512	104410					TRAP	C1ESCAPE
037514	000136					.WORD	L10040
5431							
5432 037516	004737	025546					
5433							
5434 037522	103006						
5435 037524							
037524	104456					TRAP	C1ERRRD
037526	000067					.WORD	55
037530	020202					.WORD	ERR006
037532	017110					.WORD	MSG003
5436 037534				ESCAPE	TST		: AND ABORT TEST
037534	104410					TRAP	C1ESCAPE
037536	000114					.WORD	L10040
5437							
5438							
5439 037540	012705	013234					
5440 037544	004737	026742					
5441 037550	012777	000002	142450				
5442 037556	004737	024574					
5443 037562	103006						


```

5444 037564          ERRMRD 056.,ERR010,MSG003      ; NO, REPORT ERROR
      037564 104456
      037566 000070
      037570 020502
      037572 017110
5445 037574          ESCAPE TST                    ; AND ABORT TEST
      037574 104410
      037576 000054
5446
5447 037600 004737 025546      ; 1801: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
5448
5449 037604 103006          BCC      1901          ; ERROR ?
5450 037606          ERRMRD 057.,ERR006,MSG003      ; NO
      037606 104456
      037610 000071
      037612 020202
      037614 017110
5451 037616          ESCAPE TST                    ; AND ABORT TEST
      037616 104410
      037620 000032
5452
5453 037622          ; 1901:
5454 037622 012703 000000      MOV      @ZERO,R3      ; EXPECTED DATA -> R3
5455 037626 013704 002266      MOV      PCBB+2,R4      ; ACTUAL DATA -> R4
5456 037632 020304          CMP      R3,R4            ; MODE REGISTER = EXPECTED DATA ?
5457 037634 001406          BEQ      2001          ; YES
5458 037636          ERRMRD 05A.,ERR011,MSG002      ; NO, REPORT ERROR
      037636 104456
      037640 000072
      037642 020565
      037644 017062
5459 037646          ESCAPE TST                    ; AND ABORT TEST
      037646 104410
      037650 000002
5460
5461 037652          ; 2001:
5462 037652          ENDTST
      037652 104401
                                     L10040:
                                     TRAP      C$ETST

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TRAP      C$ERRMRD
.WORD     56
.WORD     ERR010
.WORD     MSG003

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```

TRAP      C$ESCAPE
.WORD     L10040

```

```

TRAP      C$ERRMRD
.WORD     57
.WORD     ERR006
.WORD     MSG003

```

```

TRAP      C$ESCAPE
.WORD     L10040

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TRAP      C$ERRMRD
.WORD     58
.WORD     ERR011
.WORD     MSG002

```

```

TRAP      C$ESCAPE
.WORD     L10040

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.SBTTL TEST 13: READ/WRITE LINK MEMORY TEST

THIS TEST READS AND WRITES THE INTERNAL LINK MEMORY.
THE DUMP/LOAD INTERNAL MEMORY FUNCTIONS ARE USED TO
READ/WRITE THE ENTIRE 16K LINK MEMORY.

TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK MODE
TO REMOVE LINK MEMORY FROM THE WIRE
2. LOAD TBUF WITH DATA = ADDRESS
3. LOAD 1K OF INTERNAL LINK MEMORY WITH TBUF
4. REPEAT STEPS 1 AND 2 FOR
EACH 1K BLOCK OF LINK MEMORY (16 TIMES)
5. RESETUP TBUF FOR DATA COMPARE
6. CLEAR RBUF
7. DUMP INTERNAL LINK 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

5489	037654			BGNTST				
	037654						T13::	
5490	037654	004737	027446	JSR	PC,TINIT	:	IS A DEVICE RESET NEEDED?	
5491	037660	103025		BCC	304	:	NO	
5492	037662	012777	000040	MOV	#RSET,BPCSR0	:	YES, RESET DEUNA	
5493	037670	004737	024574	JSR	PC,CHKDNI	:	DNI ?	
5494	037674	103006		BCC	204	:	YES	
5495	037676			ERRHRD	059.,ERR004,MSG003	:	NO, REPORT ERROR	
	037676	104456					TRAP	C\$ERRRD
	037700	000073					.WORD	59
	037702	020102					.WORD	ERR004
	037704	017110					.WORD	MSG003
5496	037706			ESCAPE	TST	:	AND ABORT TEST	
	037706	104410					TRAP	C\$ESCAPE
	037710	001150					.WORD	L10041
5497								
5498	037712	004737	025546	204:	JSR	PC,CLADNI	:	WRITE ONE TO CLEAR DNI
5499							:	ERROR ?
5500	037716	103006		BCC	304	:	NO	
5501	037720			ERRHRD	060.,ERR006,MSG003	:	YES, REPORT ERROR	
	037720	104456					TRAP	C\$ERRRD
	037722	000074					.WORD	60
	037724	020202					.WORD	ERR006
	037726	017110					.WORD	MSG003
5502	037730			ESCAPE	TST	:	AND ABORT TEST	
	037730	104410					TRAP	C\$ESCAPE
	037732	001126					.WORD	L10041
5503								
5504	037734	004737	026772	304:	JSR	PC,LDPCSR	:	ADDRESS OF PCBB -> PCSR2:3
5505	037740	012777	000001	MOV	#GETPCB,BPCSR0	:	ISSUE GET_PCBB PORT COMMAND	
5506	037746	004737	024574	JSR	PC,CHKDNI	:	DNI ?	
5507	037752	103006		BCC	404	:	YES	

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5508 037754          ERRHRD 061.,ERR009,MSG003      ; NO, REPORT ERROR
      037754 104456          TRAP C$ERRHRD
      037756 000075          .WORD 61
      037760 020416          .WORD ERR009
      037762 017110          .WORD MSG003
5509 037764          ESCAPE TST                    ; AND ABORT TEST
      037764 104410          TRAP C$ESCAPE
      037766 001072          .WORD L10041
5510
5511 037770 004737 025546 401: JSR PC,CLRDN1        ; WRITE ONE TO CLEAR DNI
5512                                     ; ERROR ?
5513 037774 103006          BCC 41:                 ; NO
5514 037776          ERRHRD 062.,ERR006,MSG003      ; YES, REPORT ERROR
      037776 104456          TRAP C$ERRHRD
      040000 000076          .WORD 62
      040002 020202          .WORD ERR006
      040004 017110          .WORD MSG003
5515 040006          ESCAPE TST                    ; AND ABORT TEST
      040006 104410          TRAP C$ESCAPE
      040010 001050          .WORD L10041
5516
5517 ;WRITE MODE REGISTER = INTERNAL LOOPBACK TO TURN OFF LINK MEMORY
5518
5519 040012 012705 013244 451: MOV @WTHMODE,R5      ; DEFAULT WRITE MODE FUNCTION
5520 040016 004737 026742 JSR PC,LDPCCB           ; LOAD FUNCTION -> PCBB
5521 040022 012777 000002 142176 MOV @GETCMD,BPCSR0 ; ISSUE GET_CMD PORT COMMAND
5522 040030 004737 024574 JSR PC,CHKDNI          ; DNI ?
5523 040034 103006          BCC 471:                ; YES
5524 040036          ERRHRD 063.,ERR010,MSG003      ; NO, REPORT ERROR
      040036 104456          TRAP C$ERRHRD
      040040 000077          .WORD 63
      040042 020502          .WORD ERR010
      040044 017110          .WORD MSG003
5525 040046          ESCAPE TST                    ; AND ABORT TEST
      040046 104410          TRAP C$ESCAPE
      040050 001010          .WORD L10041
5526
5527 040052 004737 025546 471: JSR PC,CLRDN1        ; WRITE ONE TO CLEAR DNI
5528                                     ; ERROR ?
5529 040056 103006          BCC 501:                ; NO
5530 040060          ERRHRD 064.,ERR006,MSG003      ; YES, REPORT ERROR
      040060 104456          TRAP C$ERRHRD
      040062 000100          .WORD 64
      040064 020202          .WORD ERR006
      040066 017110          .WORD MSG003
5531 040070          ESCAPE TST                    ; AND ABORT TEST
      040070 104410          TRAP C$ESCAPE
      040072 000766          .WORD L10041
5532
5533 ;WRITE 16K LINK MEMORY WITH DATA = ADDRESS BY 1K BLOCKS
5534 040074 012703 014260 501: MOV @MEM13A,R3      ; R3 POINTS TO LINK MEM ADDRESS TABLE
5535 040100 012701 000020 MOV @16.,R1             ; DO LOOP = 16
5536
5537 ;WRITE RBUF WITH DATA = ADDRESS
5538 040104 010305 601: MOV R3,R5                  ; R5 POINTS TO ADDRESS
5539 040106 004737 026600 JSR PC,LDBUF            ; LOAD TBUF WITH ADDRESS DATA PATTERN
5540

```

Address	Offset	PC	PCBB	UDBB	Link Memory	Comments	Trap	Link Memory
5541					LOAD INTERNAL LINK MEMORY			
5542	040112	012705	013314		MOV #LDMEM,R5	; DEFAULT LOAD INTERNAL MEMORY		
5543	040116	004737	026742		JSR PC,LDPCCB	; LOAD FUNCTION -> PCBB		
5544	040122	012705	014246		MOV #UDB11A,R5	; DEFAULT UDBB		
5545	040126	012700	000004		MOV #4,R0	; FOUR WORDS		
5546	040132	004737	027142		JSR PC,LDUDBB	; LOAD INTO UDBB		
5547	040136	012737	003104	002276	MOV #TBUF,UDBB*2	; LOAD TBUF ADDRESS -> UDBB*2		
5548	040144	012337	002302		MOV (R3)+,UDBB*6	; LOAD LINK ADDRESS -> UDBB*6		
5549								
5550	040150	022701	000001		CMP #1,R1	; IS THIS THE LAST 1K BLOCK ?		
5551	040154	001003			BNE 65:	; NO		
5552	040156	012737	003774	002274	MOV #3774,UDBB	; YES, ONLY WRITE 1022. WORDS		
5553								
5554	040164	012777	000002	142034	MOV #GETCMD,SPCSR0	; ISSUE GET COMMAND PORT COMMAND		
5555	040172	004737	024574		JSR PC,CHKDNI	; DNI ?		
5556	040176	103006			BCC 70:	; YES		
5557	040200				ERRHRD 065.,ERR010,MSG003	; NO, REPORT ERROR		
	040200	104456					TRAP	C\$ERRHRD
	040202	000101					.WORD	65
	040204	020502					.WORD	ERR010
	040206	017110					.WORD	MSG003
5558	040210				ESCAPE TST	; AND ABORT TEST		
	040210	104410					TRAP	C\$ESCAPE
	040212	000646					.WORD	L10041
5559								
5560	040214	004 37	025546		70: JSR PC,CLRDN1	; WRITE ONE TO CLEAR DNI		
5561						; ERROR ?		
5562	040220	103006			BCC 80:	; NO		
5563	040222				ERRHRD 066.,ERR006,MSG003	; YES, REPORT ERROR		
	040222	104456					TRAP	C\$ERRHRD
	040224	000102					.WORD	66
	040226	020202					.WORD	ERR006
	040230	017110					.WORD	MSG003
5564	040232				ESCAPE TST	; AND ABORT TEST		
	040232	104410					TRAP	C\$ESCAPE
	040234	000624					.WORD	L10041
5565	040236	005301			80: DEC R1	; DONE 16 WRITES ?		
5566	040240	001321			BNE 60:	; NO		
5567								
5568					READ 16K LINK MEMORY BY 1K BLOCKS AND COMPARE DATA			
5569	040242	012703	014260		MOV #MEM13A,R3	; R3 POINTS TO LINK MEM ADDRESS TABLE		
5570	040246	012701	000020		MOV #16.,R1	; DO LOOP = 16		
5571								
5572					SETUP TBUF FOR DATA COMPARE			
5573	040252	010305			100: MOV R3,R5	; R5 POINTS TO ADDRESS		
5574	040254	004737	026600		JSR PC,LDTBUF	; LOAD TBUF WITH ADDRESS DATA PATTERN		
5575								
5576					CLEAR RBUF			
5577	040260	012704	007104		MOV #RBUF,R4	; CLEAR RBUF		
5578	040264	012700	002000		MOV #1024.,R0			
5579	040270	005024						

5586	040310	012700	000004		MOV	#4,R0		; FOUR WORDS	
5587	040314	004737	027142		JSR	PC,LDUDBB		; LOAD INTO UDBB	
5588	040320	012737	007104	002276	MOV	#RBUF,UDBB*2		; LOAD RBUF ADDRESS > UDBB*2	
5589	040326	012337	002302		MOV	(R3),UDBB*6		; LOAD LINK ADDRESS > UDBB*6	
5590									
5591	040332	022701	000001		CMP	#1,R1		; IS THIS THE LAST 1K BLOCK ?	
5592	040336	001003			BNE	115:		; NO	
5593	040340	012737	003774	002274	MOV	#3774,UDBB		; YES, ONLY READ 1022. WORDS	
5594									
5595	040346	012777	000002	141652	MOV	#GETCMD,SPCSR0		; ISSUE GET COMMAND PORT COMMAND	
5596	040354	004737	024574		JSR	PC,CHKDNI		; DNI ?	
5597	040360	103006			BCC	120:		; YES	
5598	040362				ERRHRD	067.,ERR010,MSG003		; NO, REPORT ERROR	
	040362	104456						TRAP	C#ERRHRD
	040364	000103						.WORD	67
	040366	020502						.WORD	ERR010
	040370	017110						.WORD	MSG003
5599	040372				FSCAPE	TST		; AND ABORT TEST	
	040372	104410						TRAP	C#ESCAPE
	040374	000464						.WORD	L10041.
5600									
5601	040376	004737	C25546		JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI	
5602								; ERROR ?	
5603	040402	103006			BCC	130:		; NO	
5604	040404				ERRHRD	068.,ERR006,MSG003		; YES, REPORT ERROR	
	040404	104456						TRAP	C#ERRHRD
	040406	000104						.WORD	68
	040410	020202						.WORD	ERR006
	040412	017110						.WORD	MSG003
5605	040414				ESCAPE	TST		; AND ABORT TEST	
	040414	104410						TRAP	C#ESCAPE
	040416	000442						.WORD	L10041.
5606									
5607									
5608									
5609	040420	022701	000001		CMP	#1,R1		; IS THIS THE LAST 1K BLOCK ?	
5610	040424	001003			BNE	135:		; NO	
5611	040426	012705	001776		MOV	#1022.,R5		; YES, ONLY COMPARE 1022. WORDS	
5612	040432	000402			BR	136:			
5613									
5614	040434	012705	002000		MOV	#1024.,R5		; COMPARE 1024. WORDS OF DATA	
5615	040440	004737	026174		JSR	PC,CMPTHEM		; DATA COMPARE ERROR ?	
5616	040444	103006			BCC	140:		; NO	
5617	040446				ERRHRD	069.,ERR043,MSG007		; YES, REPORT ERROR	
	040446	104456						TRAP	C#ERRHRD
	040450	000105						.WORD	69
	040452	023644						.WORD	ERR043
	040454	017520						.WORD	MSG007
5618	040456				ESCAPE	TST		; AND ABORT TEST	
	040456	104410						TRAP	C#ESCAPE
	040460	000400						.WORD	L10041.
5619									
5620	040462	005301			DEC	R1		; DONE 16 READS ?	
5621	040464	001272			BNE	100:			
5622									
5623									
5624									

; REPEAT TEST WITH COMPLEMENTED DATA PATTERN

```

5625 ;WRITE 16K LINK MEMORY WITH DATA - COMPLIMENT OF ADDRESS BY 1K BLOCKS
5626 040466 012703 014260      MOV    #MEM13A,R3      ; R3 POINTS TO LINK MEM ADDRESS TABLE
5627 040472 012701 000020      MOV    #16.,R1      ; DO LOOP = 16
5628
5629 ;WRITE RBUF WITH DATA - ADDRESS
5630 040476 010305              1604:  MOV    R3,R5      ; R5 POINTS TO ADDRESS
5631 040500 004737 026642      JSR     PC,LDBUFC      ; LOAD TBUF WITH COMPLIMENTED DATA
5632
5633 ;LOAD INTERNAL LINK MEMORY
5634 040504 012705 013314      MOV    #LDMEM,R5      ; DEFAULT LOAD INTERNAL MEMORY
5635 040510 004737 026742      JSR     PC,LDPCCB      ; LOAD FUNCTION -> PCBB
5636 040514 012705 014246      MOV    #UD811A,R5      ; DEFAULT UDBB
5637 040520 012700 000004      MOV    #4,R0      ; FOUR WORDS
5638 040524 004737 027142      JSR     PC,LDUDBB      ; LOAD INTO UDBB
5639 040530 012737 003104 002276  MOV    #TBUF,UDBB+2      ; LOAD TBUF ADDRESS -> UDBB+2
5640 040536 012337 002302      MOV    (R3)+,UDBB+6      ; LOAD LINK ADDRESS -> UDBB+6
5641
5642 040542 022701 000001      CMP     #1,R1      ; IS THIS THE LAST 1K BLOCK ?
5643 040546 001003              BNE     1654      ; NO
5644 040550 012737 003774 002274  MOV    #3774,UDBB      ; YES, ONLY WRITE 1022. WORDS
5645
5646 040556 012777 000002 141442 1654:  MOV    #GETCMD,BPCSR0      ; ISSUE GET COMMAND PORT COMMAND
5647 040564 004737 024574      JSR     PC,CHKDNI      ; DNI ?
5648 040570 103006              BCC     1704      ; YES
5649 040572              ERHRD    070.,ERR010,MSG003      ; NO, REPORT ERROR
5650 040572 104456              TRAP    C$ERHRD
5650 040574 000106              .WORD   70
5650 040576 020502              .WORD   ERR010
5650 040600 017110              .WORD   MSG003
5650 040602              ESCAPE  TST      ; AND ABORT TEST
5650 040602 104410              TRAP    C$ESCAPE
5650 040604 000254              .WORD   L10041
5651
5652 040606 004737 025546      1704:  JSR     PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
5653
5654 040612 103006              BCC     1804      ; ERROR ?
5655 040614              ERHRD    071.,ERR006,MSG003      ; NO
5655 040614 104456              TRAP    C$ERHRD
5655 040616 000107              .WORD   71
5655 040620 020202              .WORD   ERR006
5655 040622 017110              .WORD   MSG003
5656 040624              ESCAPE  TST      ; AND ABORT TEST
5656 040624 104410              TRAP    C$ESCAPE
5656 040626 000232              .WORD   L10041
5657 040630 005301      1804:  DEC     R1      ; DONE 16 WRITES ?
5658 040632 001321              BNE     1604      ; NO
5659
5660 ;READ 16K LINK MEMORY BY 1K BLOCKS AND COMPARE DATA
5661 040634 012703 014260      MOV    #MEM13A,R3      ; R3 POINTS TO LINK MEM ADDRESS TABLE
5662 040640 012701 000020      MOV    #16.,R1      ; DO LOOP = 16
5663
5664 ;SETUP TBUF FOR DATA COMPARE
5665 040644 010305      2004:  MOV    R3,R5      ; R5 POINTS TO ADDRESS
5666 040646 004737 026642      JSR     PC,LDBUFC      ; LOAD TBUF WITH COMPLIMENTED DATA
5667
5668 ;CLEAR RBUF
5669 040652 012704 007104      MOV    #RBUF,R4      ; CLEAR RBUF

```


5670	040656	012700	002000		MOV	#1024.,R0			
5671	040662	005024		2104:	CLR	(R4).			
5672	040664	077002			S0B	R0,2104			
5673									
5674					:				
5675	040666	012705	013304		:	DUMP INTERNAL LINK MEMORY INTO RBUF			
5676	040672	004737	026742		MOV	#DMPHEM,R5			: DEFAULT DUMP INTERNAL MEMORY
5677	040676	012705	014246		JSR	PC,LDP0B8			: LOAD FUNCTION -> PC0B8
5678	040702	012700	000004		MOV	#UD011A,R5			: DEFAULT UD0B
5679	040706	004737	027142		MOV	#4,R0			: FOUR WORDS
5680	040712	012737	007104	002276	JSR	PC,LDUD0B8			: LOAD INTO UD0B
5681	040720	012337	002302		MOV	#RBUF,UD0B+2			: LOAD RBUF ADDRESS -> UD0B+2
5682					MOV	(R3)+,UD0B+6			: LOAD LINK ADDRESS -> UD0B+6
5683	040724	022701	000001		:				
5684	040730	001003			CMP	#1,R1			: IS THIS THE LAST 1K BLOCK ?
5685	040732	012737	003774	002274	BNE	2154			: NO
5686					MOV	#3774,UD0B			: YES, ONLY READ 1022. WORDS
5687	040740	012777	000002	141260	:				
5688	040746	004737	024574		2154:	MOV	#GETCMD,#PCSR0		: ISSUE GET COMMAND PORT COMMAND
5689	040752	103006			JSR	PC,CHKDNI			: DNI ?
5690	040754				BCC	2204			: YES
	040754	104456			ERRHRD	072.,ERR010,MSG003			: NO, REPORT ERROR
	040756	000110						TRAP	C#ERRHRD
	040760	020502						.WORD	72
	040762	017110						.WORD	ERR010
5691	040764				ESCAPE	TST		.WORD	MSG003
	040764	104410							
	040766	000072						TRAP	C#ESCAPE
5692								.WORD	L10041 .
5693	040770	004737	025546		:				
5694					2204:	JSR	PC,CLR0DNI		: WRITE ONE TO CLEAR DNI
5695	040774	103006							: ERROR ?
5696	040776				BCC	2304			: NO
	040776	104456			ERRHRD	073.,ERR006,MSG003			: YES, REPORT ERROR
	041000	000111						TRAP	C#ERRHRD
	041002	020202						.WORD	73
	041004	017110						.WORD	ERR006
5697	041006				ESCAPE	TST		.WORD	MSG003
	041006	104410							
	041010	000050						TRAP	C#ESCAPE
5698								.WORD	L10041 .
5699					:				
5700					:	COMPARE RBUF WITH TBUF			
5701	041012	022701	000001		2304:	CMP	#1,R1		: IS THIS THE LAST 1K BLOCK ?
5702	041016	001003			BNE	2354			: NO
5703	041020	012705	001776		MOV	#1022.,R5			: YES, ONLY COMPARE 1022. WORDS
5704	041024	000402			BR	2364			
5705					:				
5706	041026	012775	002000		2354:	MOV	#1024.,R5		: COMPARE 1024. WORDS OF DATA
5707	041032	004737	026174		2364:	JSR	PC,CMPHEM		: DATA COMPARE ERROR ?
5708	041036	103006			BCC	2404			: NO
5709	041040				ERRHRD	074.,ERR043,MSG007			: YES, REPORT ERROR
	041040	104456						TRAP	C#ERRHRD
	041042	000112						.WORD	74
	041044	023644						.WORD	ERR043
	041046	017520						.WORD	MSG007
5710	041050				ESCAPE	TST			: AND ABORT TEST

TRAP CUESCAPE
.WORD L10041.

```

:
240$: DEC      R1
      BNE      200$
:
      ENDTST

```

; DONE 16 READS ?

L10041: TPAP C8ETST

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041062 104402
041064 004737 027446
041070 103025
041072 012777 000040 141126
041100 004737 024574
041104 103006
041106 104456
041110 000113
041112 020102
041114 017110
041116 104410
041120 001714
041122 004737 025546
041126 103006
041130 104456
041132 000114
041134 020202
041136 017110
041140 104410

.SBTTL TEST 14: INTERNAL LOOPBACK TEST

```

*****
THIS TEST HAS TWO PARTS: SUBTEST #1 AND SUBTEST #2
SUBTEST #1 VERIFIES THAT AN INTERNAL LOOPBACK OPERATION
CAN BE PERFORMED SUCCESSFULLY.
SUBTEST #2 VERIFIES THAT THE HEARTBEAT CIRCUITRY IS OPERATING CORRECTLY

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
8. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM MODE, ENABLE
   COLLISION TEST CIRCUITRY
9. SET UP RINGS AND BUFFERS
10. ISSUE START
11. ISSUE STOP
12. ISSUE READ PORT STATUS
13. VERIFY 'CERR' BIT SET IN PORT CONTROL WORD 2
*****

```

BGNTST

BGNSUB :#1

T14::

T14.1:

TRAP C\$BSUB

```

JSR PC.TINIT ; IS A DEVICE RESET NEEDED?
BCC 304 ; NO
MOV #RSET,BPCSR0 ; YES, RESET DEUNA
JSR PC.CHKDNI ; DNI ?
BCC 204 ; YES
ERRHRD 075.,ERR004,MSG003 ; NO, REPORT ERROR

```

TRAP C\$ERRRD
.WORD 75
.WORD ERR004
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L10042

```

; 204: JSR PC.CLRDNI ; WRITE ONE TO CLEAR DNI
; ERROR ?
BCC 304 ; NO
ERRHRD 076.,ERR006,MSG003 ; YES, REPORT ERROR

```

TRAP C\$ERRRD
.WORD 76
.WORD ERR006
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE

[illegible]

```

5792 041314 012705 013324      MOV    #RFRMT,R5      ; DEFAULT RING FORMAT
5793 041320 012700 000006      MOV    #6,R0        ; FORMAT = SIX WORDS
5794 041324 004737 027142      JSR     PC,LDUDBB      ; LOAD RING FORMAT -> UDBB
5795 041330 012777 000002      MOV    #GETCMD,#PCSR0    ; ISSUE GET_CMD PORT COMMAND
5796 041336 004737 024574      JSR     PC,CHKDNI      ; DNI ?
5797 041342 103006              BCC     80$          ; YES
5798 041344              ERRHRD 081.,ERR010,MSG003    ; NO, REPORT ERROR
      041344 104456              TRAP    C$ERHRD
      041346 000121              .WORD   81
      041350 020502              .WORD   ERR010
      041352 017110              .WORD   MSG003
5799 041354              ESCAPE  TST      ; AND ABORT TEST
      041354 104410              TRAP    C$ESCAPE
      041356 001456              .WORD   L10042
5800              ;
5801 041360 004737 025546      ; 80$: JSR     PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
5802              ; ERROR ?
5803 041364 103006              BCC     90$          ; NO
5804 041366              ERRHRD 082.,ERR006,MSG003    ; YES, REPORT ERROR
      041366 104456              TRAP    C$ERHRD
      041370 000122              .WORD   82
      041372 020202              .WORD   ERR006
      041374 017110              .WORD   MSG003
5805 041376              ESCAPE  TST      ; AND ABORT TEST
      041376 104410              TRAP    C$ESCAPE
      041400 001434              .WORD   L10042
5806              ;
5807              ;WRITE PHYSICAL ADDRESS
5808 041402 012705 013144      ; 90$: MOV    #WTPHYA,R5    ; DEFAULT WRITE PHYSICAL ADDR FUNC
5809 041406 004737 026742      JSR     PC,LDPCCB      ; LOAD FUNCTION -> PCBB
5810 041412 012777 000002      MOV    #GETCMD,#PCSR0    ; ISSUE GET_CMD PORT COMMAND
5811 041420 004737 024574      JSR     PC,CHKDNI      ; DNI ?
5812 041424 103006              BCC     100$         ; YES
5813 041426              ERRHRD 083.,ERR010,MSG003    ; NO, REPORT ERROR
      041426 104456              TRAP    C$ERHRD
      041430 000123              .WORD   83
      041432 020502              .WORD   ERR010
      041434 017110              .WORD   MSG003
5814 041436              ESCAPE  TST      ; AND ABORT TEST
      041436 104410              TRAP    C$ESCAPE
      041440 001374              .WORD   L10042
5815              ;
5816 041442 004737 025546      ; 100$: JSR     PC,CLRDN1    ; WRITE ONE TO CLEAR DNI
5817              ; ERROR ?
5818 041446 103006              BCC     110$         ; NO
5819 041450              ERRHRD 084.,ERR006,MSG003    ; YES, REPORT ERROR
      041450 104456              TRAP    C$ERHRD
      041452 000124              .WORD   84
      041454 020202              .WORD   ERR006
      041456 017110              .WORD   MSG003
5820 041460              ESCAPE  TST      ; AND ABORT TEST
      041460 104410              TRAP    C$ESCAPE
      041462 001352              .WORD   L10042
5821              ;
5822              ;SET UP RINGS FOR ONE BUFFER LOOPBACK
5823 041464 012705 013554      ; 110$: MOV    #TDRB1A,R5    ; DEFAULT ONE BUFFER TRANSMIT RING
5824 041470 004737 027046      JSR     PC,LDTDRB      ; LOAD TDRB

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5825	041474	012705	013354	MOV	#RDRB1A,R5	:	DEFAULT ONE BUFFER RECEIVE RING		
5826	041500	004737	027010	JSR	PC,LDRDRB	:	LOAD RDRB		
5827									
5828				:	SET UP BUFFERS AND START				
5829	041504	012705	002266	MOV	#PCBB+2,R5	:	POINT TO DESTINATION ADDRESS		
5830	041510	004737	026714	JSR	PC,LDDDEST	:	LOAD DEST		
5831	041514	004737	027342	JSR	PC,SETBUF	:	SET UP BUFFERS		
5832	041520	012777	000004	MOV	#START,#PCSR0	:	ISSUE START PORT COMMAND		
5833	041526	004737	024574	JSR	PC,CHKDNI	:	DNI?		
5834	041532	103006		BCC	1204	:	YES		
5835	041534			ERRHRD	085.,ERR012,MSG003	:	NO, REPORT ERROR		
	041534	104456						TRAP	C#ERRHRD
	041536	000125						.WORD	85
	041540	020633						.WORD	ERR012
	041542	017110						.WORD	MSG003
5836	041544			ESCAPE	TST	:	AND ABORT TEST		
	041544	104410						TRAP	C#ESCAPE
	041546	001266						.WORD	L10042.
5837				:					
5838	041550	004737	025546	1204:	JSR	PC,CLRDN1	:	WRITE ONE TO CLEAR DNI	
5839							:	ERROR ?	
5840	041554	103006		BCC	1304	:	NO		
5841	041556			ERRHRD	086.,ERR006,MSG003	:	YES, REPORT ERROR		
	041556	104456						TRAP	C#ERRHRD
	041560	000126						.WORD	86
	041562	020202						.WORD	ERR006
	041564	017110						.WORD	MSG003
5842	041566			ESCAPE	TST	:	AND ABORT TEST		
	041566	104410						TRAP	C#ESCAPE
	041570	001244						.WORD	L10042.
5843				:					
5844	041572	004737	025404	1304:	JSR	PC,CHKTXI	:	TXI ?	
5845	041576	103006		BCC	1404	:	YES		
5846	041600			ERRHRD	087.,ERR013,MSG003	:	NO, REPORT ERROR		
	041600	104456						TRAP	C#ERRHRD
	041602	000127						.WORD	87
	041604	020714						.WORD	ERR013
	041606	017110						.WORD	MSG003
5847	041610			ESCAPE	TST	:	AND ABORT TEST		
	041610	104410						TRAP	C#ESCAPE
	041612	001222						.WORD	L10042.
5848				:					
5849	041614	004737	025730	1404:	JSR	PC,CLRTXI	:	WRITE ONE TO CLEAR TXI	
5850							:	ERROR ?	
5851	041620	103006		BCC	1504	:	NO		
5852	041622			ERRHRD	088.,ERR014,MSG003	:	YES, REPORT ERROR		
	041622	104456						TRAP	C#ERRHRD
	041624	000130						.WORD	88
	041626	020745						.WORD	ERR014
	041630	017110						.WORD	MSG003
5853	041632			ESCAPE	TST	:	AND ABORT TEST		
	041632	104410						TRAP	C#ESCAPE
	041634	001200						.WORD	L10042.
5854				:					
5855	041636	012705	002604	1504:	MOV	#TDRB,R5	:	CHECK TDRB OWNERSHIP	
5856	041642	004737	024676		JSR	PC,CHKOWN	:	OWN = PORT DRIVER ?	
5857	041646	103006		BCC	1604	:	YES		

5858	041650			ERRHRD	089.,ERR018	:	NO, REPORT ERROR	TRAP	C1ERRHRD
	041650	104456						.WORD	89
	041652	000131						.WORD	ERR018
	041654	021212						.WORD	0
	041656	000000							
5859	041660			ESCAPE	TST	:	AND ABORT TEST	TRAP	C1ESCAPE
	041660	104410						.WORD	L10042
	041662	001152							
5860									
5861	041664	012705	014524	1601:	MOV	#TDR14A,R5	:	POINT TO EXPECTED TDRB	
5862	041670	004737	027252		JSR	PC,L0XTDR	:	LOAD INTO XTDRB0 TABLE	
5863	041674	012705	002604		MOV	#TDRB,R5	:	CHECK TDRB	
5864	041700	004737	025316		JSR	PC,CHKTDR	:	ERRORS ?	
5865	041704	103006			BCC	1701	:	NO	
5866	041706				ERRHRD	090.,ERR020,MSG005	:	YES, REPORT ERROR	
	041706	104456						TRAP	C1ERRHRD
	041710	000132						.WORD	90
	041712	021372						.WORD	ERR020
	041714	017214						.WORD	MSG005
5867	041716			ESCAPE	TST	:	AND ABORT TEST	TRAP	C1ESCAPE
	041716	104410						.WORD	L10042
	041720	001114							
5868									
5869	041722	004737	025132	1701:	JSR	PC,CHKRXI	:	RXI ?	
5870	041726	103006			BCC	1801	:	YES	
5871	041730				ERRHRD	091.,ERR015,MSG003	:	NO, REPORT ERROR	
	041730	104456						TRAP	C1ERRHRD
	041732	000133						.WORD	91
	041734	021013						.WORD	ERR015
	041736	017110						.WORD	MSG003
5872	041740			ESCAPE	TST	:	AND ABORT TEST	TRAP	C1ESCAPE
	041740	104410						.WORD	L10042
	041742	001072							
5873									
5874	041744	004737	025662	1801:	JSR	PC,CLARXI	:	WRITE ONE TO CLEAR RXI	
5875									
5876	041750	103006			BCC	1901	:	ERROR ?	
5877	041752				ERRHRD	092.,ERR016,MSG003	:	NO	
	041752	104456						YES, REPORT ERROR	
	041754	000134						TRAP	C1ERRHRD
	041756	021044						.WORD	92
	041760	017110						.WORD	ERR016
5878	041762			ESCAPE	TST	:	AND ABORT TEST	.WORD	MSG003
	041762	104410						TRAP	C1ESCAPE
	041764	001050						.WORD	L10042
5879									
5880	041766	012705	002644	1901:	MOV	#RDRB,R5	:	CHECK RDRB OWNERSHIP	
5881	041772	004737	024676		JSR	PC,CHKOWN	:	OWN = PORT DRIVER ?	
5882	041776	103006			BCC	2001	:	YES	
5883	042000				ERRHRD	093.,ERR017	:	NO, REPORT ERROR	
	042000	104456						TRAP	C1ERRHRD
	042002	000135						.WORD	93
	042004	021112						.WORD	ERR017
	042006	000000						.WORD	0
5884	042010			ESCAPE	TST	:	AND ABORT TEST	TRAP	C1ESCAPE
	042010	104410						.WORD	L10042
	042012	001022							

Address	Offset	Hex	Label	Operation	Comment	Trap	Word	Message
5885	042014	012705	014634					
5886	042020	004737	027222					
5888	042024	012705	002644					
5889	042030	004737	025032					
5890	042034	103006						
5891	042036							
	042036	104456				TRAP		C1ERRRD
	042040	000136				.WORD		94
	042042	021453				.WORD		ERR021
	042044	017356				.WORD		MSG006
5892	042046			ESCAPE TST	; AND ABORT TEST			
	042046	104410				TRAP		C1ESCAPE
	042050	000764				.WORD		L10042
5893								
5894								
5895	042052	012705	000070					
5896	042056	004737	026044					
5897	042062	103005						
5898	042064							
	042064	104456				TRAP		C1ERRRD
	042066	000137				.WORD		95
	042070	021534				.WORD		ERR022
	042072	017520				.WORD		MSG007
5899	042074			ESCAPE TST	; AND ABORT TEST			
	042074	104410				TRAP		C1ESCAPE
	042076	000736				.WORD		L10042
5900								
5901	042100	012705	014724					
5902	042104	004737	027176					
5903	042110	012705	007300					
5904	042114	004737	026124					
5905	042120	103006						
5906	042122							
	042122	104456				TRAP		C1ERRRD
	042124	000140				.WORD		96
	042126	021603				.WORD		ERR023
	042130	017552				.WORD		MSG008
5907	042132			ESCAPE TST	; AND ABORT TEST			
	042132	104410				TRAP		C1ESCAPE
	042134	000700				.WORD		L10042
5908								
5909	042136	012777	000017					
5910	042144	004737	024574					
5911	042150	103006						
5912	042152							
	042152	104456				TRAP		C1ERRRD
	042154	000141				.WORD		97
	042156	021312				.WORD		ERR019
	042160	017110				.WORD		MSG003
5913	042162			ESCAPE TST	; AND ABORT TEST			
	042162	104410				TRAP		C1ESCAPE
	042164	000650				.WORD		L10042
5914								
5915	042166	004737	025546					
5916								
5917	042172	103006						


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5918 042174      ERRHRD 098.,ERR006,MSG003      ; YES, REPORT ERROR
      042174      104456
      042176      000142
      042200      020202
      042202      017110
5919 042204      ESCAPE TST                      ; AND ABORT TEST
      042204      104410
      042206      000626
      2504:
5920 042210      ENDSUB ;#1
5921 042210
      042210
      042210      104403
5922 042212      BGNSUB ;#2
      042212
      042212      104402
5923
5924
5925
5926 042214      004737 027446
5927 042220      103054
5928 042222      012777 000040 137776
5929 042230      004737 024574
5930 042234      103006
5931 042236      ERRHRD 099.,ERR004,MSG003      ; IS A DEVICE RESET NEEDED?
      042236      104456
      042240      000143
      042242      020102
      042244      017110
5932 042246      ESCAPE TST                      ; ABORT TEST
      042246      104410
      042250      000564
5933
5934 042252      004737 025546
5935 042256      103006
5936 042260
      042260      104456
      042262      000144
      042264      020202
      042266      017110
5937 042270      ESCAPE TST                      ; ABORT TEST
      042270      104410
      042272      000542
5938
5939 042274      004737 026772
5940 042300      012777 000001 137720
5941 042306      004737 024574
5942 042312      103006
5943 042314
      042314      104456
      042316      001115
      042320      020416
      042322      017110
5944 042324      ESCAPE TST                      ; AND ABORT TEST
      042324      104410
      042326      000506
5945
5946 042330      004737 025546
      2534: JSR      PC,CLRDN1                      ; GO CLEAR DNI

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5947	042334	103006		BCC	255:		;OK		;RSJ003
5948	042336			ERRHRD	590.	ERR006,MSG003	;ERROR TRYING TO CLEAR DNI		;RSJ003
	042336	104456						TRAP	C1ERRHRD
	042340	001116						WORD	590
	042342	020202						WORD	ERR006
	042344	0171'0						WORD	MSG003
5949	042346			ESCAPE	TST		;ABORT TEST		;RSJ003
	042346	104410						TRAP	C1ESCAPE
	042350	000464						WORD	L10042
5950									
5951									
5952	042352	012705	013254		255:	MOV	; POINT TO WRITE MODE FUNCTION		
5953	042356	004737	026742			JSR	; LOAD FUNCTION -> PCBB		
5954	042362	012777	000002	137636		MOV	; ISSUE GET_CMD PORT COMMAND		
5955	042370	004737	024574			JSR	; DNI ?		
5956	042374	103006				BCC	; YES		
5957	042376					ERRHRD	; NO, REPORT ERROR		
	042376	104456						TRAP	C1ERRHRD
	042400	000145						WORD	101
	042402	020502						WORD	ERR010
	042404	017110						WORD	MSG003
5958	042406				ESCAPE	TST	; AND ABORT TEST		
	042406	104410						TRAP	C1ESCAPE
	042410	000424						WORD	L10042
5959									
5960	042412	004737	025546		260:	JSR	; WRITE ONE TO CLEAR DNI		
5961							; ERROR ?		
5962	042416	103006				BCC	; NO		
5963	042420					ERRHRD	; YES, REPORT ERROR		
	042420	104456						TRAP	C1ERRHRD
	042422	000146						WORD	102
	042424	020202						WORD	ERR006
	042426	017110						WORD	MSG003
5964	042430				ESCAPE	TST	; AND ABORT TEST		
	042430	104410						TRAP	C1ESCAPE
	042432	000402						WORD	L10042
5965									
5966									
5967									
5968	042434	012705	013554		270:	MOV	; DEFAULT ONE BUFFER TRANSMIT RING		
5969	042440	004737	027046			JSR	; LOAD TDRB		
5970	042444	012705	013354			MOV	; DEFAULT ONE BUFFER RECEIVE RING		
5971	042450	004737	027010			JSR	; LOAD RDRB		
5972									
5973									
5974									
5975	042454	012705	002266			MOV	; POINT TO DESTINATION ADDRESS		
5976	042460	004737	026714			JSR	; LOAD DEST		
5977	042464	004737	027342			JSR	; SET UP BUFFERS		
5978	042470	012777	000004	137530		MOV	; ISSUE START PORT COMMAND		
5979	042476	004737	024574			JSR	; DNI?		
5980	042502	103006				BCC	; YES		
5981	042504					ERRHRD	; NO, REPORT ERROR		
	042504	104456						TRAP	C1ERRHRD
	042506	000147						WORD	103
	042510	020633						WORD	ERR012
	042512	017110						WORD	MSG003

5982	042514			ESCAPE	TST		AND ABORT TEST		
	042514	104410						TRAP	C\$ESCAPE
	042516	000316						.WORD	L10042 .
5983									
5984	042520	004737	025546	280:	JSR	PC,CLRDNI			
5985									
5986	042524	103006			BCC	290:			
5987	042526				ERRHRD	104.,ERR006,MSG003			
	042526	104456						TRAP	C\$ERRHRD
	042530	000150						.WORD	104
	042532	020202						.WORD	ERR006
	042534	017110						.WORD	MSG003
5988	042536				ESCAPE	TST			
	042536	104410						TRAP	C\$ESCAPE
	042540	000274						.WORD	L10042 .
5989									
5990	042542	004737	025404	290:	JSR	PC,CHKTXI			
5991	042546	103006			BCC	300:			
5992	042550				ERRHRD	105.,ERR013,MSG003			
	042550	104456						TRAP	C\$ERRHRD
	042552	000151						.WORD	105
	042554	020714						.WORD	ERR013
	042556	017110						.WORD	MSG003
5993	042560				ESCAPE	TST			
	042560	104410						TRAP	C\$ESCAPE
	042562	000252						.WORD	L10042 .
5994									
5995	042564	004737	025730	300:	JSR	PC,CLRTXI			
5996									
5997	042570	103006			BCC	310:			
5998	042572				ERRHRD	106.,ERR014,MSG003			
	042572	104456						TRAP	C\$ERRHRD
	042574	000152						.WORD	106
	042576	020745						.WORD	ERR014
	042600	017110						.WORD	MSG003
5999	042602				ESCAPE	TST			
	042602	104410						TRAP	C\$ESCAPE
	042604	000230						.WORD	L10042 .
6000									
6001	042606	004737	02513:	310:	JSR	PC,CHKRXI			
6002	042612	103006			BCC	320:			
6003	042614				ERRHRD	107.,ERR015,MSG003			
	042614	104456						TRAP	C\$ERRHRD
	042616	000153						.WORD	107
	042620	021013						.WORD	ERR015
	042622	017110						.WORD	MSG003
6004	042624				ESCAPE	TST			
	042624	104410						TRAP	C\$ESCAPE
	042626	000206						.WORD	L10042 .
6005									
6006	042630	004737	025662	320:	JSR	PC,CLRRXI			
6007									
6008	042634	103006			BCC	330:			
6009	042636				ERRHRD	108.,ERR016,MSG003			
	042636	104456						TRAP	C\$ERRHRD
	042640	000154						.WORD	108
	042642	021044						.WORD	ERR016

Address	Offset	Hex	Label	Comment	Symbol	Value	Text	Symbol	Value
6010	042644	017110					ESCAPE TST		AND ABOR TEST
	042646								TRAP
	042646	104410							WORD
	042650	000164							WORD
6011									
6012	042652	004737	025506		3304:	JSP	PC,CHKSER		SERI?
6013	042656	103005				BCC	3404		YES
6014	042660					ERRHRD	109.,ERR048.,MSG003		NO, REPORT NO SERI BIT SET!
	042660	104456							TRAP
	042662	000155							WORD
	042664	024252							WORD
	042666	017110							WORD
6015	042670	000411				BR	3504		GO READ PORT STATUS
6016	042672	004737	025776		3404:	JSR	PC,CLR SER		WRITE ONE TO CLEAR SERI BIT
6017									ERROR?
6018	042676	103006				BCC	3504		NO
6019	042700					ERRHRD	110.,ERR049.,MSG003		YES, REPORT SERI BIT DID NOT CLEAR
	042700	104456							TRAP
	042702	000156							WORD
	042704	024304							WORD
	042706	017110							WORD
6020	042710					ESCAPE	TST		ABORT TEST
	042710	104410							TRAP
	042712	000122							WORD
6021									
6022	042714	012705	013264		3504:	MOV	#R0STA,R5		READ PORT STATUS FUNCTION
6023	042720	004737	026742			JSR	PC,LDP CBB		LOAD FUNCTION INTO PCBB
6024	042724	012777	000002	137274		MOV	#GETCMD,BPCSR0		ISSUE GET COMMAND PORT COMMAND
6025	042732	004737	024574			JSR	PC,CHKDNI		DNI?
6026	042736	103006				BCC	3604		YES
6027	042740					ERRHRD	111.,ERR010,MSG003		NO, REPORT ERROR
	042740	104456							TRAP
	042742	000157							WORD
	042744	020502							WORD
	042746	017110							WORD
6028	042750					ESCAPE	TST		ABORT TEST
	042750	104410							TRAP
	042752	000062							WORD
6029									
6030	042754	032737	100000	002266	3604:	BIT	#BIT15,PCBB+2		ERROR SUMMARY BIT SHOULD BE SET
6031	042762	001004				BNE	3704		OK
6032	042764					ERRHRD	112.,ERR050,MSG009		PRINT ERROR INFORMATION
	042764	104456							TRAP
	042766	000160							WORD
	042770	024353							WORD
	042772	017634							WORD
6033	042774	032737	010000	002266	3704:	BIT	#BIT12,PCBB+2		COLLISION TEST ERROR SHOULD BE SET
6034	043002	001004				BNE	3804		OK
6035	043004					ERRHRD	113.,ERR051,MSG009		PRINT ERROR INFORMATION
	043004	10							

043024 000162
043026 020202
043030 017110
6039 043032 3904:
6040 043032 ENDSUB ;#2
043032
043032 104403
6041 043034 ENDTST
043034
043034 104401

.WORD 114
.WORD ERR006
.WORD MSG003

L10044: TRAP C#ESJB
L10042: TRAP C#ETST

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.SBTTL TEST 15: CRC CHECKING TEST

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*****
:
:   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
:
:*****
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6067	043036	004737	027446		JSR	PC,TINIT	:	T15::		
6068	043042	103025			BCC	304	:	IS A DEVICE RESET NEEDED?		
6069	043044	012777	000040	137154	MOV	#RSET,BPCSR0	:	NO		
6070	043052	004737	024574		JSR	PC,CHKDNI	:	YES, RESET DEUNA		
6071	043056	103006			BCC	204	:	DNI ?		
6072	043060				ERRHRD	115.,ERR004,MSG003	:	YES		
	043060	104456					:	NO, REPORT ERROR	TRAP	C\$ERRHRD
	043052	000163					:		.WORD	115
	043064	020102					:		.WORD	ERR004
	043066	017110					:		.WORD	MSG003
6073	043070				ESCAPE	TST	:	AND ABORT TEST		
	043070	104410					:		TRAP	C\$ESCAPE
	043072	001054					:		.WORD	L10045
6074							:			
6075	043074	004737	025546		204:	JSR	:	WRITE ONE TO CLEAR DNI		
6076							:	ERROR ?		
6077	043100	103006			BCC	304	:	NO		
6078	043102				ERRHRD	116.,ERR006,MSG003	:	YES, REPORT ERROR		
	043102	104456					:		TRAP	C\$ERRHRD
	043104	000164					:		.WORD	116
	043106	020202					:		.WORD	ERR006
	043110	017110					:		.WORD	MSG003
6079	043112				ESCAPE	TST	:	AND ABORT TEST		
	043112	104410					:		TRAP	C\$ESCAPE
	043114	001032					:		.WORD	L10045-
6080							:			
6081	043116	004737	026772		304:	JSR	:	ADDRESS OF PCBB -> PCSR2:3		
6082	043122	012777	000001	137076		MOV	:	ISSUE GET_PCBB PORT COMMAND		
6083	043130	004737	024574			JSR	:	DNI?		
6084	043134	103006				BCC	:	YES		
6085	043136				ERRHRD	117.,ERR009,MSG003	:	NO, REPORT ERROR		
	043136	104456					:		TRAP	C\$ERRHRD

Address	Offset	Hex	Label	Instruction	Comment	Trap	Message
043140	000165						
043142	020416						
043144	017110						
6086	043146		ESCAPE	TST	; AND ABORT TEST		
	043146	104410				TRAP	C\$ESCAPE
	043150	000776				.WORD	L10045
6087							
6088	043152	004737	025546	404:	JSR PC,CLRDN1		
6089					; WRITE ONE TO CLEAR DNI		
6090	043156	103006			; ERROR ?		
6091	043150			BCC	504		
				ERRHRD	118.,ERR006,MSG003		
					; NO		
					; YES, REPORT ERROR		
	043160	104456				TRAP	C\$ERRHRD
	043162	000166				.WORD	118
	043164	020202				.WORD	ERR006
	043166	017110				.WORD	MSG003
6092	043170			ESCAPE	TST		
	043170	104410				TRAP	C\$ESCAPE
	043172	000754				.WORD	L10045-
6093					;WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM AND DISABLE XMIT CRC MODE		
6094	043174	012705	013244	504:	MOV #WTRNGS,R5		
6095	043200	004737	026742		JSR PC,LDPCCB		
6096	043204	013737	015110	002266	MOV MODE15,PCBB+2		
6097	043212	012777	000002	137006	MOV #GETCMD,BPCSR0		
6098	043220	004737	024574		JSR PC,CHKDNI		
6099	043224	103006			BCC	604	
6100	043226				ERRHRD	119.,ERR010,MSG003	
	043226	104456				TRAP	C\$ERRHRD
	043230	000167				.WORD	119
	043232	020502				.WORD	ERR010
	043234	017110				.WORD	MSG003
6101	043236			ESCAPE	TST		
	043236	104410				TRAP	C\$ESCAPE
	043240	000706				.WORD	L10045
6102							
6103	043242	004737	025546	604:	JSR PC,CLRDN1		
6104					; WRITE ONE TO CLEAR DNI		
6105	043246	103006			; ERROR ?		
6106	043250			BCC	704		
				ERRHRD	120.,ERR006,MSG003		
					; NO		
					; YES, REPORT ERROR		
	043250	104456				TRAP	C\$ERRHRD
	043252	000170				.WORD	120
	043254	020202				.WORD	ERR006
	043256	017110				.WORD	MSG003
6107	043260			ESCAPE	TST		
	043260	104410				TRAP	C\$ESCAPE
	043262	000664				.WORD	L10045
6108					;WRITE RING FORMAT		
6109	043264	012705	013204	704:	MOV #WTRNGS,R5		
6110	043270	004737	026742		JSR PC,LDPCCB		
6111	043274	012705	013324		MOV #RFRMT,R5		
6112	043300	012700	000006		MOV #6,R0		
6113	043304	004737	027142		JSR PC,LDUDBB		
6114	043310	012777	000002	136710			

Line	Address	Offset	Label	Instruction	Comment	Trap	Word
6118	043330	020502					ERR010
	043332	017110					MSG003
	043334		ESCAPE	TST	; AND ABORT TEST		
	043334	104410				TRAP	C\$ESCAPE
	043336	000610				.WORD	L10045
6119							
6120	043340	004737	025546	804: JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI
6121							; ERROR ?
6122	043344	103006		BCC	904		; NO
6123	043346			ERRHRD	122.,ERR006,MSG003		; YES, REPORT ERROR
	043346	104456				TRAP	C\$ERRHRD
	043350	000172				.WORD	122
	043352	020202				.WORD	ERR006
	043354	017110				.WORD	MSG003
6124	043356			ESCAPE	TST		; AND ABORT TEST
	043356	104410				TRAP	C\$ESCAPE
	043360	000566				.WORD	L10045-
6125							
6126	043362	012705	013144	904: MOV	#WTPHYA,R5		; DEFAULT WRITE PHYSICAL ADDR FUNC
6127	043366	004737	026742	JSR	PC,LDPCBB		; LOAD FUNCTION -> PCBB
6128	043372	012777	000002	MOV	#GETCMD,BPCSR0		; ISSUE GET_CMD PORT COMMAND
6129	043400	004737	024574	JSR	PC,CHKDNI		; DNI ?
6130	043404	103006		BCC	1004		; YES
6131	043406			ERRHRD	123.,ERR010,MSG003		; NO, REPORT ERROR
	043406	104456				TRAP	C\$ERRHRD
	043410	000173				.WORD	123
	043412	020502				.WORD	ERR010
	043414	017110				.WORD	MSG003
6132	043416			ESCAPE	TST		; AND ABORT TEST
	043416	104410				TRAP	C\$ESCAPE
	043420	000526				.WORD	L10045-
6133							
6134	043422	004737	025546	1004: JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI
6135							; ERROR ?
6136	043426	103006		BCC	1104		; NO
6137	043430			ERRHRD	124.,ERR006,MSG003		; YES, REPORT ERROR
	043430	104456				TRAP	C\$ERRHRD
	043432	000174				.WORD	124
	043434	020202				.WORD	ERR006
	043436	017110				.WORD	MSG003
6138	043440			ESCAPE	TST		; AND ABORT TEST
	043440	104410				TRAP	C\$ESCAPE
	043442	000504				.WORD	L10045
6139							
6140	043444	012705	013614	1104: MOV	#TORB1B,R5		; DEFAULT ONE BUFFER TRANSMIT RING
6141	043450	004737	027046	JSR	PC,LDTORB		; LOAD TORB
6142	043454	012705	013354	MOV	#RORB1A,R5		; DEFAULT ONE BUFFER RECEIVE RING
6143	043460	004737	027010	JSR	PC,LDRORB		; LOAD RORB
6144							
6145	043464	012705	002266	;SET UP	PCBB+2,R5		; POINT TO DESTINATION ADDRESS
6146	043470	004737	026714	JSR	PC,LDDST		; LOAD DEST
6147	043474	004737	027342	JSR	PC,SETBUF		; SET UP BUFFERS
6148	043500	013737	014730	MOV	CRC15H,TBUF+124.		; APPEND GOOD CRC VALUE
6149	043506	013737	014732	MOV	CRC15L,TBUF+126.		; TO TRANSMIT DATA
6150	043514	012777	000004	MOV	#START,BPCSR0		; ISSUE START PORT COMMAND
6151	043522	004737	024574	JSR	PC,CHKDNI		; DNI?
6152	043526	103006		BCC	1204		; YES

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6153	043530			ERRHRD	125.,ERR012,MSG003	; NO, REPORT ERROR	TRAP	C\$ERHRD
	043530	104456					.WORD	125
	043532	000175					.WORD	ERR012
	043534	020633					.WORD	MSG003
	043536	017110						
6154	043540			ESCAPE	TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	043540	104410					.WORD	L10045 .
	043542	000404						
6155								
6156	043544	004737	025546	1204:	JSR	PC,CLRDN1		
6157						; WRITE ONE TO CLEAR DNI		
6158	043550	103006			BCC	1304		
6159	043552				ERRHRD	126.,ERR006,MSG003		
	043552	104456				; ERROR ?	TRAP	C\$ERHRD
	043554	000176				; NO	.WORD	126
	043556	020202				; YES, REPORT ERROR	.WORD	ERR006
	043560	017110					.WORD	MSG003
6160	043562			ESCAPE	TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	043562	104410					.WORD	L10045 .
	043564	000362						
6161								
6162	043566	004737	025404	1304:	JSR	PC,CHKTXI		
6163	043572	103006			BCC	1404		
6164	043574				ERRHRD	127.,ERR013,MSG003		
	043574	104456				; TXI ?	TRAP	C\$ERHRD
	043576	000177				; YES	.WORD	127
	043600	020714				; NO, REPORT ERROR	.WORD	ERR013
	043602	017110					.WORD	MSG003
6165	043604			ESCAPE	TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	043604	104410					.WORD	L10045 .
	043606	000340						
6166								
6167	043610	004737	025730	1404:	JSR	PC,CLRTXI		
6168						; WRITE ONE TO CLEAR TXI		
6169	043614	103006			BCC	1504		
6170	043616				ERRHRD	128.,ERR014,MSG003		
	043616	104456				; ERROR ?	TRAP	C\$ERHRD
	043620	000200				; NO	.WORD	128
	043622	020745				; YES, REPORT ERROR	.WORD	ERR014
	043624	017110					.WORD	MSG003
6171	043626			ESCAPE	TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	043626	104410					.WORD	L10045 .
	043630	000316						
6172								
6173	043632	012705	002604	1504:	MOV	#TDRB,R5		
6174	043636	004737	024676		JSR	PC,CHKOWN		
6175	043642	103006			BCC	1604		
6176	043644				ERRHRD	129.,ERR018		
	043644	104456				; CHECK TDRB OWNERSHIP	TRAP	C\$ERHRD
	043646	000201				; OWN = PORT DRIVER ?	.WORD	129
	043650	021212				; YES	.WORD	ERR018
	043652	000000				; NO, REPORT ERROR	.WORD	0
6177	043654			ESCAPE	TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	043654	104410					.WORD	L10045 .
	043656	000270						
6178								
6179	043660	012705	014534	1604:	MOV	#TDR15A,R5		
						; POINT TO EXPECTED TDRB		

6180	043664	004737	027252		JSR	PC,LDXTR	; LOAD INTO XTDRBO TABLE		
6181	043670	012705	002604		MOV	#TDRB,R5	; CHECK TDRB		
6182	043674	004737	025316		JSR	PC,CHKTR	; ERRORS ?		
6183	043700	103006			BCC	170\$	; NO		
6184	043702				ERRHRD	130.,ERR020,MSG005	; YES, REPORT ERROR		
	043702	104456						TRAP	C\$ERHRD
	043704	000202						.WORD	130
	043706	021372						.WORD	ERR020
	043710	017214						.WORD	MSG005
6185	043712				ESCAPE	TST	; AND ABORT TEST		
	043712	104410						TRAP	C\$ESCAPE
	043714	000232						.WORD	L10045-
6186									
6187	043716	004737	025132	i 170\$:	JSR	PC,CHKRXI	; RXI ?		
6188	043722	103006			BCC	180\$	; YES		
6189	043724				ERRHRD	131.,ERR015,MSG003	; NO, REPORT ERROR		
	043724	104456						TRAP	C\$ERHRD
	043726	000203						.WORD	131
	043730	021013						.WORD	ERR015
	043732	017110						.WORD	MSG003
6190	043734				ESCAPE	TST	; AND ABORT TEST		
	043734	104410						TRAP	C\$ESCAPE
	043736	000210						.WORD	L10045 .
6191									
6192	043740	004737	025662	i 180\$:	JSR	PC,CLRRXI	; WRITE ONE TO CLEAR RXI		
6193							; ERROR ?		
6194	043744	103006			BCC	190\$	; NO		
6195	043746				ERRHRD	132.,ERR016,MSG003	; YES, REPORT ERROR		
	043746	104456						TRAP	C\$ERHRD
	043750	000204						.WORD	132
	043752	021044						.WORD	ERR016
	043754	017110						.WORD	MSG003
6196	043756				ESCAPE	TST	; AND ABORT TEST		
	043756	104410						TRAP	C\$ESCAPE
	043760	000166						.WORD	L10045 .
6197									
6198	043762	012705	002644	i 190\$:	MOV	#RDRB,R5	; CHECK RDRB OWNERSHIP		
6199	043766	004737	024676		JSR	PC,CHKOWN	; OWN = PORT DRIVER ?		
6200	043772	103006			BCC	200\$	; YES		
6201	043774				ERRHRD	133.,ERR017	; NO, REPORT ERROR		
	043774	104456						TRAP	C\$ERHRD
	043776	000205						.WORD	133
	044000	021112						.WORD	ERR017
	044002	000000						.WORD	0
6202	044004				ESCAPE	TST	; AND ABORT TEST		
	044004	104410						TRAP	C\$ESCAPE
	044006	000140						.WORD	L10045 .
6203									
6204	044010	012705	014644	i 200\$:	MOV	#RDR15A,R5	; POINT TO EXPECTED RDRB		
6205	044014	004737	027222		JSR	PC,LDXRDR	; LOAD INTO XRDRBO TABLE		
6206	044020	012705	002644		MOV	#RDRB,R5	; CHECK RDRB		
6207	044024	004737	025032		JSR	PC,CHKRDR	; ERRORS ?		
6208	044030	103006			BCC	210\$	; NO		
6209	044032				ERRHRD	134.,ERR021,MSG006	; YES, REPORT ERROR		
	044032	104456						TRAP	C\$ERHRD
	044034	000206						.WORD	134
	044036	021453						.WORD	ERR021

6210	044040	017356			ESCAPE TST		; AND ABORT TEST	.WORD	MSG006
	044042	104410						TRAP	C#ESCAPE
	044044	000102						.WORD	L10045 .
6211					;COMPARE RBUF WITH TBUF				
6212	044046	012705	000070		2104: MOV #56.,R5		; COMPARE 56 WORDS OF DATA		
6213	044052	004737	026044		JSR PC,CMPCAT		; DATA COMPARE ERROR ?		
6214	044056	103006			BCC 2304		; NO		
6215	044060				ERRMRD 135.,ERR022,MSG007		; YES, REPORT ERROR		
	044060	104456						TRAP	C#ERRMRD
	044062	000207						.WORD	135
	044064	021534						.WORD	ERR022
	044066	017520						.WORD	MSG007
6216	044070				ESCAPE TST		; AND ABORT TEST		
	044070	104410						TRAP	C#ESCAPE
	044072	000054						.WORD	L10045 .
6217									
6218	044074	012777	000017	136124	2304: MOV #STOP,BPCSR0		; ISSUE STOP PORT COMMAND		
6219	044102	004737	024574		JSR PC,CHKDNI		; DNI ?		
6220	044106	103006			BCC 2404		; YES		
6221	044110				ERRMRD 136.,ERR019,MSG003		; NO, REPORT ERROR		
	044110	104456						TRAP	C#ERRMRD
	044112	000210						.WORD	136
	044114	021312						.WORD	ERR019
	044116	017110						.WORD	MSG003
6222	044120				ESCAPE TST		; AND ABORT TEST		
	044120	104410						TRAP	C#ESCAPE
	044122	000024						.WORD	L10045 .
6223									
6224	044124	004737	025546		2404: JSR PC,CLRDN1		; WRITE ONE TO CLEAR DNI		
6225							; ERROR ?		
6226	044130	103006			BCC 2504		; NO		
6227	044132				ERRMRD 137.,ERR006,MSG003		; YES, REPORT ERROR		
	044132	104456						TRAP	C#ERRMRD
	044134	000211						.WORD	137
	044136	020202						.WORD	ERR006
	044140	017110						.WORD	MSG003
6228	044142				ESCAPE TST		; AND ABORT TEST		
	044142	104410						TRAP	C#ESCAPE
	044144	000002						.WORD	L10045 .
6229	044146				2504: ENDTST				
6230	044146								
	044146								
	044146	104401						L10045: TRAP	C#ETST

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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

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				BGNTST		T16::		
6255	044150					: IS A DEVICE RESET NEEDED?		
	044150			JSR	PC,TINIT	: NO		
6256	044150	004737	027446	BCC	304	: YES, RESET DEUNA		
6257	044154	103025		MOV	#RSET,BPCSR0	: DNI ?		
6258	044156	012777	000040	JSR	PC,CHKDNI	: YES		
6259	044164	004737	024574	BCC	204	: NO, REPORT ERROR		
6260	044170	103006		ERRHRD	138.,ERROR04,MSG003		TRAP	C#ERRHRD
6261	044172						.WORD	138
	044172	104456					.WORD	ERROR04
	044174	000212					.WORD	MSG003
	044176	020102						
	044200	017110		ESCAPE	TST	: AND ABORT TEST		
6262	044202						TRAP	C#ESCAPE
	044202	104410					.WORD	L10046-
	044204	001054						
6263								
6264	044206	004737	025546	JSR	PC,CLRDN1	: WRITE ONE TO CLEAR DNI		
6265						: ERROR ?		
6266	044212	103006		BCC	304	: NO		
6267	044214			ERRHRD	139.,ERROR06,MSG003	: YES, REPORT ERROR		
	044214	104456					TRAP	C#ERRHRD
	044216	000213					.WORD	139
	044220	020202					.WORD	ERROR06
	044222	017110					.WORD	MSG003
6268	044224			ESCAPE	TST	: AND ABORT TEST		
	044224	104410					TRAP	C#ESCAPE
	044226	001032					.WORD	L10046-
6269								
6270	044230	004737	026772	JSR	PC,LDPCSR	: ADDRESS OF PCBB -> PCSR2!3		
6271	044234	012777	000001	MOV	#GETPCB,BPCSR0	: ISSUE GET_PCBB PORT COMMAND		
6272	044242	004737	024574	JSR	PC,CHKDNI	: DNI?		
6273	044246	103006		BCC	404	: YES		
6274	044250			ERRHRD	140.,ERROR09,MSG003	: NO, REPORT ERROR		
	044250	104456					TRAP	C#ERRHRD

	044252	000214					.WORD	140
	044254	020416					.WORD	ERR009
	044256	017110					.WORD	MSG003
6275	044260			ESCAPE	TST			AND ABORT TEST
	044260	104410					TRAP	C\$ESCAPE
	044262	000776					.WORD	L10046
6276								
6277	044264	004737	025546	404:	JSR	PC,CLRDN1		WRITE ONE TO CLEAR DNI
6278								ERROR ?
6279	044270	103006			BCC	504		NO
6280	044272				ERRHRD	141.,ERR006,MSG003		YES, REPORT ERROR
	044272	104456					TRAP	C\$ERRHRD
	044274	000215					.WORD	141
	044276	020202					.WORD	ERR006
	044300	017110					.WORD	MSG003
6281	044302			ESCAPE	TST			AND ABORT TEST
	044302	104410					TRAP	C\$ESCAPE
	044304	000754					.WORD	L10046
6282								
6283	044306	012705	013244					
6284	044312	004737	026742					
6285	044316	013737	015110	002266				
6286	044324	012777	000002	135674				
6287	044332	004737	024574					
6288	044336	103006						
6289	044340							
	044340	104456						
	044342	000216						
	044344	020502						
	044346	017110						
6290	044350			ESCAPE	TST			AND ABORT TEST
	044350	104410					TRAP	C\$ESCAPE
	044352	000706					.WORD	L10046
6291								
6292	044354	004737	025546	604:	JSR	PC,CLRDN1		WRITE ONE TO CLEAR DNI
6293								ERROR ?
6294	044360	103006			BCC	704		NO
6295	044362				ERRHRD	143.,ERR006,MSG003		YES, REPORT ERROR
	044362	104456					TRAP	C\$ERRHRD
	044364	000217					.WORD	143
	044366	020202					.WORD	ERR006
	044370	017110					.WORD	MSG003
6296	044372			ESCAPE	TST			AND ABORT TEST
	044372	104410					TRAP	C\$ESCAPE
	044374	000664					.WORD	L10046
6297								
6298	044376	012705	013204					
6299	044402	004737	026742					
6300	044406	012705	013324					
6301	044412	012700	000006					
6302	044416	004737	027142					
6303	044422	012777	000002	135576				
6304	044430	004737	024574					
6305	044434	103006						
6306	044436							
	044436	104456						
	044440	000220						

Address	Offset	PC	CL	Instruction	Comment	Trap	Word
6307	044442	000502		ESCAPE TST	; AND ABORT TEST		ERR010
	044444	017110					MSG003
	044446						
	044448	104410				TRAP	C\$ESCAPE
	044450	000610				.WORD	L10046
6308							
6309	044452	004737	025546	801: JSR PC,CLRDNI	; WRITE ONE TO CLEAR DNI		
6310					; ERROR ?		
6311	044456	103006		BCC 901	; NO		
6312	044460			ERRHRD 145.,ERR006,MSG003	; YES, REPORT ERROR		
	044460	104456				TRAP	C\$ERRHRD
	044462	000221				.WORD	145
	044464	020202				.WORD	ERR006
	044466	017110				.WORD	MSG003
6313	044470			ESCAPE TST	; AND ABORT TEST		
	044470	104410				TRAP	C\$ESCAPE
	044472	000566				.WORD	L10046..
6314							
6315	044474	012705	013144	901: MOV #WTPHYA,R5	; DEFAULT WRITE PHYSICAL ADDR FUNC		
6316	044500	004737	026742	JSR PC,LDPCCB	; LOAD FUNCTION -> PCBB		
6317	044504	012777	000002	MOV #GETCMD,BPCSR0	; ISSUE GET_CMD PORT COMMAND		
6318	044512	004737	024574	JSR PC,CHKDNI	; DNI ?		
6319	044516	103006		BCC 1001	; YES		
6320	044520			ERRHRD 146.,ERR010,MSG003	; NO, REPORT ERROR		
	044520	104456				TRAP	C\$ERRHRD
	044522	000222				.WORD	146
	044524	020502				.WORD	ERR010
	044526	017110				.WORD	MSG003
6321	044530			ESCAPE TST	; AND ABORT TEST		
	044530	104410				TRAP	C\$ESCAPE
	044532	000526				.WORD	L10046.
6322							
6323	044534	004737	025546	1001: JSR PC,CLRDNI	; WRITE ONE TO CLEAR DNI		
6324					; ERROR ?		
6325	044540	103006		BCC 1101	; NO		
6326	044542			ERRHRD 147.,ERR006,MSG003	; YES, REPORT ERROR		
	044542	104456				TRAP	C\$ERRHRD
	044544	000223				.WORD	147
	044546	020202				.WORD	ERR006
	044550	017110				.WORD	MSG003
6327	044552			ESCAPE TST	; AND ABORT TEST		
	044552	104410				TRAP	C\$ESCAPE
	044554	000504				.WORD	L10046.
6328							
6329	044556	012705	013614	1101: MOV #TDRB1B,R5	; DEFAULT ONE BUFFER TRANSMIT RING		
6330	044562	004737	027046	JSR PC,LDTDRB	; LOAD TDRB		
6331	044566	012705	013354	MOV #RDRB1A,R5	; DEFAULT ONE BUFFER RECEIVE RING		
6332	044572	004737	027010	JSR PC,LDRDRB	; LOAD RDRB		
6333							
6334	044576	012705	002266	;SET UP BUFFERS AND START			
6335	044602	004737	026714	MOV #PCBB+2,R5	; POINT TO DESTINATION ADDRESS		
6336	044606	004737	027342	JSR PC,LDDST	; LOAD DEST		
6337	044612	013737	014734	JSR PC,SETBUF	; SET UP BUFFERS		
6338	044620	013737	014736	MOV CRC16H,TBUF+124.	; APPEND BAD CRC VALUE		
6339	044626	012777	000004	MOV CRC16L,TBUF+126.	; TO TRANSMIT DATA		

6342	044642			ERRHRD	148.,ERR012,MSG003	; NO, REPORT ERROR	TRAP	C\$ERRHRD
	044642	104456					.WORD	148
	044644	000224					.WORD	ERR012
	044646	020633					.WORD	MSG003
	044650	017110						
6343	044652			ESCAPE	TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	044652	104410					.WORD	L10046
	044654	000404						
6344								
6345	044656	004737	025546	1201:	JSR	PC,CLRDN1		
6346						; WRITE ONE TO CLEAR DNI		
6347	044662	103006			BCC	1301		
6348	044664				ERRHRD	149.,ERR006,MSG003		
	044664	104456				; ERROR ?	TRAP	C\$ERRHRD
	044666	000225				; NO	.WORD	149
	044670	020202				; YES, REPORT ERROR	.WORD	ERR006
	044672	017110					.WORD	MSG003
6349	044674			ESCAPE	TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	044674	104410					.WORD	L10046
	044676	000362						
6350								
6351	044700	004737	025404	1301:	JSR	PC,CHKTXI		
6352	044704	103006			BCC	1401		
6353	044706				ERRHRD	150.,ERR013,MSG003		
	044706	104456				; TXI ?	T	C\$ERRHRD
	044710	000226				; YES	.WORD	150
	044712	020714				; NO, REPORT ERROR	.WORD	ERR013
	044714	017110					.WORD	MSG003
6354	044716			ESCAPE	TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	044716	104410					.WORD	L10046
	044720	000340						
6355								
6356	044722	004737	025730	1401:	JSR	PC,CLRTXI		
6357						; WRITE ONE TO CLEAR TXI		
6358	044726	103006			BCC	1501		
6359	044730				ERRHRD	151.,ERR014,MSG003		
	044730	104456				; ERROR ?	TRAP	C\$ERRHRD
	044732	000227				; NO	.WORD	151
	044734	020745				; YES, REPORT ERROR	.WORD	ERR014
	044736	017110					.WORD	MSG003
6360	044740			ESCAPE	TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	044740	104410					.WORD	L10046
	044742	000316						
6361								
6362	044744	012705	002604	1501:	MOV	#TDRB,R5		
6363	044750	004737	024676		JSR	PC,CHKOWN		
6364	044754	103006			BCC	1601		
6365	044756				ERRHRD	152.,ERR018		
	044756	104456				; CHECK TDRB OWNERSHIP	TRAP	C\$ERRHRD
	044760	000230				; OWN = PORT DRIVER ?	.WORD	152
	044762	021212				; YES	.WORD	ERR018
	044764	000000				; NO, REPORT ERROR	.WORD	0
6366	044766			ESCAPE	TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	044766	104410					.WORD	L10046
	044770	000270						
6367								
6368	044772	012705	014534	1601:	MOV	#TDR15A,R5		
						; POINT TO EXPECTED TDRP		

6369	044776	004737	027252		JSR	PC,LDXTR		; LOAD INTO XTDRBO TABLE		
6370	045002	012705	002604		MOV	#TDRB,R5		; CHECK TDRB		
6371	045006	004737	025316		JSR	PC,CHKTR		; ERRORS ?		
6372	045012	103006			BCC	1704		; NO		
6373	045014				ERRHRD	153.,ERR020,MSG005		; YES, REPORT ERROR		
	045014	104456							TRAP	C#ERRHRD
	045016	000231							.WORD	153
	045020	021372							.WORD	ERR020
	045022	017214							.WORD	MSG005
6374	045024				ESCAPE	TST		; AND ABORT TEST		
	045024	104410							TRAP	C#ESCAPE
	045026	000232							.WORD	L10046
6375										
6376	045030	004737	025132		JSR	PC,CHKRXI		; RXI ?		
6377	045034	103006			BCC	1804		; YES		
6378	045036				ERRHRD	154.,ERR015,MSG003		; NO, REPORT ERROR		
	045036	104456							TRAP	C#ERRHRD
	045040	000232							.WORD	154
	045042	021013							.WORD	ERR015
	045044	017110							.WORD	MSG003
6379	045046				ESCAPE	TST		; AND ABORT TEST		
	045046	104410							TRAP	C#ESCAPE
	045050	000210							.WORD	L10046
6380										
6381	045052	004737	025662		JSR	PC,CLRRXI		; WRITE ONE TO CLEAR RXI		
6382								; ERROR ?		
6383	045056	103006			BCC	1904		; NO		
6384	045060				ERRHRD	155.,ERR016,MSG003		; YES, REPORT ERROR		
	045060	104456							TRAP	C#ERRHRD
	045062	000233							.WORD	155
	045064	021044							.WORD	ERR016
	045066	017110							.WORD	MSG003
6385	045070				ESCAPE	TST		; AND ABORT TEST		
	045070	104410							TRAP	C#ESCAPE
	045072	000166							.WORD	L10046
6386										
6387	045074	012705	002644		MOV	#RDRB,R5		; CHECK RDRB OWNERSHIP		
6388	045100	004737	024676		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?		
6389	045104	103006			BCC	2004		; YES		
6390	045106				ERRHRD	156.,ERR017		; NO, REPORT ERROR		
	045106	104456							TRAP	C#ERRHRD
	045110	000234							.WORD	156
	045112	021112							.WORD	ERR017
	045114	000000							.WORD	0
6391	045116				ESCAPE	TST		; AND ABORT TEST		
	045116	104410							TRAP	C#ESCAPE
	045120	000140							.WORD	L10046
6392										
6393	045122	012705	014634		MOV	#RDR14A,R5		; POINT TO EXPECTED RDRB		
6394	045126	004737	027222		JSR	PC,LDXRDR		; LOAD INTO XRDRBO TABLE		
6395	045132	012705	002644		MOV	#RDRB,R5		; CHECK RDRB		
6396	045136	004737	025032		JSR	PC,CHKRDR		; ERRORS ?		
6397	045142	103006			BCC	2104		; NO		
6398	045144				ERRHRD	157.,ERR021,MSG006		; YES, REPORT ERROR		
	045144	104456							TRAP	C#ERRHRD
	045146	000235							.WORD	157
	045150	021453							.WORD	ERR021

6399	045152	017356			ESCAPE TST	; AND ABORT TEST	.WORD	MSG006
	045154						TRAP	C\$ESCAPE
	045154	104410					.WORD	L10046
	045156	000102						
6400					;COMPARE RBUF WITH TBUF	; COMPARE 56 WORDS OF DATA		
6401	045160	012705	000070		2104: MOV #56,R5	; DATA COMPARE ERROR ?		
6402	045164	004737	026044		JSR PC,CMPOAT	; NO		
6403	045170	103006			BCC 2304	; YES, REPORT ERROR		
6404	045172				ERRHRD 158.,ERR022,MSG007		TRAP	C\$ERRHRD
	045172	104456					.WORD	158
	045174	000236					.WORD	ERR022
	045176	021534					.WORD	MSG007
	045200	017520						
6405	045202				ESCAPE TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	045202	104410					.WORD	L10046
	045204	000054						
6406								
6407	045206	012777	000017	135012	2304: MOV #STOP,SPCSRO	; ISSUE STOP PORT COMMAND		
6408	045214	004737	024574		JSR PC,CHKDNI	; DNI ?		
6409	045220	103006			BCC 2404	; YES		
6410	045222				ERRHRD 159.,ERR019,MSG003	; NO, REPORT ERROR	TRAP	C\$ERRHRD
	045222	104456					.WORD	159
	045224	000237					.WORD	ERR019
	045226	021312					.WORD	MSG003
	045230	017110						
6411	045232				ESCAPE TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	045232	104410					.WORD	L10046-
	045234	000024						
6412								
6413	045236	004737	025546		2404: JSR PC,CLRDNI	; WRITE ONE TO CLEAR DNI		
6414						; ERROR ?		
6415	045242	103006			BCC 2504	; NO		
6416	045244				ERRHRD 160.,ERR006,MSG003	; YES, REPORT ERROR	TRAP	C\$ERRHRD
	045244	104456					.WORD	160
	045246	000240					.WORD	ERR006
	045250	020202					.WORD	MSG003
	045252	017110						
6417	045254				ESCAPE TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	045254	104410					.WORD	L10046-
	045256	000002						
6418	045260				2504:			
6419	045260				ENDTST			
	045260							
	045260	104401						
						L10046:	TRAP	C\$ETST

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.SBTTL TEST 17: DISABLE RECEIVE CHAINING TEST

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:
:   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 PING.
:
:   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
:
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6442	045262			BGNTST				
	045262					T17::		
6443	045262	004737	027446	JSR	PC.TINIT	:	IS A DEVICE RESET NEEDED?	
6444	045266	103025		BCC	301	:	NO	
6445	045270	012777	000040	MOV	@RSET,BPCSR0	:	YES, RESET DEUNA	
6446	045276	004737	024574	JSR	PC.CHKONI	:	DNI ?	
6447	045302	103006		BCC	201	:	YES	
6448	045304			ERRHRD	161.,ERR004,MSG003	:	NO, REPORT ERROR	
	045304	104456				TRAP	C\$ERRHRD	
	045306	000241				.WORD	161	
	045310	020102				.WORD	ERR004	
	045312	017110				.WORD	MSG003	
6449	045314			ESCAPE	TST	:	AND ABORT TEST	
	045314	104410				TRAP	C\$ESCAPE	
	045316	001050				.WORD	L10047	
6450								
6451	045320	004737	025546	201:	JSR	PC.CLRDNI	:	WRITE ONE TO CLEAR DNI
6452						:	ERROR ?	
6453	045324	103006		BCC	301	:	NO	
6454	045326			ERRHRD	162.,ERR006,MSG003	:	YES, REPORT ERROR	
	045326	104456				TRAP	C\$ERRHRD	
	045330	000242				.WORD	162	
	045332	020202				.WORD	ERR006	
	045334	017110				.WORD	MSG003	
6455	045336			ESCAPE	TST	:	AND ABORT TEST	
	045336	104410				TRAP	C\$ESCAPE	
	045340	001026				.WORD	L10047	
6456								
6457	045342	004737	026772	301:	JSR	PC.LDPCSR	:	ADDRESS OF PCBB > PCSR2!3
6458	045346	012777	000001	MOV	@GETPCB,BPCSR0	:	ISSUE GET_PCBB PORT COMMAND	
6459	045354	004737	024574	JSR	PC.CHKONI	:	DNI?	
6460	045360	103006		BCC	401	:	YES	
6461	045362			ERRHRD	163.,ERR009,MSG003	:	NO, REPORT ERROR	
	045362	104456				TRAP	C\$ERRHRD	
	045364	000243				.WORD	163	
	045366	020416				.WORD	ERR009	

6462	045370	017110			ESCAPE TST	; AND ABORT TEST	.WORD	MSG003
	045372	104410					TRAP	C\$ESCAPE
	045372	000772					.WORD	L10047
6463								
6464	045376	004737	025546		401: JSR PC,CLRDN1	; WRITE ONE TO CLEAR DNI		
6465						; ERROR ?		
6466	045402	103006			BCC 501	; NO		
6467	045404				ERRHRD 164.,ERR006,MSG003	; YES, REPORT ERROR		
	045404	104456					TRAP	C\$ERRHRD
	045406	000244					.WORD	164
	045410	020202					.WORD	ERR006
	045412	017110					.WORD	MSG003
6468	045414				ESCAPE TST	; AND ABORT TEST		
	045414	104410					TRAP	C\$ESCAPE
	045416	000750					.WORD	L10047
6469								
6470					;WRITE MODE REGISTER - INTERNAL LOOPBACK, PROM AND			
6471					DISABLE RECEIVE DATA CHAINING MODE			
6472	045420	012705	013244		501: MOV @WTRNGS,R5	; DEFAULT WRITE MODE FUNCTION		
6473	045424	004737	026742		JSR PC,LDPCCB	; LOAD FUNCTION -> PCBB		
6474	045430	013737	015112	002266	MOV MODE17,PCBB+2	; LOAD MODE REGISTER		
6475	045436	012777	000002	134562	MOV @GETCMD,BPCSR0	; ISSUE GET_CMD PORT COMMAND		
6476	045444	004737	024574		JSR PC,CHKDNI	; DNI ?		
6477	045450	103006			BCC 601	; YES		
6478	045452				ERRHRD 165.,ERR010,MSG003	; NO, REPORT ERROR		
	045452	104456					TRAP	C\$ERRHRD
	045454	000245					.WORD	165
	045456	020502					.WORD	ERR010
	045460	017110					.WORD	MSG003
6479	045462				ESCAPE TST	; AND ABORT TEST		
	045462	104410					TRAP	C\$ESCAPE
	045464	000702					.WORD	L10047
6480								
6481	045466	004737	025546		601: JSR PC,CLRDN1	; WRITE ONE TO CLEAR DNI		
6482						; ERROR ?		
6483	045472	103006			BCC 701	; NO		
6484	045474				ERRHRD 166.,ERR006,MSG003	; YES, REPORT ERROR		
	045474	104456					TRAP	C\$ERRHRD
	045476	000246					.WORD	166
	045500	020202					.WORD	ERR006
	045502	017110					.WORD	MSG003
6485	045504				ESCAPE TST	; AND ABORT TEST		
	045504	104410					TRAP	C\$ESCAPE
	045506	000660					.WORD	L10047-
6486								
6487					;WRITE RING FORMAT			
6488	045510	012705	013204		701: MOV @WTRNGS,R5	; DEFAULT WRITE RING FORMAT FUNCTION		
6489	045514	004737	026742		JSR PC,LDPCCB	; LOAD FUNCTION -> PCBB		
6490	045520	012705	013324		MOV @RFRMT,R5	; DEFAULT RING FORMAT		
6491	045524	012700	000006		MOV @6,R0	; FORMAT - SIX WORDS		
6492	045530	004737	027142		JSR PC,LDDUDB	; LOAD RING FORMAT -> UDBB		
6493	045534	012777	000002	134464	MOV @GETCMD,BPCSR0	; ISSUE GET_CMD PORT COMMAND		
6494	045542	004737	024574		JSR PC,CHKDNI	; DNI ?		
6495	045546	103006			BCC 801	; YES		
6496	045550				ERRHRD 167.,ERR010,MSG003	; NO, REPORT ERROR		
	045550	104456					TRAP	C\$ERRHRD

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

6531	045732	004737	024574		JSR	PC,CHKDNI		; DNI?		
6532	045736	103006			BCC	120\$		; YES		
6533	045740				ERRHRD	171.,ERR012,MSG003		; NO, REPORT ERROR		
	045740	104456							TRAP	C\$ERRHRD
	045742	000253							.WORD	171
	045744	020633							.WORD	ERR012
	045746	017110							.WORD	MSG003
6534	045750				ESCAPE	TST		; AND ABORT TEST		
	045750	104410							TRAP	C\$ESCAPE
	045752	000414							.WORD	L10047
6535				i						
6536	045754	004737	025546	120\$:	JSR	PC,CLRDNI		; WRITE ONE TO CLEAR DNI		
6537								; ERROR ?		
6538	045760	103006			BCC	130\$		; I/O		
6539	045762				ERRHRD	172.,ERR006,MSG003		; YES, REPORT ERROR		
	045762	104456							TRAP	C\$ERRHRD
	045764	000254							.WORD	172
	045766	020202							.WORD	ERR006
	045770	017110							.WORD	MSG003
6540	045772				ESCAPE	TST		; AND ABORT TEST		
	045772	104410							TRAP	C\$ESCAPE
	045774	000372							.WORD	L10047
6541				i						
6542	045776	004737	025404	130\$:	JSR	PC,CHKTXI		; TXI ?		
6543	046002	103006			BCC	140\$		; YES		
6544	046004				ERRHRD	173.,ERR013,MSG003		; NO, REPORT ERROR		
	046004	104456							TRAP	C\$ERRHRD
	046006	000255							.WORD	173
	046010	020714							.WORD	ERR013
	046012	017110							.WORD	MSG003
6545	046014				ESCAPE	TST		; AND ABORT TEST		
	046014	104410							TRAP	C\$ESCAPE
	046016	000350							.WORD	L10047
6546				i						
6547	046020	004737	025730	140\$:	JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI		
6548								; ERROR ?		
6549	046024	103006			BCC	150\$		; NO		
6550	046026				ERRHRD	174.,ERR014,MSG003		; YES, REPORT ERROR		
	046026	104456							TRAP	C\$ERRHRD
	046030	000256							.WORD	174
	046032	020745							.WORD	ERR014
	046034	017110							.WORD	MSG003
6551	046036				ESCAPE	TST		; AND ABORT TEST		
	046036	104410							TRAP	C\$ESCAPE
	046040	000326							.WORD	L10047
6552				i						
6553	046042	012705	002604	150\$:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP		
6554	046046	004737	024676		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?		
6555	046052	103006			BCC	160\$		; YES		
6556	046054				ERRHRD	175.,ERR018		; NO, REPORT ERROR		
	046054	104456							TRAP	C\$ERRHRD
	046056	000257							.WORD	175
	046060	021212							.WORD	ERR018
	046062	000000							.WORD	0
6557	046064				ESCAPE	TST		; AND ABORT TEST		
	046064	104410							TRAP	C\$ESCAPE
	046066	000300							.WORD	L10047

6558									
6559	046070	012705	014524	160\$:	MOV	#TDR,4A,R5	:	POINT TO EXPECTED TDRB	
6560	046074	004737	027252		JSR	PC,LJXTDR	:	LOAD INTO XTDRBO TABLE	
6561	046100	012705	002604		MOV	#TDRB,R5	:	CHECK TDRB	
6562	046104	004737	025316		JSR	PC,CHKTDR	:	ERRORS ?	
6563	046110	103006			BCC	170\$	:	NO	
6564	046112				ERRHRD	176.,ERR020,MSG005	:	YES, REPORT ERROR	
	046112	104456						TRAP	C\$ERRHRD
	046114	000260						.WORD	176
	046116	021372						.WORD	ERR020
	046120	017214						.WORD	MSG005
6565	046122				ESCAPE	TST	:	AND ABORT TEST	
	046122	104410						TRAP	C\$ESCAPE
	046124	000242						.WORD	L10047 .
6566									
6567	046126	004737	025132	170\$:	JSR	PC,CHKRXI	:	RXI ?	
6568	046132	103006			BCC	180\$	:	YES	
6569	046134				ERRHRD	177.,ERR015,MSG003	:	NO, REPORT ERROR	
	046134	104456						TRAP	C\$ERRHRD
	046136	000261						.WORD	177
	046140	021013						.WORD	ERR015
	046142	017110						.WORD	MSG003
6570	046144				ESCAPE	TST	:	AND ABORT TEST	
	046144	104410						TRAP	C\$ESCAPE
	046146	000220						.WORD	L10047 .
6571									
6572	046150	004737	025662	180\$:	JSR	PC,CLRRXI	:	WRITE ONE TO CLEAR RXI	
6573								ERROR ?	
6574	046154	103006			BCC	190\$	:	NO	
6575	046156				ERRHRD	178.,ERR016,MSG003	:	YES, REPORT ERROR	
	046156	104456						TRAP	C\$ERRHRD
	046160	000262						.WORD	178
	046162	021044						.WORD	ERR016
	046164	017110						.WORD	MSG003
6576	046166				ESCAPE	TST	:	AND ABORT TEST	
	046166	104410						TRAP	C\$ESCAPE
	046170	000176						.WORD	L10047 .
6577									
6578	046172	012705	002644						
6579	046176	004737	024676						
6580	046202	103006							
6581	046204								
	046204	104456							
	046206	000263							
	046210	022313							
	046212	000000							
6582	046214				ESCAPE	TST	:	AND ABORT TEST	
	046214	104410						TRAP	C\$ESCAPE
	046216	000150						.WORD	L10047 .
6583									
6584	046220	012705	014654	200\$:	MOV	#RDR17A,R5	:	POINT TO EXPECTED RDRB	
6585	046224	004737	027222		JSR	PC,LJXRDR	:	LOAD INTO XRDRBO TABLE	
6586	046230	012705	002644		MOV	#RDRB,R5	:	CHECK RDRB	
6587	046234	004737	025032		JSR	PC,CHKRDR	:	ERRORS ?	
6588	046240	103006			BCC	210\$	:	NO	
6589	046242				ERRHRD	180.,ERR036,MSG006	:	YES, REPORT ERROR	
	046242	104456						TRAP	C\$ERRHRD

Address	Hex	Dec	Label	Instruction	Comment	Trap	Word
046244	000264						180
046246	023101						ERR036
046250	017356						MSG006
6590	046252		ESCAPE	TST	; AND ABORT TEST		
	046252	104410				TRAP	C\$ESCAPE
	046254	000112				.WORD	L10047
6591			;CHECK	SECOND RING ENTRY			
6592	046256	012705	210\$:	MOV	#RDR17B,R5		; POINT TO EXPECTED RDRB
6593	046262	004737		JSR	PC,LDXRDR		; LOAD INTO XRDRBO TABLE
6594	046266	012705		MOV	#RDRB+8.,R5		; CHECK RDRB
6595	046272	004737		JSR	PC,CHKRDR		; ERRORS ?
6596	046276	103006		BCC	230\$		; NO
6597	046300			ERRHRD	181.,ERR037,MSG006		; YES, REPORT ERROR
	046300	104456				TRAP	C\$ERHRD
	046302	000265				.WORD	181
	046304	023167				.WORD	ERR037
	046306	017356				.WORD	MSG006
6598	046310		ESCAPE	TST	; AND ABORT TEST		
	046310	104410				TRAP	C\$ESCAPE
	046312	000054				.WORD	L10047
6599							
6600	046314	012777	000017	133704	230\$:	MOV	#STOP,SPCSRO
6601	046322	004737	024574			JSR	PC,CHKDNI
6602	046326	103006				BCC	240\$
6603	046330					ERRHRD	182.,ERR019,MSG003
	046330	104456					; NO, REPORT ERROR
	046332	000266				TRAP	C\$ERHRD
	046334	021312				.WORD	182
	046336	017110				.WORD	ERR019
6604	046340		ESCAPE	TST	; AND ABORT TEST		
	046340	104410				TRAP	C\$ESCAPE
	046342	000024				.WORD	L10047
6605							
6606	046344	004737	025546		240\$:	JSR	PC,CLRDN1
6607							; WRITE ONE TO CLEAR DNI
6608	046350	103006				BCC	250\$
6609	046352					ERRHRD	183.,ERR006,MSG003
	046352	104456					; YES, REPORT ERROR
	046354	000267				TRAP	C\$ERHRD
	046356	020202				.WORD	183
	046360	017110				.WORD	ERR006
6610	046362		ESCAPE	TST	; AND ABORT TEST		
	046362	104410				TRAP	C\$ESCAPE
	046364	000002				.WORD	L10047
6611	046366		250\$:				
6612	046366		ENDTST				
	046366						L10047:
	046366	104401				TRAP	C\$ETST

CB:TL TEST 18: TRANSMIT CHAINING ERROR TEST

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: 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 TCRB+6
: 7. ISSUE STOP

6635	046370				BGNTST				
	046370							T18::	
6636	046370	004737	027446		JSR	PC,TINIT		: IS A DEVICE RESET NEEDED?	
6637	046374	103025			BCC	301		: NO	
6638	046376	012777	000040	133622	MOV	#RSET,BPCSR0		: YES, RESET DEUNA	
6639	046404	004737	024574		JSR	PC,CHKDNI		: DNI ?	
6640	046410	103006			BCC	201		: YES	
6641	046412				ERRHRD	184.,ERR004,MSG003		: NO, REPORT ERROR	
	046412	104456						TRAP	C:ERHRD
	046414	000270						.WORD	184
	046416	020102						.WORD	ERR004
	046420	017110						.WORD	MSG003
6642	046422				ESCAPE	TST		: AND ABORT TEST	
	046422	104410						TRAP	C:ESCAPE
	046424	000740						.WORD	L10050 .
6643									
6644	046426	004737	025546		JSR	PC,CLRDN1		: WRITE ONE TO CLEAR DNI	
6645								: ERROR ?	
6646	046432	103006			BCC	301		: NO	
6647	046434				ERRHRD	185.,ERR006,MSG003		: YES, REPORT ERROR	
	046434	104456						TRAP	C:ERHRD
	046436	000271						.WORD	185
	046440	020202						.WORD	ERR006
	046442	017110						.WORD	MSG003
6648	046444				ESCAPE	TST		: AND ABORT TEST	
	046444	104410						TRAP	C:ESCAPE
	046446	000716						.WORD	L10050 .
6649									
6650	046450	004737	026772		JSR	PC,LDPCSR		: ADDRESS OF PCBB -> PCSR2!3	
6651	046454	012777	000001	133544	MOV	#GETPCB,BPCSR0		: ISSUE GET_PCBB PORT COMMAND	
6652	046462	004737	024574		JSR	PC,CHKDNI		: DNI?	
6653	046466	103006			BCC	401		: YES	
6654	046470				ERRHRD	186.,ERR009,MSG003		: NO, REPORT ERROR	
	046470	104456						TRAP	C:ERHRD
	046472	000272						.WORD	186
	046474	020416						.WORD	ERR009

6655	046476	017110			ESCAPE TST	AND ABORT TEST	WORD	MSG003
	046500	104410					TRAP	C\$ESCAPE
	046502	000662					WORD	L10050
6656	046504	004737	025546	404:	JSR PC,CLRDN1	WRITE ONE TO CLEAR DNI		
6658	046510	103006			BCC 504	ERROR ?		
6659	046512	104456			ERRHRD 187,,ERR006,MSG003	NO		
6660	046514	000273				YES, REPORT ERROR	TRAP	C\$ERRHRD
	046516	020202					WORD	187
	046520	017110					WORD	ERR006
	046522	104410			ESCAPE TST	AND ABORT TEST	WORD	MSG003
6661	046524	000640					TRAP	C\$ESCAPE
							WORD	L10050
6662					WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE			
6663	046526	012705	013244	504:	MOV @WTRNGS,R5	DEFAULT WRITE MODE FUNCTION		
6664	046532	004737	026742		JSR PC,LDPCCB	LOAD FUNCTION -> PCBB		
6665	046536	012777	000002	133462	MOV @GETCMD,BPCSR0	ISSUE GET_CMD PORT COMMAND		
6666	046544	004737	024574		JSR PC,CHKDNI	DNI ?		
6667	046550	103006			BCC 604	YES		
6668	046552	104456			ERRHRD 188,,ERR010,MSG003	NO, REPORT ERROR	TRAP	C\$ERRHRD
	046554	000274					WORD	188
	046556	020502					WORD	ERR010
	046560	017110					WORD	MSG003
6670	046562	104410			ESCAPE TST	AND ABORT TEST	TRAP	C\$ESCAPE
	046564	000600					WORD	L10050-
6671	046566	004737	025546	604:	JSR PC,CLRDN1	WRITE ONE TO CLEAR DNI		
6672	046572	103006			BCC 704	ERROR ?		
6673	046574	104456			ERRHRD 189,,ERR006,MSG003	NO		
6674	046576	000275				YES, REPORT ERROR	TRAP	C\$ERRHRD
6675	046600	020202					WORD	189
	046602	017110					WORD	ERR006
	046604	104410			ESCAPE TST	AND ABORT TEST	WORD	MSG003
6676	046606	000556					TRAP	C\$ESCAPE
							WORD	L10050
6677					WRITE RING FORMAT			
6678	046610	012705	013204	704:	MOV @WTRNGS,R5	DEFAULT WRITE RING FORMAT FUNCTION		
6679	046614	004737	026742		JSR PC,LDPCCB	LOAD FUNCTION -> PCBB		
6680	046620	012705	013324		MOV @RFRMT,R5	DEFAULT RING FORMAT		
6681	046624	012700	000006		MOV #6,R0	FORMAT = SIX WORDS		
6682	046630	004737	027142		JSR PC,LDUDBB	LOAD RING FORMAT -> UDBB		
6683	046634	012777	000002	133364	MOV @GETCMD,BPCSR0	ISSUE GET_CMD PORT COMMAND		
6684	046642	004737	024574		JSR PC,CHKDNI	DNI ?		
6685	046646	103006			BCC 804	YES		
6686	046650	104456			ERRHRD 190,,ERR010,MSG003	NO, REPORT ERROR	TRAP	C\$ERRHRD
6687	046652	000276					WORD	190
	046654	020502					WORD	ERR010

6688	046656	017110			ESCAPE TST	; AND ABORT TEST	.WORD	MSG003
	046660						TRAP	C\$ESCAPE
	046660	104410					.WORD	L10050
	046662	000502						
6689								
6690	046664	004737	025546	804:	JSR PC,CLRDNI	; WRITE ONE TO CLEAR DNI		
6691						; ERROR ?		
6692	046670	103006			BCC 904	; NO		
6693	046672				ERRHRD 191..ERR006,MSG003	; YES, REPORT ERROR		
	046672	104456					TRAP	C\$ERRRD
	046674	000277					.WORD	191
	046676	020202					.WORD	ERR006
	046700	017110					.WORD	MSG003
6694	046702				ESCAPE TST	; AND ABORT TEST		
	046702	104410					TRAP	C\$ESCAPE
	046704	000460					.WORD	L10050
6695								
6696					; WRITE PHYSICAL ADDRESS			
6697	046706	012705	013144	904:	MOV #WTPHYA,R5	; DEFAULT WRITE PHYSICAL ADDR FUNC		
6698	046712	004737	026742		JSR PC,LDPCCB	; LOAD FUNCTION -> PCBB		
6699	046716	012777	000002	133302	MOV #GETCMD,SPCSRO	; ISSUE GET_CMD PORT COMMAND		
6700	046724	004737	024574		JSR PC,CHKDNI	; DNI ?		
6701	046730	103006			BCC 1004	; YES		
6702	046732				ERRHRD 192..ERR010,MSG003	; NO, REPORT ERROR		
	046732	104456					TRAP	C\$ERRRD
	046734	000300					.WORD	192
	046736	020502					.WORD	ERR010
	046740	017110					.WORD	MSG003
6703	046742				ESCAPE TST	; AND ABORT TEST		
	046742	104410					TRAP	C\$ESCAPE
	046744	000420					.WORD	L10050
6704								
6705	046746	004737	025546	1004:	JSR PC,CLRDNI	; WRITE ONE TO CLEAR DNI		
6706						; ERROR ?		
6707	046752	103006			BCC 1104	; NO		
6708	046754				ERRHRD 193..ERR006,MSG003	; YES, REPORT ERROR		
	046754	104456					TRAP	C\$ERRRD
	046756	000301					.WORD	193
	046760	020202					.WORD	ERR006
	046762	017110					.WORD	MSG003
6709	046764				ESCAPE TST	; AND ABORT TEST		
	046764	104410					TRAP	C\$ESCAPE
	046766	000376					.WORD	L10050
6710								
6711					; SET UP RINGS			
6712	046770	012705	013714	1104:	MOV #TDRB2A,R5	; DEFAULT ERROR TRANSMIT RING		
6713	046774	004737	027046		JSR PC,LDTDRB	; LOAD TDRB		
6714	047000	012705	013354		MOV #RDRB1A,R5	; DEFAULT ONE BUFFER RECEIVE RING		
6715	047004	004737	027010		JSR PC,LDRDRB	; LOAD RDRB		
6716								
6717					; SET UP BUFFERS AND START			
6718	047010	012705	002266		MOV #PCBB+2,R5	; POINT TO DESTINATION ADDRESS		
6719	047014	004737	026714		JSR PC,LDDST	; LOAD DEST		
6720	047020	004737	027342		JSR PC,SETBUF	; SET UP BUFFERS		
6721	047024	012777	000004	133174	MOV #START,SPCSRO	; ISSUE START PORT COMMAND		
6722	047032	004737	024574		JSR PC,CHKDNI	; DNI?		
6723	047036	103006			BCC 1204	; YES		

6724	04704C			ERRHRD	194.,ERR012,MSG003	:	NO, REPORT ERROR		
	047040	104456						TRAP	C\$ERRHRD
	047042	000302						.WORD	194
	047044	020633						.WORD	ERR012
	047046	017110						.WORD	MSG003
6725	047050			ESCAPE	TST	:	AND ABORT TEST		
	G17050	104410						TRAP	C\$ESCAPE
	047052	000312						.WORD	L10050 .
6726									
6727	047054	004737	025546	1204:	JSR	PC,CLRDN1	:	WRITE ONE TO CLEAR DNI	
6728							:	ERROR ?	
6729	047060	103006			BCC	1304	:	NO	
6730	047062				ERRHRD	195.,ERR006,MSG003	:	YES, REPORT ERROR	
	047062	104456						TRAP	C\$ERRHRD
	047064	000303						.WORD	195
	047066	020202						.WORD	ERR006
	047070	017110						.WORD	MSG003
6731	047072			ESCAPE	TST	:	AND ABORT TEST		
	047072	104410						TRAP	C\$ESCAPE
	047074	000270						.WORD	L10050-.
6732									
6733	047076	004737	025404	1304:	JSR	PC,CHKTXI	:	TXI ?	
6734	047102	103006			BCC	1404	:	YES	
6735	047104				ERRHRD	196.,ERR013,MSG003	:	NO, REPORT ERROR	
	047104	104456						TRAP	C\$ERRHRD
	047106	000304						.WORD	196
	047110	020714						.WORD	ERR013
	047112	017110						.WORD	MSG003
6736	047114			ESCAPE	TST	:	AND ABORT TEST		
	047114	104410						TRAP	C\$ESCAPE
	047116	000246						.WORD	L10050-.
6737									
6738	047120	004737	025730	1404:	JSR	PC,CLRTXI	:	WRITE ONE TO CLEAR TXI	
6739							:	ERROR ?	
6740	047124	103006			BCC	1504	:	NO	
6741	047126				ERRHRD	197.,ERR014,MSG003	:	YES, REPORT ERROR	
	047126	104456						TRAP	C\$ERRHRD
	047130	000305						.WORD	197
	047132	020745						.WORD	ERR014
	047134	017110						.WORD	MSG003
6742	047136			ESCAPE	TST	:	AND ABORT TEST		
	047136	104410						TRAP	C\$ESCAPE
	047140	000224						.WORD	L10050-.
6743									
6744	047142	012705	002604	1504:	MOV	#TDRB,R5	:	CHECK TDRB OWNERSHIP	
6745	047146	004737	024676		JSR	PC,CHKOWN	:	OWN = PORT DRIVER ?	
6746	047152	103006			BCC	1604	:	YES	
6747	047154				ERRHRD	198.,ERR027	:	NO, REPORT ERROR	
	047154	104456						TRAP	C\$ERRHRD
	047156	000306						.WORD	198
	047160	021773						.WORD	ERR027
	047162	000000						.WORD	0
6748	047164			ESCAPE	TST	:	AND ABORT TEST		
	047164	104410						TRAP	C\$ESCAPE
	047166	000176						.WORD	L10050 .
6749									
6750	047170	012705	014544	1604:	MOV	#TDR18A,R5	:	POINT TO EXPECTED TDRB	

6751	047174	004737	027252		JSR	PC,LDX1DR		; LOAD INTO XTDRBO TABLE		
6752	047200	012705	002604		MOV	#TDRB,R5		; CHECK TDRB		
6753	047204	004737	025316		JSR	PC,CHK1DR		; ERRORS ?		
6754	047210	103006			BCC	1624		; NO		
6755	047212				ERRHRD	199.,ERR033,MSG005		; YES, REPORT ERROR		
	047212	104456							TRAP	C\$ERRHRD
	047214	000307							.WORD	199
	047216	022633							.WORD	ERR033
	047220	017214							.WORD	MSG005
6756	047222				ESCAPE	TST		; AND ABORT TEST		
	047222	104410							TRAP	C\$ESCAPE
	047224	000140							.WORD	L10050
6757					;CHECK	SECOND RING ENTRY				
6758	047226	012705	002614		1624:	MOV	#TDRB+8.,R5		; CHECK TDRB OWNERSHIP	
6759	047232	004737	024676		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?		
6760	047236	103006			BCC	1644		; YES		
6761	047240				ERRHRD	200.,ERR02A		; NO, REPORT ERROR		
	047240	104456							TRAP	C\$ERRHRD
	047242	000310							.WORD	200
	047244	022100							.WORD	ERR028
	047246	000000							.WORD	0
6762	047250				ESCAPE	TST		; AND ABORT TEST		
	047250	104410							TRAP	C\$ESCAPE
	047252	000112							.WORD	L10050
6763					1644:					
6764	047254	012705	014554		MOV	#TDR188,R5		; POINT TO EXPECTED TDRB		
6765	047260	004737	027252		JSR	PC,LDX1DR		; LOAD INTO XTDRBO TABLE		
6766	047264	012705	002614		MOV	#TDRB+8.,R5		; CHECK TDRB		
6767	047270	004737	025316		JSR	PC,CHK1DR		; ERRORS ?		
6768	047274	103006			BCC	2304		; NO		
6769	047276				ERRHRD	201.,ERR034,MSG005		; YES, REPORT ERROR		
	047276	104456							TRAP	C\$ERRHRD
	047300	000311							.WORD	201
	047302	022722							.WORD	ERR034
	047304	017214							.WORD	MSG005
6770	047306				ESCAPE	TST		; AND ABORT TEST		
	047306	104410							TRAP	C\$ESCAPE
	047310	000054							.WORD	L10050
6771					2304:					
6772	047312	012777	000017	132706	MOV	#STOP,BPCSR0		; ISSUE STOP PORT COMMAND		
6773	047320	004737	024574		JSR	PC,CHKDNI		; DNI ?		
6774	047324	103006			BCC	2404		; YES		
6775	047326				ERRHRD	202.,ERR019,MSG003		; NO, REPORT ERROR		
	047326	104456							TRAP	C\$ERRHRD
	047330	000312							.WORD	202
	047332	021312							.WORD	ERR019
	047334	017110							.WORD	MSG003
6776	047336				ESCAPE	TST		; AND ABORT TEST		
	047336	104410							TRAP	C\$ESCAPE
	047340	000024							.WORD	L10050
6777					2404:					
6778	047342	004737	025546		JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI		
6779								; ERROR ?		
6780	047346	103006			BCC	2504		; NO		
6781	047350				ERRHRD	203.,ERR006,MSG003		; YES, REPORT ERROR		
	047350	104456							TRAP	C\$ERRHRD
	047352	000313							.WORD	203

G10

047354 020202
047356 017110
6782 047360
047360 104410
047362 000002
6783 047364
6784 047364
047364
047364 104401
ESCAPE TST
2504:
ENDTST

, AND ABORT TEST

.WORD ERR006
.WORD MSG003
TRAP C#ESCAPE
.WORD L10050 .

L10050:

TRAP C#ETST

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.SBTTL TEST 19: NO RECEIVE BUFFER TEST

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:
:   THIS TEST VERIFIES THAT A RCBI ERROR CAN BE DETECTED.
:   AN INTERNAL LOOPBACK IS ATTEMPTED WITH
:   NO RECEIVE BUFFERS OWNED BY THE DEUNA.
:   A RCBI (RECEIVE BUFFER UNAVAILABLE) ERROR IS EXPECTED IN PCRR0.
:
:   TEST SEQUENCE:
:       1.  WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
:       2.  WRITE RING FORMAT (16 TRANSMIT ENTRIES)
:       3.  WRITE PHYSICAL ADDRESS
:       4.  SET UP RINGS AND BUFFERS
:           WITH 16 TRANSMIT PACKETS
:           AND NO RECEIVE BUFFERS OWNED BY THE DEUNA
:       5.  ISSUE START
:       6.  CHECK FOR RCBI ERROR IN PCSRO
:       7.  ISSUE STOP
:
*****

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6808	047366			BGNTST				
	047366					T19::		
6809	047366	004737	027446	JSR	PC,TINIT	:	IS A DEVICE RESET NEEDED?	
6810	047372	103025		BCC	30:	:	NO	
6811	047374	012777	000040 132624	MOV	#RSET,SPCSRO	:	YES, RESET DEUNA	
6812	047402	004737	024574	JSR	PC,CHKDNI	:	DNI ?	
6813	047406	103006		BCC	20:	:	YES	
6814	047410			ERRHRD	204.,ERR004,MSG003	:	NO, REPORT ERROR	
	047410	104456						TRAP C\$ERRHRD
	047412	000314						.WORD 204
	047414	020102						.WORD ERR004
	047416	017110						.WORD MSG003
6815	047420			ESCAPE	TST	:	AND ABORT TEST	
	047420	104410						TRAP C\$ESCAPE
	047422	000634						.WORD L10051 .
6816				:				
6817	047424	004737	025546	20:	JSR	PC,CLRDN1	:	WRITE ONE TO CLEAR DNI
6818							:	ERROR ?
6819	047430	103006		BCC	30:	:	NO	
6820	047432			ERRHRD	205.,ERR006,MSG003	:	YES, REPORT ERROR	
	047432	104456						TRAP C\$ERRHRD
	047434	000315						.WORD 205
	047436	020202						.WORD ERR006
	047440	017110						.WORD MSG003
6821	047442			ESCAPE	TST	:	AND ABORT TEST	
	047442	104410						TRAP C\$ESCAPE
	047444	000612						.WORD L10051 .
6822				:				
6823	047446	004737	026772	30:	JSR	PC,LDPCSR	:	ADDRESS OF PCBB -> PCSR2!3
6824	047452	012777	000001 132546	MOV	#GETPCB,SPCSRO	:	ISSUE GET_PCBB PORT COMMAND	
6825	047460	004737	024574	JSR	PC,CHKDNI	:	DNI?	
6826	047464	103006		BCC	40:	:	YES	
6827	047466			ERRHRD	206.,ERR009,MSG003	:	NO, REPORT ERROR	
	047466	104456						TRAP C\$ERRHRD
	047470	000316						.WORD 206

Address	Offset	Hex Data	Hex Data	Hex Data	Hex Data	Assembly	Comments	Trap Word	Trap Word
6828	047472	020416	047474	017110		ESCAPE TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	047476	104410	047500	0A0556				WORD	L10051
6830	047502	004737	025546		40:	JSR PC,CLRDN1	; WRITE ONE TO CLEAR DNI		
6831							; ERROR ?		
6832	047506	103006				BCC 50:	; NO		
6833	047510					ERRHRD 207.,ERR006,MSG003	; YES, REPORT ERROR	TRAP	C\$ERRHRD
	047510	104456						WORD	207
	047512	000317						WORD	ERR006
	047514	020202						WORD	MSG003
6834	047520					ESCAPE TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	047520	104410						WORD	L10051
	047522	000534							
6835									
6836									
6837	047524	012705	013244		50:	MOV #WTRNGS,R5	; DEFAULT WRITE RING FORMAT FUNCTION		
6838	047530	004737	026742			JSR PC,LDPDBB	; LOAD FUNCTION -> PCBB		
6839	047534	012777	000002	132464		MOV #GETCMD,SPCSRO	; ISSUE GET_CMD PORT COMMAND		
6840	047542	004737	024574			JSR PC,CHKDNI	; DNI ?		
6841	047546	103006				BCC 60:	; YES		
6842	047550					ERRHRD 208.,ERR010,MSG003	; NO, REPORT ERROR	TRAP	C\$ERRHRD
	047550	104456						WORD	208
	047552	000320						WORD	ERR010
	047554	020502						WORD	MSG003
6843	047560					ESCAPE TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	047560	104410						WORD	L10051
	047562	000474							
6844									
6845	047564	004737	025546		60:	JSR PC,CLRDN1	; WRITE ONE TO CLEAR DNI		
6846							; ERROR ?		
6847	047570	103006				BCC 70:	; NO		
6848	047572					ERRHRD 209.,ERR006,MSG003	; YES, REPORT ERROR	TRAP	C\$ERRHRD
	047572	104456						WORD	209
	047574	000321						WORD	ERR006
	047576	020202						WORD	MSG003
6849	047600	017110				ESCAPE TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	047602	104410						WORD	L10051
	047604	000452							
6850									
6851									
6852	047606	012705	013204		70:	MOV #WTRNGS,R5	; DEFAULT WRITE RING FORMAT FUNCTION		
6853	047612	004737	026742			JSR PC,LDPDBB	; LOAD FUNCTION -> PCBB		
6854	047616	012705	013340			MOV #RFRMTX,R5	; DEFAULT RING FORMAT		
6855	047622	012700	000006			MOV #6,R0	; FORMAT = SIX WORDS		
6856	047626	004737	027142			JSR PC,LDPDBB	; LOAD RING FORMAT -> UD88		
6857	047632	012777	000002	132466		MOV #GETCMD,SPCSRO	; ISSUE GET_CMD PORT COMMAND		
6858	047640	004737	024574			JSR PC,CHKDNI	; DNI ?		
6859	047644	103006				BCC 80:	; YES		
6860</									

	047652	020502				.WORD	ERR010
	047654	017110				.WORD	MSG003
6861	047656			ESCAPE	TST	:	AND ABORT TEST
	047656	104410				TRAP	C\$ESCAPE
	047660	000376				.WORD	L10051 .
6862				:			
6863	047662	004737	025546	80:	JSR	PC,CLRDN1	: WRITE ONE TO CLEAR DNI
6864							: ERROR ?
6865	047666	103006			BCC	90:	: NO
6866	047670				ERRHRD	211.,ERR006,MSG003	: YES, REPORT ERROR
	047670	104456					TRAP
	047672	000323					.WORD
	047674	020202					.WORD
	047676	017110					.WORD
6867	047700			ESCAPE	TST	:	AND ABORT TEST
	047700	104410				TRAP	C\$ESCAPE
	047702	000354				.WORD	L10051 .
6868				:			
6869				;WRITE PHYSICAL ADDRESS			
6870	047704	012705	013144	90:	MOV	#WTPHYA,R5	: DEFAULT WRITE PHYSICAL ADDR FUNC
6871	047710	004737	026742		JSR	PC,LDPCHB	: LOAD FUNCTION > PCBB
6872	047714	012777	000002	132304	MOV	#GETCMD,SPCSRO	: ISSUE GET_CMD PORT COMMAND
6873	047722	004737	024574		JSR	PC,CHKDNI	: DNI ?
6874	047726	103006			BCC	100:	: YES
6875	047730				ERRHRD	212.,ERR010,MSG003	: NO, REPORT ERROR
	047730	104456					TRAP
	047732	000324					.WORD
	047734	020502					.WORD
	047736	017110					.WORD
6876	047740			ESCAPE	TST	:	AND ABORT TEST
	047740	104410				TRAP	C\$ESCAPE
	047742	000314				.WORD	L10051 .
6877				:			
6878	047744	004737	025546	100:	JSR	PC,CLRDN1	: WRITE ONE TO CLEAR DNI
6879							: ERROR ?
6880	047750	103006			BCC	110:	: NO
6881	047752				ERRHRD	213.,ERR006,MSG003	: YES, REPORT ERROR
	047752	104456					TRAP
	047754	000325					.WORD
	047756	020202					.WORD
	047760	017110					.WORD
6882	047762			ESCAPE	TST	:	AND ABORT TEST
	047762	104410				TRAP	C\$ESCAPE
	047764	000272				.WORD	L10051 .
6883				:			
6884				;SET UP RINGS FOR 16 TRANSMIT PACKETS			
6885				;AND NO RECEIVE BUFFERS OWNED BY DELNA			
6886	047766	012705	014014	110:	MOV	#TORBX,R5	: TRANSMIT RING
6887	047772	004737	027104		JSR	PC,LDTDRX	: LOAD TORBX
6888	047776	012705	013414		MOV	#RDRB1B,R5	: DEFAULT RECEIVE RING (NO BUFFERS)
6889	050002	004737	027010		JSR	PC,LDRDRB	: LOAD RDRB
6890				:			
6891				;SET UP BUFFERS AND START			
6892	050006	012705	002266		MOV	#PCBB+2,R5	: POINT TO DESTINATION ADDRESS
6893	050012	004737	026714		JSR	PC,LDDDEST	: LOAD DEST
6894	050016	004737	027342		JSR	PC,SETBUF	: SET UP BUFFERS
6895	050022	012777	000004	132176	MOV	#START,SPCSRO	: ISSUE START PORT COMMAND

6896	050030	004737	024574		JSR	PC,CHKDNI	; DNI?		
6897	050034	103006			BCC	1204	; YES		
6898	050036				ERRHRD	214.,ERR012,MSG003	; NO, REPORT ERROR		
	050036	104456						TRAP	C\$ERHRD
	050040	000326						.WORD	214
	050042	020633						.WORD	ERR012
	050044	017110						.WORD	MSG003
6899	050046				ESCAPE	TST	; AND ABORT TEST		
	05004E	104410						TRAP	C\$ESCAPE
	050050	000206						.WORD	L10051 .
6900									
6901	050052	004737	025546	1204:	JSR	PC,CLPDNI	; WRITE ONE TO CLEAR DNI		
6902							; ERROR ?		
6903	050056	103006			BCC	1304	; NO		
6904	050060				ERRHRD	215.,ERR006,MSG003	; YES, REPORT ERROR		
	050060	104456						TRAP	C\$ERHRD
	050062	000327						.WORD	215
	050064	020202						.WORD	ERR006
	050066	017110						.WORD	MSG003
6905	050070				ESCAPE	TST	; AND ABORT TEST		
	050070	104410						TRAP	C\$ESCAPE
	050072	000164						.WORD	L10051 .
6906									
6907	050074	004737	025404	1304:	JSR	PC,CHKTXI	; TXI ?		
6908	050100	103006			BCC	1404	; YES		
6909	050102				ERRHRD	216.,ERR013,MSG003	; NO, REPORT ERROR		
	050102	104456						TRAP	C\$ERHRD
	050104	000330						.WORD	216
	050106	020714						.WORD	ERR013
	050110	017110						.WORD	MSG003
6910	050112				ESCAPE	TST	; AND ABORT TEST		
	050112	104410						TRAP	C\$ESCAPE
	050114	000142						.WORD	L10051 .
6911									
6912	050116	004737	025730	1404:	JSR	PC,CLRTXI	; WRITE ONE TO CLEAR TXI		
6913							; ERROR ?		
6914	050122	103006			BCC	1704	; NO		
6915	050124				ERRHRD	217.,ERR014,MSG003	; YES, REPORT ERROR		
	050124	104456						TRAP	C\$ERHRD
	050126	000331						.WORD	217
	050130	020745						.WORD	ERR014
	050132	017110						.WORD	MSG003
6916	050134				ESCAPE	TST	; AND ABORT TEST		
	050134	104410						TRAP	C\$ESCAPE
	050136	000120						.WORD	L10051 .
6917									
6918									
6919									
6920	050140	004737	024730	1704:	JSR	PC,CHKRCE	; RCBI ?		
6921	050144	103006			BCC	1804	; YES		
6922	050146				ERRHRD	218.,ERR025,MSG003	; NO, REPORT ERROR		
	050146	104456						TRAP	C\$ERHRD
	050150	000332						.WORD	218
	050152	021672						.WORD	ERR025
	050154	017110						.WORD	MSG003
6923	050156				ESCAPE	TST	; AND ABORT TEST		
	050156	104410						TRAP	C\$ESCAPE

	050160	000076				.WORD	L10051 .
6924				:			
6925	050162	004737	025614	180:	JSR PC,CLRRCCE	; WRITE ONE TO CLEAR RCFI	
6926						; ERROR ?	
6927	050166	103006			BCC 230:	; NO	
6928	050170				ERRHRD 219.,ERROR26,MSGU03	; YES, REPORT ERROR	
	050170	104456				TRAP	C\$ERHRD
	050172	000333				.WORD	219
	050174	021724				.WORD	ERROR26
	050176	017110				.WORD	MSGU03
6929	050200				ESCAPE TST	; AND ABORT TEST	
	050200	104410				TRAP	C\$ESCAPE
	050202	000054				.WORD	L10051 .
6930				:			
6931	050204	012777	000017	132014	230:	MOV #STOP,BPCSRO	; ISSUE STOP PORT COMMAND
6932	050212	004737	024574		JSR PC,CHKDNI	; DNI ?	
6933	050216	103006			BCC 240:	; YES	
6934	050220				ERRHRD 220.,ERROR19,MSGU03	; NO, REPORT ERROR	
	050220	104456				TRAP	C\$ERHRD
	050222	000334				.WORD	220
	050224	021312				.WORD	ERROR19
	050226	017110				.WORD	MSGU03
6935	050230				ESCAPE TST	; AND ABORT TEST	
	050230	104410				TRAP	C\$ESCAPE
	050232	000024				.WORD	L10051 .
6936				:			
6937	050234	004737	025546	240:	JSR PC,CLRDNI	; WRITE ONE TO CLEAR DNI	
6938						; ERROR ?	
6939	050240	103006			BCC 250:	; NO	
6940	050242				ERRHRD 221.,ERROR06,MSGU03	; YES, REPORT ERROR	
	050242	104456				TRAP	C\$ERHRD
	050244	000335				.WORD	221
	050246	020202				.WORD	ERROR06
	050250	017110				.WORD	MSGU03
6941	050252				ESCAPE TST	; AND ABORT TEST	
	050252	104410				TRAP	C\$ESCAPE
	050254	000002				.WORD	L10051 -.
6942	050256			250:			
6943	050256				ENDTST		
	050256					L10051:	
	050256	104401				TRAP	C\$ETST

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.SBTTL TEST 20: DATA CHAINING TEST

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*****
:
:   THIS TEST VERIFIES TRANSMIT AND RECEIVE DATA CHAINING.
:   AN INTERNAL OR EXTERNAL LOOPBACK IS PERFORMED
:   WITH THREE TRANSMIT AND THREE RECEIVE BUFFERS CHAINED.
:   INTERNAL LOOPBACK IS DEFAULT WITH EXTERNAL LOOPBACK BEING
:   SELECTED VIA A SOFTWARE QUESTION.
:
:   TEST SEQUENCE:
:       1.  WRITE MODE REGISTER = PROM MODE AND EITHER
:           INTERNAL(D) OR EXTERNAL LOOPBACK MODE
:       2.  WRITE RING FORMAT
:       3.  WRITE PHYSICAL ADDRESS
:       4.  SET UP RINGS AND BUFFERS
:           THREE TRANSMIT AND RECEIVE BUFFERS
:       5.  ISSUE START
:       6.  CHECK FOR ERRORS
:       7.  ISSUE STOP
:
:*****
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6968	050260				BGNTST				
	050260							T20::	
6969	050260	004737	027446	14:	JSR	PC,TINIT		; IS A DEVICE RESET NEEDED?	
6970	050264	103025			BCC	304		; NO	
6971	050266	012777	000040	131732	MOV	#RSET,#PCSR0		; YES, RESET DEUNA	
6972	050274	004737	024574		JSR	PC,CHKDNI		; DNI ?	
6973	050300	103006			BCC	204		; YES	
6974	050302				ERRHRD	222.,ERR004,MSG003		; NO, REPORT ERROR	
	050302	104456						TRAP	C\$ERHRD
	050304	000336						.WORD	222
	050306	020102						.WORD	ERR004
	050310	017110						.WORD	MSG003
6975	050312				ESCAPE	TST		; AND ABORT TEST	
	050312	104410						TRAP	C\$ESCAPE
	050314	001536						.WORD	L10052 .
6976									
6977	050316	004737	025546	204:	JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI	
6978								; ERROR ?	
6979	050322	103006			BCC	304		; NO	
6980	050324				ERRHRD	223.,ERR006,MSG003		; YES, REPORT ERROR	
	050324	104456						TRAP	C\$ERHRD
	050326	000337						.WORD	223
	050330	020202						.WORD	ERR006
	050332	017110						.WORD	MSG003
6981	050334				ESCAPE	TST		; AND ABORT TEST	
	050334	104410						TRAP	C\$ESCAPE
	050336	001514						.WORD	L10052 .
6982									
6983	050340	004737	026772	304:	JSR	PC,LDPCSR		; ADDRESS OF PCBB -> PCSR2:3	
6984	050344	012777	000001	131654	MOV	#GETPCB,#PCSR0		; ISSUE GET_PCBB PORT COMMAND	
6985	050352	004737	024574		JSR	PC,CHKDNI		; DNI?	
6986	050356	103006			BCC	404		; YES	
6987	050360				ERRHRD	224.,ERR009,MSG003		; NO, REPORT ERROR	
	050360	104456						TRAP	C\$ERHRD

	050362	000340				.WORD	224
	050364	020416				.WORD	ERR009
	050366	017110				.WORD	MSG003
6988	050370			ESCAPE	TST	:	AND ABORT TEST
	050370	104410				TRAP	C#ESCAPE
	050372	001460				.WORD	L10052
6989				:			
6990	050374	004737	025546	40:	JSR	PC,CLRDN1	: WRITE ONE TO CLEAR DNI
6991							: ERROR ?
6992	050400	103006			BCC	50:	: NO
6993	050402				ERRHRD	225.,ERR006,MSG003	: YES, REPORT ERROR
	050402	104456					TRAP
	050404	000341				.WORD	C#ERRHRD
	050406	020202				.WORD	225
	050410	017110				.WORD	ERR006
6994	050412			ESCAPE	TST	:	AND ABORT TEST
	050412	104410				TRAP	C#ESCAPE
	050414	001436				.WORD	L10052
6995				:			
6996				:CHECK IF EXTERNAL LOOPBACK			
6997	050416	005737	002224	50:	TST	EXLOOP	: EXTERNAL LOOPBACK SELECTED ?
6998	050422	001005			BNE	55:	: YES
6999				:			
7000				:WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE			
7001	050424	012705	013244		MOV	#WTHMODE,R5	: DEFAULT WRITE MODE FUNCTION
7002	050430	004737	026742		JSR	PC,LDPCEB	: LOAD FUNCTION -> PCBB
7003	050434	000407			BR	56:	
7004				:WRITE MODE REGISTER = PROM MODE ONLY (EXTERNAL LOOPBACK)			
7005	050436	012705	013244	55:	MOV	#WTHMODE,R5	: DEFAULT WRITE MODE FUNCTION
7006	050442	004737	026742		JSR	PC,LDPCEB	: LOAD FUNCTION -> PCBB
7007	050446	013737	015114	002266	MOV	MODE20,PCBB+2	: PROM MODE ONLY
7008	050454	012777	000002	131544	56:	MOV	#GETCMD,BPCSR0
7009	050462	004737	024574		JSR	PC,CHKDNI	: ISSUE GET_CMD PORT COMMAND
7010	050466	103006			BCC	60:	: DNI ?
7011	050470				ERRHRD	226.,ERR010,MSG003	: YES
	050470	104456					: NO, REPORT ERROR
	050472	000342					TRAP
	050474	020502				.WORD	C#ERRHRD
	050476	017110				.WORD	226
7012	050500			ESCAPE	TST	:	AND ABORT TEST
	050500	104410				TRAP	C#ESCAPE
	050502	001350				.WORD	L10052-
7013				:			
7014	050504	004737	025546	60:	JSR	PC,CLRDN1	: WRITE ONE TO CLEAR DNI
7015							: ERROR ?
7016	050510	103006			BCC	70:	: NO
7017	050512				ERRHRD	227.,ERR006,MSG003	: YES, REPORT ERROR
	050512	104456					TRAP
	050514	000343				.WORD	C#ERRHRD
	050516	020202				.WORD	227
	050520	017110				.WORD	ERR006
7018	050522			ESCAPE	TST	:	AND ABORT TEST
	050522	104410				TRAP	C#ESCAPE
	050524	001326				.WORD	L10052
7019				:			
7020				:WRITE RING FORMAT			
7021	050526	012705	013204	70:	MOV	#WTRNGS,R5	: DEFAULT WRITE RING FORMAT FUNCTION

7022	050532	004737	026742		JSR	PC,LDPCBB		; LOAD FUNCTION -> PCBB		
7023	050536	012705	013324		MOV	#RFRMT,R5		; DEFAULT RING FORMAT		
7024	050542	012705	000006		MOV	#6,R0		; FORMAT - SIX WORDS		
7025	050546	004737	027142		JSR	PC,LDU0BB		; LOAD RING FORMAT -> U0BB		
7026	050552	012777	000002	131446	MOV	#GETCMD,BPCSR0		; ISSUE GET_CMD PORT COMMAND		
7027	050560	004737	024574		JSR	PC,CHKDNI		; DNI ?		
7028	050564	103006			BCC	804		; YES		
7029	050566				ERRHRD	228.,ERR010,MSG003		; NO, REPORT ERROR		
	050566	104456							TRAP	C1ERRHRD
	050570	000344							.WORD	228
	050572	020502							.WORD	ERR010
	050574	017110							.WORD	MSG003
7030	050576				ESCAPE	TST		; AND ABORT TEST		
	050576	104410							TRAP	C1ESCAPE
	050600	001252							.WORD	L10052
7031										
7032	050602	004737	025546		JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI		
7033								; ERROR ?		
7034	050606	103006			BCC	904		; NO		
7035	050610				ERRHRD	229.,ERR006,MSG003		; YES, REPORT ERROR		
	050610	104456							TRAP	C1ERRHRD
	050612	000345							.WORD	229
	050614	020202							.WORD	ERR006
	050616	017110							.WORD	MSG003
7036	050620				ESCAPE	TST		; AND ABORT TEST		
	050620	104410							TRAP	C1ESCAPE
	050622	001230							.WORD	L10052
7037										
7038					; WRITE PHYSICAL ADDRESS					
7039	050624	012705	013144		904:	MOV	#WTPHYA,R5		; DEFAULT WRITE PHYSICAL ADDR FUNC	
7040	050630	004737	026742		JSR	PC,LDPCBB		; LOAD FUNCTION -> PCBB		
7041	050634	012777	000002	131364	MOV	#GETCMD,BPCSR0		; ISSUE GET_CMD PORT COMMAND		
7042	050642	004737	024574		JSR	PC,CHKDNI		; DNI ?		
7043	050646	103006			BCC	1004		; YES		
7044	050650				ERRHRD	230.,ERR010,MSG003		; NO, REPORT ERROR		
	050650	104456							TRAP	C1ERRHRD
	050652	000346							.WORD	230
	050654	020502							.WORD	ERR010
	050656	017110							.WORD	MSG003
7045	050660				ESCAPE	TST		; AND ABORT TEST		
	050660	104410							TRAP	C1ESCAPE
	050662	001170							.WORD	L10052
7046										
7047	050664	004737	025546		1004:	JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI	
7048								; ERROR ?		
7049	050670	103006			BCC	1104		; NO		
7050	050672				ERRHRD	231.,ERR006,MSG003		; YES, REPORT ERROR		
	050672	104456							TRAP	C1ERRHRD
	050674	000347							.WORD	231
	050676	020202							.WORD	ERR006
	050700	017110							.WORD	MSG003
7051	050702				ESCAPE	TST		; AND ABORT TEST		
	050702	104410							TRAP	C1ESCAPE
	050704	001146							.WORD	L10052
7052										
7053					; SET UP RINGS FOR THREE BUFFERS CHAINED LOOPBACK					
7054	050706	012705	013754		1104:	MOV	#TDRB3A,R5		; DEFAULT THREE BUFFER TRANSMIT RING	

7055	050712	004737	027046		JSR	PC,LD1DRB		; LOAD TDRB		
7056	050716	012705	013514		MOV	#RDRB3A,R5		; DEFAULT THREE BUFFER RECEIVE RING		
7057	050722	004737	027010		JSR	PC,LDRDRB		; LOAD RDRB		
7058										
7059					; SET UP BUFFERS AND START					
7060	050726	012705	002266		MOV	#PCBB-2,R5		; POINT TO DESTINATION ADDRESS		
7061	050732	004737	026714		JSR	PC,LDDST		; LOAD DEST		
7062	050736	004737	027342		JSR	PC,SETBUF		; SET UP BUFFERS		
7063					; LOAD TYPE FIELD - DIAGNOSTIC TYPE					
7064	050742	012705	003120		MOV	#TBUF+12,R5		; POINT TO TYPE FIELD		
7065	050746	012715	002540		MOV	#OTYPE,(R5)		; LOAD DIAGNOSTIC TYPE		
7066										
7067	050752	012777	000004	131246	MOV	#START,#PCSR0		; ISSUE START PORT COMMAND		
7068	050760	004737	024574		JSR	PC,CHKDNI		; DNI?		
7069	050764	103006			BCC	1204		; YES		
7070	050766				ERRHRD	232.,ERR012,MSG003		; NO, REPORT ERROR		
	050766	104456							TRAP	C#ERRHRD
	050770	000350							.WORD	232
	050772	020633							.WORD	ERR012
	050774	017110							.WORD	MSG003
7071	050776				ESCAPE	TST		; AND ABORT TEST		
	050776	104410							TRAP	C#ESCAPE
	051000	001052							.WORD	L10052-
7072										
7073	051002	004737	025546		JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI		
7074								; ERROR ?		
7075	051006	103006			BCC	1304		; NO		
7076	051010				ERRHRD	233.,ERR006,MSG003		; YES, REPORT ERROR		
	051010	104456							TRAP	C#ERRHRD
	051012	000351							.WORD	233
	051014	020202							.WORD	ERR006
	051016	017110							.WORD	MSG003
7077	051020				ESCAPE	TST		; AND ABORT TEST		
	051020	104410							TRAP	C#ESCAPE
	051022	001030							.WORD	L10052-
7078										
7079	051024	004737	025404		JSR	PC,CHKTXI		; TXI ?		
7080	051030	103006			BCC	1404		; YES		
7081	051032				ERRHRD	234.,ERR013,MSG003		; NO, REPORT ERROR		
	051032	104456							TRAP	C#ERRHRD
	051034	000352							.WORD	234
	051036	020714							.WORD	ERR013
	051040	017110							.WORD	MSG003
7082	051042				ESCAPE	TST		; AND ABORT TEST		
	051042	104410							TRAP	C#ESCAPE
	051044	001006							.WORD	L10052-
7083										
7084	051046	004737	025730		JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI		
7085								; ERROR ?		
7086	051052	103006			BCC	1504		; NO		
7087	051054				ERRHRD	235.,ERR014,MSG003		; YES, REPORT ERROR		
	051054	104456							TRAP	C#ERRHRD
	051056	000353							.WORD	235
	051060	020745							.WORD	ERR014
	051062	017110							.WORD	MSG003
7088	051064				ESCAPE	TST		; AND ABORT TEST		
	051064	104410							TRAP	C#ESCAPE

Address	Offset	Value	Label	Instruction	Comment	Trap	Word
7089	051066	700764					
7090	051070	012705	002604	1504: MOV #TDRB,R5	; CHECK TDRB OWNERSHIP		
7091	051074	004737	024676	JSR PC,CHKOWN	; OWN = PORT DRIVER ?		
7092	051100	103006		BCC 1604	; YES		
7093	051102			ERRHRD 236.,ERR027	; NO, REPORT ERROR	TRAP	C#ERRHRD
	051102	104456				.WORD	236
	051104	000354				.WORD	ERR027
	051106	021773				.WORD	0
	051110	000000					
7094	051112			ESCAPE TST	; AND ABORT TEST	TRAP	C#ESCAPE
	051112	104410				.WORD	L10052-
	051114	000736					
7095							
7096	051116	012705	014564	1604: MOV #TDR20A,R5	; POINT TO EXPECTED TDRB		
7097	051122	004737	027252	JSR PC,LDXTDR	; LOAD INTO XTDRBO TABLF		
7098	051126	012705	002604	MOV #TDRB,R5	; CHECK TDRB		
7099	051132	004737	025316	JSR PC,CHKTDR	; ERRORS ?		
7100	051136	103006		BCC 1624	; NO		
7101	051140			ERRHRD 237.,ERR033,MSG005	; YES, REPORT ERROR	TRAP	C#ERRHRD
	051140	104456				.WORD	237
	051142	000355				.WORD	ERR033
	051144	022633				.WORD	MSG005
	051146	017214					
7102	051150			ESCAPE TST	; AND ABORT TEST	TRAP	C#ESCAPE
	051150	104410				.WORD	L10052
	051152	000700					
7103							
7104	051154	012705	002614	1624: MOV #TDRB+8.,R5	; CHECK TDRB OWNERSHIP		
7105	051160	004737	024676	JSR PC,CHKOWN	; OWN = PORT DRIVER ?		
7106	051164	103006		BCC 1644	; YES		
7107	051166			ERRHRD 238.,ERR028	; NO, REPORT ERROR	TRAP	C#ERRHRD
	051166	104456				.WORD	238
	051170	000356				.WORD	ERR028
	051172	022100				.WORD	0
	051174	000000					
7108	051176			ESCAPE TST	; AND ABORT TEST	TRAP	C#ESCAPE
	051176	104410				.WORD	L10052
	051200	000652					
7109							
7110	051202	012705	014574	1644: MOV #TDR20B,R5	; POINT TO EXPECTED TDRB		
7111	051206	004737	027252	JSR PC,LDXTDR	; LOAD INTO XTDRBO TABLE		
7112	051212	012705	002614	MOV #TDRB+8.,R5	; CHECK TDRB		
7113	051216	004737	025316	JSR PC,CHKTDR	; ERRORS ?		
7114	051222	103006		BCC 1664	; NO		
7115	051224			ERRHRD 239.,ERR034,MSG005	; YES, REPORT ERROR	TRAP	C#ERRHRD
	051224	104456				.WORD	239
	051226	000357				.WORD	ERR034
	051230	022722				.WORD	MSG005
	051232	017214					
7116	051234			ESCAPE TST	; AND ABORT TEST	TRAP	C#ESCAPE
	051234	104410				.WORD	L10052-
	051236	000614					
7117							
7118	051240	012705	002624	1664: MOV #TDRB+16.,R5	; CHECK TDRB OWNERSHIP		
7119	051244	004737	024676	JSR PC,CHKOWN	; OWN = PORT DRIVER ?		
7120	051250	103006		BCC 1684	; YES		

7121	051252			ERRHRD	240.,ERR029	; NO. REPORT ERROR	TRAP	C\$ERRHRD
	051252	104456					.WORD	240
	051254	000360					.WORD	ERR029
	051256	022206					.WORD	0
	051260	000000						
7122	051262			ESCAPE	TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	051262	104410					.WORD	L10052
	051264	000566						
7123								
7124	051266	012705	014604	168:	MOV	#TDR20C,R5		; POINT TO EXPECTED TDRB
7125	051272	004737	027252		JSR	PC,LDXTDR		; LOAD INTO XTDRB0 TABLE
7126	051276	012705	002624		MOV	#TDRB+16.,R5		; CHECK TDRB
7127	051302	004737	025316		JSR	PC,CHKTUR		; ERRORS ?
7128	051306	103006			BCC	1704		; NO
7129	051310				ERRHRD	241.,ERR035,MSG005		; YES, REPORT ERROR
	051310	104456					TRAP	C\$ERRHRD
	051312	000361					.WORD	241
	051314	023012					.WORD	ERR035
	051316	017214					.WORD	MSG005
7130	051320			ESCAPE	TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	051320	104410					.WORD	L10052
	051322	000530						
7131								
7132	051324	004737	025132	1704:	JSR	PC,CHKRXI		; RXI ?
7133	051330	103006			BCC	1804		; YES
7134	051332				ERRHRD	242.,ERR015,MSG003		; NO, REPORT ERROR
	051332	104456					TRAP	C\$ERRHRD
	051334	000362					.WORD	242
	051336	021013					.WORD	ERR015
	051340	017110					.WORD	MSG003
7135	051342			ESCAPE	TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	051342	104410					.WORD	L10052
	051344	000506						
7136								
7137	051346	004737	025662	1804:	JSR	PC,CLRXXI		; WRITE ONE TO CLEAR RXI
7138								; ERROR ?
7139	051352	103006			BCC	1824		; NO
7140	051354				ERRHRD	243.,ERR016,MSG003		; YES, REPORT ERROR
	051354	104456					TRAP	C\$ERRHRD
	051356	000363					.WORD	243
	051360	021044					.WORD	ERR016
	051362	017110					.WORD	MSG003
7141	051364			ESCAPE	TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	051364	104410					.WORD	L10052
	051366	000464						
7142								
7143	051370	005737	002224	1824:	TST	EXLOOP		; EXTERNAL LOOPBACK
7144	051374	001431			BEG	1904		; NO, SKIP EXTERNAL CHECKS
7145								
7146								
7147	051376	012703	007112		MOV	#RBUF+6,R3		; R3 POINTS TO SOURCE ADDRESS
7148	051402	012704	007104		MOV	#RBUF,R4		; R4 POINTS TO DESTINATION ADDRESS
7149	051406	022324			CMP	(R3)+,(R4)+		; FIRST WORD COMPARE ?
7150	051410	001006			BNE	1844		; NO, GO CHECK TYPE FIELD
7151	051412	022324			CMP	(R3)+,(R4)+		; SECOND WORD COMPARE ?
7152	051414	001004			BNE	1844		; NO, GO CHECK TYPE FIELD
7153	051416	021314			CMP	(R3),(R4)		; THIRD AND LAST COMPARE ?

7187	051576	004737	027222	JSR	PC.LDXRDR	; LOAD INTO XRDRBO TABLE		
7188	051602	012705	002654	MOV	#RDRB+8.,R5	; CHECK RDRB		
7189	051606	004737	025032	JSR	PC.CHRDR	; ERRORS ?		
7190	051612	103006		BCC	206:	; NO		
7191	051614			ERRHRD	248.,ERR037,MSG006	; YES, REPORT ERROR		
	051614	104456					TRAP	C#ERHRD
	051616	000370					.WORD	248
	051620	023167					.WORD	ERR037
	051622	017356					.WORD	MSG006
7192	051624			ESCAPE	TST	; AND ABORT TEST		
	051624	104410					TRAP	C#ESCAPE
	051626	000224					.WORD	L10052 .
7193				;CHECK	THIRD RING ENTRY			
7194	051630	012705	002664	206: MOV	#RDRB+16.,R5	; CHECK RDRB OWNERSHIP		
7195	051634	004737	024676	JSR	PC.CHKOWN	; OWN = PORT DRIVER ?		
7196	051640	103006		BCC	208:	; YES		
7197	051642			ERRHRD	249.,ERR032	; NO, REPORT ERROR		
	051642	104456					TRAP	C#ERHRD
	051644	000371					.WORD	219
	051646	022526					.WORD	ERR032
	051650	000000					.WORD	0
7198	051652			ESCAPE	TST	; AND ABORT TEST		
	051652	104410					TRAP	C#ESCAPE
	051654	000176					.WORD	L10052 .
7199				208: MOV	#RDR20C,R5	; POINT TO EXPECTED RDRB		
7200	051656	012705	014714	JSR	PC.LDXRDR	; LOAD INTO XRDRBO TABLE		
7201	051662	004737	027222	MOV	#RDRB+16.,R5	; CHECK RDRB		
7202	051666	012705	002664	JSR	PC.CHRDR	; ERRORS ?		
7203	051672	004737	025032	BCC	210:	; NO		
7204	051676	103006		ERRHRD	250.,ERR038,MSG006	; YES, REPORT ERROR		
7205	051700						TRAP	C#ERHRD
	051700	104456					.WORD	250
	051702	000372					.WORD	ERR038
	051704	023256					.WORD	MSG006
	051706	017356						
7206	051710			ESCAPE	TST	; AND ABORT TEST		
	051710	104410					TRAP	C#ESCAPE
	051712	000140					.WORD	L10052 .
7207				;COMPARE	RBUF WITH TBUF			
7208				210: MOV	#376.,R5	; COMPARE 376 WORDS OF DATA		
7209	051714	012705	000570	JSR	PC.CMPDAT	; DATA COMPARE ERROR :		
7210	051720	004737	026044	BCC	220:	; NO		
7211	051724	103006		ERRHRD	251.,ERR022,MSG007	; YES, REPORT ERROR		
7212	051726						TRAP	C#ERHRD
	051726	104456					.WORD	251
	051730	000373					.WORD	ERR022
	051732	021534					.WORD	MSG007
	051734	017520						
7213	051736			ESCAPE	TST	; AND ABORT TEST		
	051736	104410					TRAP	C#ESCAPE
	051740	000112					.WORD	L10052 .
7214				220: MOV	#CRC20A,R5	; POINT TO EXPECTED CRC		
7215	051742	012705	014740	JSR	PC.LDXCRC	; LOAD INTO XCRC TABLE		
7216	051746	004737	027176	MOV	#RBUF+764.,R5	; CHECK CRC		
7217	051752	012705	010500	JSR	PC.CMPCRC	; ERRORS ?		
7218	051756	004737	026124	BCC	230:	; NO		
7219	051762	103006						


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7220 051764          ERRMRD 252.,ERR023,MSG008      ; YES, REPORT ERROR      TRAP      C#ERRMRD
      051764 104456          .WORD 252              .WORD 252
      051766 000374          .WORD ERR023            .WORD ERR023
      051770 021603          .WORD MSG008            .WORD MSG008
      051772 017552
7221 051774          ESCAPE TST                      ; AND ABORT TEST      TRAP      C#ESCAPE
      051774 104410          .WORD L10052            .WORD L10052
      051776 000054
7222
7223 052000 012777 000017 130220 2304: MOV #STOP,SPCSR0      ; ISSUE STOP PORT COMMAND
7224 052006 004737 024574 JSR PC,CHKDNI              ; DNI ?
7225 052012 103006 BCC 2404                          ; YES
7226 052014          ERRMRD 253.,ERR019,MSG003      ; NO, REPORT ERROR      TRAP      C#ERRMRD
      052014 104456          .WORD 253              .WORD 253
      052016 000375          .WORD ERR019            .WORD ERR019
      052020 021312          .WORD MSG003            .WORD MSG003
      052022 017110
7227 052024          ESCAPE TST                      ; AND ABORT TEST      TRAP      C#ESCAPE
      052024 104410          .WORD L10052            .WORD L10052
      052026 000024
7228
7229 052030 004737 025546 2404: JSR PC,CLRDN1        ; WRITE ONE TO CLEAR DNI
7230 BCC 2504                          ; ERROR ?
7231 052034 103006 BCC 2504                          ; NO
7232 052036          ERRMRD 254.,ERR006,MSG003      ; YES, REPORT ERROR      TRAP      C#ERRMRD
      052036 104456          .WORD 254              .WORD 254
      052040 000376          .WORD ERR006            .WORD ERR006
      052042 020202          .WORD MSG003            .WORD MSG003
      052044 017110
7233 052046          ESCAPE TST                      ; AND ABORT TEST      TRAP      C#ESCAPE
      052046 104410          .WORD L10052            .WORD L10052
      052050 000002
7234 052052          2504:
7235 052052          ENDTST
      052052 104401

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L10052: TRAP C#ETST

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.SBTTL TEST 21: 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 DEUNA'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

BGNTST

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7270 052054 052054 004737 027446 130136 JSR PC,TINIT ; IS 1 DEVICE RESET NEEDED?
7271 052054 052054 004737 027446 BCC 304 ; NO
7272 052060 052060 103025 000040 130136 MOV #RSET,BPCSR0 ; YES, RESET DEUNA
7273 052062 052062 012777 000040 130136 JSR PC,CHKDNI ; DNI ?
7274 052070 052070 004737 024574 BCC 204 ; YES
7275 052074 052074 103006 ERRHRD 255.,ERR004,MSG003 ; NO, REPORT ERROR
7276 052076 052076 104456 TRAP C$ERRHRD
052100 000377 .WORD 255
052102 020102 .WORD ERR004
052104 017110 .WORD MSG003
7277 052106 052106 104410 ESCAPE TST ; AND ABORT TEST
052110 002624 TRAP C$ESCAPE
. WORD L10053-.
7278 052112 052112 004737 025546 204: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
7279 052112 052112 004737 025546 BCC 304 ; ERROR ?
7280 052116 052116 103006 ERRHRD 256.,ERR006,MSG003 ; YES, REPORT ERROR
7281 052120 052120 104456 TRAP C$ERRHRD
7282 052122 052122 000400 .WORD 256
052124 020202 .WORD ERR006
052126 017110 .WORD MSG003

```

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

```

; DEFAULT WRITE RING FORMAT FUNCTION
; LOAD FUNCTION -> PCBB
; DEFAULT RING FORMAT
; FORMAT = SIX WORDS
; LOAD RING FORMAT -> UDBB
; ISSUE GET_CMD PORT COMMAND
; DNI ?
; YES
; NO, REPORT ERROR

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052470	020202						.WORD	ERR006
052472	017110						.WORD	MSG003
7351 052474				ESCAPE TST		: AND ABORT TEST		
052474	104410						TRAP	C\$ESCAPE
052476	002236						.WORD	L10053
7352				: SET UP RINGS FOR ONE BUFFER LOOPBACK				
7353				110\$: MOV #TDRB1A,R5		: DEFAULT ONE BUFFER TRANSMIT RING		
7354 052500	012705	013554		JSR PC,LDTDRB		: LOAD TDRB		
7355 052504	004737	027046		MOV #RDRB1A,R5		: DEFAULT ONE BUFFER RECEIVE RING		
7356 052510	012705	013354		JSR PC,LDRDRB		: LOAD RDRB		
7357 052514	004737	027010						
7358				: SET UP BUFFERS AND START				
7359				MOV #PCB8+2,R5		: POINT TO DESTINATION ADDRESS		
7360 052520	012705	002266		JSR PC,LDEST		: LOAD DEST		
7361 052524	004737	026714		JSR PC,SETBUF		: SET UP BUFFERS		
7362 052530	004737	027342		MOV #START,SPCSRO		: ISSUE START PORT COMMAND		
7363 052534	012777	000004	127464	JSR PC,CHKDNI		: DNI?		
7364 052542	004737	024574		BCC 120\$		: YES		
7365 052546	103006			ERRHRD 265.,ERR012,MSG003		: NO, REPORT ERROR		
7366 052550							TRAP	C\$ERHRD
052550	104456						.WORD	265
052552	000411						.WORD	ERR012
052554	020633						.WORD	MSG003
052556	017110							
7367 052560				ESCAPE TST		: AND ABORT TEST		
052560	104410						TRAP	C\$ESCAPE
052562	002152						.WORD	L10053-
7368				: 120\$: JSR PC,CLRDN1		: WRITE ONE TO CLEAR DNI		
7369 052564	004737	025546				: ERROR ?		
7370						: NO		
7371 052570	103006			BCC 130\$		: YES, REPORT ERROR		
7372 052572				ERRHRD 266.,ERR006,MSG003			TRAP	C\$ERHRD
052572	104456						.WORD	266
052574	000412						.WORD	ERR006
052576	020202						.WORD	MSG003
052600	017110							
7373 052602				ESCAPE TST		: AND ABORT TEST		
052602	104410						TRAP	C\$ESCAPE
052604	002130						.WORD	L10053-
7374				: 130\$: JSR PC,CHKTXI		: TXI ?		
7375 052606	004737	025404		BCC 140\$		: YES		
7376 052612	103006			ERRHRD 267.,ERR013,MSG003		: NO, REPORT ERROR		
7377 052614							TRAP	C\$ERHRD
052614	104456						.WORD	267
052616	000413						.WORD	ERR013
052620	020714						.WORD	MSG003
052622	017110							
7378 052624				ESCAPE TST		: AND ABORT TEST		
052624	104410						TRAP	C\$ESCAPE
052626	002106						.WORD	L10053
7379				: 140\$: JSR PC,CLRTXI		: WRITE ONE TO CLEAR TXI		
7380 052630	004737	025730				: ERROR ?		
7381						: NO		
7382 052634	103006			BCC 150\$		: YES, REPORT ERROR		
7383 052636				ERRHRD 268.,ERR014,MSG003			TRAP	C\$ERHRD
052636	104456						.WORD	268
052640	000414							

	052642	020745					.WORD	ERR014
	052644	017110					.WORD	MSG003
7384	052646			ESCAPE	TST	:	AND ABORT TEST	
	052646	104410					TRAP	C\$ESCAPE
	052650	002064					.WORD	L10053
7385								
7386	052652	012705	002604	i150\$:	MOV	#TDRB,R5		: CHECK TDRB OWNERSHIP
7387	052656	004737	024676		JSR	PC,CHKOWN		: OWN = PORT DRIVER ?
7388	052662	103006			BCC	160\$		: YES
7389	052664				ERR RD	269.,ERR018		: NO, REPORT ERROR
	052664	104456					TRAP	C\$ERRRD
	052666	000415					.WORD	269
	052670	021212					.WORD	ERR018
	052672	000000					.WORD	0
7390	052674			ESCAPE	TST	:	AND ABORT TEST	
	052674	104410					TRAP	C\$ESCAPE
	052676	002036					.WORD	L10053
7391								
7392	052700	012705	014524	i160\$:	MOV	#TDR14A,R5		: POINT TO EXPECTED TDRB
7393	052704	004737	027252		JSR	PC,LDXTDR		: LOAD INTO XTDRBO TABLE
7394	052710	012705	002604		MOV	#TDRB,R5		: CHECK TDRB
7395	052714	004737	025316		JSR	PC,CHKTDR		: ERRORS ?
7396	052720	103006			BCC	170\$		: NO
7397	052722				ERRHRD	270 ,ERR020,MSG005		: YES, REPORT ERROR
	052722	104456					TRAP	C\$ERRRD
	052724	000416					.WORD	270
	052726	021372					.WORD	ERR020
	052730	017214					.WORD	MSG005
7398	052732			ESCAPE	TST	:	AND ABORT TEST	
	052732	104410					TRAP	C\$ESCAPE
	052734	002000					.WORD	L10053
7399								
7400	052736	004737	025132	i170\$:	JSR	PC,CHKRXI		: RXI ?
7401	052742	103006			BCC	180\$		: YES
7402	052744				ERRHRD	271.,ERR015,MSG003		: NO, REPORT ERROR
	052744	104456					TRAP	C\$ERRRD
	052746	000417					.WORD	271
	052750	021013					.WORD	ERR015
	052752	017110					.WORD	MSG003
7403	052754			ESCAPE	TST	:	AND ABORT TEST	
	052754	104410					TRAP	C\$ESCAPE
	052756	001756					.WORD	L10053
7404								
7405	052760	004737	025662	i180\$:	JSR	PC,CLRRXI		: WRITE ONE TO CLEAR RXI
7406								: ERROR ?
7407	052764	103006			BCC	190\$		: NO
7408	052766				ERRHRD	272.,ERR016,MSG003		: YES, REPORT ERROR
	052766	104456					TRAP	C\$ERRRD
	052770	000420					.WORD	272
	052772	021044					.WORD	ERR016
	052774	017110					.WORD	MSG003
7409	052776			ESCAPE	TST	:	AND ABORT TEST	
	052776	104410					TRAP	C\$ESCAPE
	053000	001734					.WORD	L10053-
7410								
7411	053002	012705	002644	i190\$:	MOV	#RDRB,R5		: CHECK RDRB OWNERSHIP
7412	053006	004737	024676		JSR	PC,CHKOWN		: OWN = PORT DRIVER ?

7413	053012	103006		BCC	2004		; YES		
7414	053014			ERRHRD	273..ERR017		; NO. REPORT ERROR		
	053014	104456						TRAP	C#ERRHRD
	053016	000421						.WORD	273
	053020	021112						.WORD	ERR017
	053022	000000						.WORD	0
7415	053024			ESCAPE	TST		; AND ABORT TEST		
	053024	104410						TRAP	C#ESCAPE
	053026	001706						.WORD	L10053 .
7416									
7417	053030	012705	014634	2004:	MOV	#RDR14A,R5	; POINT TO EXPECTED RDRB		
7418	053034	004737	027222		JSR	PC,LDXRDR	; LOAD INTO XRDRB0 TABLE		
7419	053040	012705	002644		MOV	#RDRB,R5	; CHECK RDRB		
7420	053044	004737	025032		JSR	PC,CHKRDR	; ERRORS ?		
7421	053050	103006			BCC	2104	; NO		
7422	053052				ERRHRD	274..ERR021.MSG006	; YES. REPORT ERROR		
	053052	104456						TRAP	C#ERRHRD
	053054	000422						.WORD	274
	053056	021453						.WORD	ERR021
	053060	017356						.WORD	MSG006
7423	053062			ESCAPE	TST		; AND ABORT TEST		
	053062	104410						TRAP	C#ESCAPE
	053064	001650						.WORD	L10053 .
7424									
7425									
7426	053066	012705	000070						
7427	053072	004737	026044	2104:	MOV	#56..R5	; COMPARE 56 WORDS OF DATA		
7428	053076	103006			JSR	PC,CMPOAT	; DATA COMPARE ERROR ?		
7429	053100				BCC	2204	; NO		
	053100	104456			ERRHRD	275..ERR022.MSG007	; YES. REPORT ERROR		
	053102	000423						TRAP	C#ERRHRD
	053104	021534						.WORD	275
	053106	017520						.WORD	ERR022
7430	053110			ESCAPE	TST		; AND ABORT TEST		
	053110	104410						TRAP	C#ESCAPE
	053112	001622						.WORD	L10053 .
7431									
7432	053114	012705	014744	2204:	MOV	#CRC21A,R5	; POINT TO EXPECTED CRC		
7433	053120	004737	027176		JSR	PC,LDXCRC	; LOAD INTO XCRC TABLE		
7434	053124	012705	007300		MOV	#RBUF+124..R5	; CHECK CRC		
7435	053130	004737	026124		JSR	PC,CMPCRC	; ERRORS ?		
7436	053134	103006			BCC	2304	; NO		
7437	053136				ERRHRD	276..ERR023.MSG008	; YES. REPORT ERROR		
	053136	104456						TRAP	C#ERRHRD
	053140	000424						.WORD	276
	053142	021603						.WORD	ERR023
	053144	017552						.WORD	MSG008
7438	053146			ESCAPE	TST		; AND ABORT TEST		
	053146	104410						TRAP	C#ESCAPE
	053150	001564						.WORD	L10053 .
7439									
7440	053152	012777	000017	127046	2304:	MOV	#STOP,SPCSR0	; ISSUE STOP PORT COMMAND	
7441	053160	004737	024574		JSR	PC,CHKDNI	; DNI ?		
7442	053164	103006			BCC	2404	; YES		
7443	053166				ERRHRD	277..ERR019.MSG003	; NO. REPORT ERROR		
	053166	104456						TRAP	C#ERRHRD
	053170	000425						.WORD	277

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	053172	021312					.WORD	ERR019
	053174	017110					.WORD	MSG003
7444	053176			ESCAPE	TST			: AND ABORT TEST
	053176	104410					TRAP	C#ESCAPE
	053200	001534					.WORD	L10053 .
7445								
7446	053202	004737	025546	2404:	JSR	PC,CLRDN1		: WRITE ONE TO CLEAR DNI
7447								: ERROR ?
7448	053206	103006			BCC	2504		: NO
7449	053210				ERRMRD	278.,ERR006,MSG003		: YES, REPORT ERROR
	053210	104456					TRAP	C#ERRMRD
	053212	000426					.WORD	278
	053214	020202					.WORD	ERR006
	053216	017110					.WORD	MSG003
7450	053220			ESCAPE	TST			: AND ABORT TEST
	053220	104410					TRAP	C#ESCAPE
	053222	001512					.WORD	L10053 .
7451								
7452								
7453								
7454								
7455	053224	012705	013554					
7456	053230	004737	027046	2504:	MOV	#TDRB1A,R5		: DEFAULT ONE BUFFER TRANSMIT RING
7457	053234	012705	013354		JSR	PC,LDTDRB		: LOAD TDRB
7458	053240	004737	027010		MOV	#RDRB1A,R5		: DEFAULT ONE BUFFER RECEIVE RING
7459					JSR	PC,LDRDRB		: LOAD RDRB
7460								
7461	053244	012705	014326					
7462	053250	004737	026714					
7463	053254	004737	027342					
7464	053260	012777	000004	126740	MOV	#START,SPCSH0		: POINT TO COMPLEMENTED ADDRESS
7465	053256	004737	024574		JSR	PC,CHKDNI		: LOAD DEST
7466	053272	103006			BCC	2604		: SET UP BUFFERS
7467	053274				ERRMRD	279.,ERR012,MSG003		: ISSUE START PORT COMMAND
	053274	104456						: DNI?
	053276	000427						: YES
	053300	020633						: NO, REPORT ERROR
	053302	017110					TRAP	C#ERRMRD
							.WORD	279
							.WORD	ERR012
							.WORD	MSG003
7468	053304			ESCAPE	TST			: AND ABORT TEST
	053304	104410					TRAP	C#ESCAPE
	053306	001426					.WORD	L10053-.
7469								
7470	053310	004737	025546	2604:	JSR	PC,CLRDN1		: WRITE ONE TO CLEAR DNI
7471								: ERROR ?
7472	053314	103006			BCC	2704		: NO
7473	053316				ERRMRD	280.,ERR006,MSG003		: YES, REPORT ERROR
	053316	104456					TRAP	C#ERRMRD
	053320	020430					.WORD	280
	053322	020202					.WORD	ERR006
	053324	017110					.WORD	MSG003
7474	053326			ESCAPE	TST			: AND ABORT TEST
	053326	104410					TRAP	C#ESCAPE
	053330	001404					.WORD	L10053-.
7475								
7476	053332	004737	025404	2704:	JSR	PC,CHKTXI		: TXI ?
7477	053336	103006			BCC	2804		: YES
7478	053340				ERRMRD	281.,ERR013,MSG003		: NO, REPORT ERROR

	053340	104456				TRAP	C1ERHRD
	053342	000431				.WORD	281
	053344	020714				.WORD	ERR013
	053346	017110				.WORD	MSG003
7479	053350			ESCAPE	TST		; AND ABORT TEST
	053350	104410				TRAP	C1ESCAPE
	053352	001362				.WORD	L10053 .
7480							
7481	053354	004737	025730	280:	JSR	PC,CLRTXI	; WRITE ONE TO CLEAR TXI
7482							; ERROR ?
7483	053360	103006			BCC	290:	; NO
7484	053362				ERRHRD	282.,ERR014,MSG003	; YES, REPORT ERROR
	053362	104456				TRAP	C1ERHRD
	053364	000432				.WORD	282
	053366	020745				.WORD	ERR014
	053370	017110				.WORD	MSG003
7485	053372			ESCAPE	TST		; AND ABORT TEST
	053372	104410				TRAP	C1ESCAPE
	053374	001340				.WORD	L10053 .
7486							
7487	053376	012705	002604	290:	MOV	#TDRB,R5	; CHECK TDRB OWNERSHIP
7488	053402	004737	024676		JSR	PC,CHKOWN	; OWN = PORT DRTVER ?
7489	053406	103006			BCC	300:	; YES
7490	053410				ERRHRD	283.,ERR018	; NO, REPORT ERROR
	053410	104456				TRAP	C1ERHRD
	053412	000433				.WORD	283
	053414	021212				.WORD	ERR018
	053416	000000				.WORD	0
7491	053420			ESCAPE	TST		; AND ABORT TEST
	053420	104410				TRAP	C1ESCAPE
	053422	001312				.WORD	L10053-.
7492							
7493	053424	012705	014614	300:	MOV	#TDR21X,R5	; POINT TO EXPECTED TDRB
7494	053430	004737	027252		JSR	PC,LDXTDR	; LOAD INTO XTDRB0 TABLE
7495	053434	012705	002604		MOV	#TDRB,R5	; CHECK TDRB
7496	053440	004737	025316		JSR	PC,CHKTDR	; ERRORS ?
7497	053444	103006			BCC	310:	; NO
7498	053446				ERRHRD	284.,ERR020,MSG005	; YES, REPORT ERROR
	053446	104456				TRAP	C1ERHRD
	053450	000434				.WORD	284
	053452	021372				.WORD	ERR020
	053454	017214				.WORD	MSG005
7499	053456			ESCAPE	TST		; AND ABORT TEST
	053456	104410				TRAP	C1ESCAPE
	053460	001254				.WORD	L10053 .
7500							
7501	053462	004737	027302	310:	JSR	PC,NORXI	; RXI ?
7502	053466	103006			BCC	320:	; NO
7503	053470				ERRHRD	285.,ERR039	; YES, REPORT ERROR
	053470	104456				TRAP	C1ERHRD
	053472	000435				.WORD	285
	053474	023344				.WORD	ERR039
	053476	000000				.WORD	0
7504	053500			ESCAPE	TST		; AND ABORT TEST
	053500	104410				TRAP	C1ESCAPE
	053502	001232				.WORD	L10053-.
7505							

7506	053504	012777	000017	126514	3204:	MOV	#STOP,BPCSR0	:	ISSUE STOP PORT COMMAND		
7507	053512	004737	024574			JSR	PC,CHKDNI	:	DNI ?		
7508	053516	103006				BC	3304	:	YES		
7509	053520					ER PD	286.,ERR019,MSG003	:	NO, REPORT ERROR		
	053520	104456							TRAP	C#ERRRD	
	053522	000436							.WORD	286	
	053524	021312							.WORD	ERR019	
	053526	017110							.WORD	MSG003	
7510	053530					ESCAPE	TST	:	AND ABORT TEST		
	053530	104410							TRAP	C#ESCAPE	
	053532	001202							.WORD	L10053	
7511											
7512	053534	004737	025546		3304:	JSR	PC,CLRDN1	:	WRITE ONE TO CLEAR DNI		
7513									ERROR ?		
7514	053540	103006				BCC	3404	:	NO		
7515	053542					ERRHRD	287.,ERR006,MSG003	:	YES, REPORT ERROR		
	053542	104456							TRAP	C#ERRRD	
	053544	000437							.WORD	287	
	053546	020202							.WORD	ERR006	
	053550	017110							.WORD	MSG003	
7516	053552					ESCAPE	TST	:	AND ABORT TEST		
	053552	104410							TRAP	C#ESCAPE	
	053554	001160							.WORD	L10053-	
7517											
7518											
7519											
7520											
7521	053556	012705	013144		3404:	MOV	#WTPHYA,R5	:	DEFAULT WRITE PHYSICAL ADDR FUNC		
7522	053562	004737	026742			JSR	PC,LDPCBB	:	LOAD FUNCTION -> PCBB		
7523											
7524	053566	012703	014326			MOV	#ADR21C,R3	:	POINT TO PHYSICAL ADDRESS		
7525	053572	012704	002266			MOV	#PCBB+2,R4	:	POINT TO PCBB + 2		
7526	053576	012324				MOV	(R3)+,(R4)+	:	LOAD ADDRESS		
7527	053600	012324				MOV	(R3)+,(R4)+	:			
7528	053602	012324				MOV	(R3)+,(R4)+	:			
7529	053604	012777	000002	126414		MOV	#GETCMD,BPCSR0	:	ISSUE GET_CMD PORT COMMAND		
7530	053612	004737	024574			JSR	PC,CHKDNI	:	DNI ?		
7531	053616	103006				BCC	3504	:	YES		
7532	053620					ERRHRD	288.,ERR010,MSG003	:	NO, REPORT ERROR		
	053620	104456							TRAP	C#ERRRD	
	053622	000440							.WORD	288	
	053624	020502							.WORD	ERR010	
	053626	017110							.WORD	MSG003	
7533	053630					ESCAPE	TST	:	AND ABORT TEST		
	053630	104410							TRAP	C#ESCAPE	
	053632	001102							.WORD	L10053-	
7534											
7535	053634	004737	025546		3504:	JSR	PC,CLRDN1	:	WRITE ONE TO CLEAR DNI		
7536									ERROR ?		
7537	053640	103006				BCC	3604	:	NO		
7538	053642					ERRHRD	289.,ERR006,MSG003	:	YES, REPORT ERROR		
	053642	104456							TRAP	C#ERRRD	
	053644	000441							.WORD	289	
	053645	020202							.WORD	ERR006	
	053650	017110							.WORD	MSG003	
7539	053652					ESCAPE	TST	:	AND ABORT TEST		
	053652	104410							TRAP	C#ESCAPE	

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053654 001060
7540
7541 ;SET UP RINGS FOR ONE BUFFER LOOPBACK
7542 053656 012705 013554 360: MOV @TDRB1A,R5 ; DEFAULT ONE BUFFER TRANSMIT RING
7543 053662 004737 027046 JSR PC,LDTDRB ; LOAD TDRB
7544 053666 012705 013354 MOV @RDRB1A,R5 ; DEFAULT ONE BUFFER RECEIVE RING
7545 053672 004737 027010 JSR PC,LDRDRB ; LOAD RDRB
7546
7547 ;SET UP BUFFERS AND START
7548 053676 012705 002266 MOV @PCBB+2,R5 ; POINT TO DESTINATION ADDRESS
7549 053702 004737 026714 JSR PC,LDDDEST ; LOAD DEST
7550 053706 004737 027342 JSR PC,SETBUF ; SET UP BUFFERS
7551 053712 012777 000004 126306 MOV @START,@PCSR0 ; ISSUE START PORT COMMAND
7552 053720 004737 024574 JSR PC,CHKDNI ; DNI?
7553 053724 103006 BCC 370: ; YES
7554 053726 ERRHRD 290.,ERR012,MSG003 ; NO, REPORT ERROR
053726 104456 TRAP C$ERRHRD
053730 000442 .WORD 290
053732 020633 .WORD ERR012
053734 017110 .WORD MSG003
7555 053736 ESCAPE TST ; AND ABORT TEST
053736 104410 TRAP C$ESCAPE
053740 000774 .WORD L10053
7556
7557 053742 004737 025546 370: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
7558 BCC 380: ; ERROR ?
7559 053746 103006 BCC 380: ; NO
7560 053750 ERRHRD 291.,ERR006,MSG003 ; YES, REPORT ERROR
053750 104456 TRAP C$ERRHRD
053752 000443 .WORD 291
053754 020202 .WORD ERR006
053756 017110 .WORD MSG003
7561 053760 ESCAPE TST ; AND ABORT TEST
053760 104410 TRAP C$ESCAPE
053762 000752 .WORD L10053
7562
7563 053764 004737 025404 380: JSR PC,CHKTXI ; TXI ?
7564 053770 103006 BCC 390: ; YES
7565 053772 ERRHRD 292.,ERR013,MSG003 ; NO, REPORT ERROR
053772 104456 TRAP C$ERRHRD
053774 000444 .WORD 292
053776 020714 .WORD ERR013
054000 017110 .WORD MSG003
7566 054002 ESCAPE TST ; AND ABORT TEST
054002 104410 TRAP C$ESCAPE
054004 000730 .WORD L10053
7567
7568 054006 004737 025730 390: JSR PC,CLRTXI ; WRITE ONE TO CLEAR TXI
7569 BCC 400: ; ERROR ?
7570 054012 103006 BCC 400: ; NO
7571 054014 ERRHRD 293.,ERR014,MSG003 ; YES, REPORT ERROR
054014 104456 TRAP C$ERRHRD
054016 000445 .WORD 293
054020 020745 .WORD ERR014
054022 017110 .WORD MSG003
7572 054024 ESCAPE TST ; AND ABORT TEST
054024 104410 TRAP C$ESCAPE

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	054026	000706					.WORD	L10053 .
7573				i				
7574	054030	012705	002604	400:	MOV	#TDRB,R5	:	CHECK TDRB OWNERSHIP
7575	054034	004737	024676		JSR	PC,CHKOWN	:	OWN = PORT DRIVER ?
7576	054040	103006			BCC	410:	:	YES
7577	054042				ERRHRD	294.,ERR018	:	NO, REPORT ERROR
	054042	104456					TRAP	C#ERHRO
	054044	000446					.WORD	294
	054046	021212					.WORD	ERR018
	054050	000000					.WORD	0
7578	054052			ESCAPE	TST		:	AND ABORT TEST
	054052	104410					TRAP	C#ESCAPE
	054054	000660					.WORD	L10053 .
7579				i				
7580	054056	012705	014524	410:	MOV	#TDR14A,R5	:	POINT TO EXPECTED TDRB
7581	054062	004737	027252		JSR	PC,LDXTOP	:	LOAD INTO XTDRBO TABLE
7582	054066	012705	002604		MOV	#TDRB,R5	:	CHECK TDRB
7583	054072	004737	025316		JSR	PC,CHKTOP	:	ERRORS ?
7584	054076	103006			BCC	420:	:	NO
7585	054100				ERRHRD	295.,ERR020,MSG005	:	YES, REPORT ERROR
	054100	104456					TRAP	C#ERHRO
	054102	000447					.WORD	295
	054104	021372					.WORD	ERR020
	054106	017214					.WORD	MSG005
7586	054110			ESCAPE	TST		:	AND ABORT TEST
	054110	104410					TRAP	C#ESCAPE
	054112	000622					.WORD	L10053 .
7587				i				
7588	054114	004737	025132	420:	JSR	PC,CHKRXI	:	RXI ?
7589	054120	103006			BCC	430:	:	YES
7590	054122				ERRHRD	296.,ERR015,MSG003	:	NO, REPORT ERROR
	054122	104456					TRAP	C#ERHRO
	054124	000450					.WORD	296
	054126	021013					.WORD	ERR015
	054130	017110					.WORD	MSG003
7591	054132			ESCAPE	TST		:	AND ABORT TEST
	054132	104410					TRAP	C#ESCAPE
	054134	000600					.WORD	L10053 .
7592				i				
7593	054136	004737	025662	430:	JSR	PC,CLRRXI	:	WRITE ONE TO CLEAR RXI
7594							:	ERROR ?
7595	054142	103006			BCC	440:	:	NO
7596	054144				ERRHRD	297.,ERR016,MSG003	:	YES, REPORT ERROR
	054144	104456					TRAP	C#ERHRO
	054146	000451					.WORD	297
	054150	021044					.WORD	ERR016
	054152	017110					.WORD	MSG003
7597	054154			ESCAPE	TST		:	AND ABORT TEST
	054154	104410					TRAP	C#ESCAPE
	054156	000556					.WORD	L10053 .
7598				i				
7599	054160	012705	002644	440:	MOV	#RDRB,R5	:	CHECK RDRB OWNERSHIP
7600	054164	004737	024676		JSR	PC,CHKOWN	:	OWN = PORT DRIVER ?
7601	054170	103006			BCC	450:	:	YES
7602	054172				ERRHRD	298.,ERR017	:	NO, REPORT ERROR
	054172	104456					TRAP	C#ERHRO
	054174	000452					.WORD	298

Address	Offset	Hex	Assembly	Comment	Trap Word	Trap Message
7603	054176	021112				ERR017
	054200	000000				0
	054202		ESCAPE TST	; AND ABORT TEST		
	054202	104410			TRAP	C#ESCAPE
	054204	000530			.WORD	L10053
7604						
7605	054206	012705	4504: MOV #RDR14A,R5	; POINT TO EXPECTED RDRB		
7606	054212	004737	JSR PC,LDXRDR	; LOAD INTO XRDRBO TABLE		
7607	054216	012705	MOV #RDRB,R5	; CHECK RDRB		
7608	054222	004737	JSR PC,CHKRDR	; ERRORS ?		
7609	054226	103006	BCC 4604	; NO		
7610	054230		ERRHRD 299.,ERR021,MSG006	; YES, REPORT ERROR		
	054230	104456			TRAP	C#ERHRD
	054232	000453			.WORD	299
	054234	021453			.WORD	ERR021
	054236	017356			.WORD	MSG006
7611	054240		ESCAPE TST	; AND ABORT TEST		
	054240	104410			TRAP	C#ESCAPE
	054242	000472			.WORD	L10053
7612						
7613			;COMPARE RBUF WITH TBUF			
7614	054244	012705	4604: MOV #56.,R5	; COMPARE 56 WORDS OF DATA		
7615	054250	004737	JSR PC,CMPDAT	; DATA COMPARE ERROR ?		
7616	054254	103006	BCC 4704	; NO		
7617	054256		ERRHRD 300.,ERR022,MSG007	; YES, REPORT ERROR		
	054256	104456			TRAP	C#ERHRD
	054260	000454			.WORD	300
	054262	021534			.WORD	ERR022
	054264	017520			.WORD	MSG007
7618	054266		ESCAPE TST	; AND ABORT TEST		
	054266	104410			TRAP	C#ESCAPE
	054270	000444			.WORD	L10053
7619						
7620	054272	012705	4704: MOV #CRC21B,R5	; POINT TO EXPECTED CRCB		
7621	054276	004737	JSR PC,LDXCRC	; LOAD INTO XCRC TABLE		
7622	054302	012705	MOV #RBUF+124.,R5	; CHECK CRC		
7623	054306	004737	JSR PC,CMPCRC	; ERRORS ?		
7624	054312	103006	BCC 4804	; NO		
7625	054314		ERRHRD 301.,ERR023,MSG008	; YES, REPORT ERROR		
	054314	104456			TRAP	C#ERHRD
	054316	000455			.WORD	301
	054320	021603			.WORD	ERR023
	054322	017552			.WORD	MSG008
7626	054324		ESCAPE TST	; AND ABORT TEST		
	054324	104410			TRAP	C#ESCAPE
	054326	000406			.WORD	L10053-
7627						
7628	054330	012777	4804: MOV #STOP,SPCSR0	; ISSUE STOP PORT COMMAND		
7629	054336	004737	JSR PC,CHKDNI	; DNI ?		
7630	054342	103006	BCC 4904	; YES		
7631	054344		ERRHRD 302.,ERR019,MSG003	; NO, REPORT ERROR		
	054344	104456			TRAP	C#ERHRD
	054346	000456			.WORD	302
	054350	021312			.WORD	ERR019
	054352	017110			.WORD	MSG003
7632	054354		ESCAPE TST	; AND ABORT TEST		
	054354	104410			TRAP	C#ESCAPE

TEST 21: PHYSICAL ADDRESS TEST

PC	Address	Offset	Instruction	Comment	Trap	Word	Label
7633	054356	000356					
7634	054360	004737	025546	4904: JSR PC,CLRDN1			
7635							
7636	054364	103006		BCC 5004			
7637	054366			ERRHRD 303.,ERR006,MSG003			
	054366	104456			TRAP		C#ERHRD
	054370	000457			.WORD		303
	054372	020202			.WORD		ERR006
	054374	017110			.WORD		MSG003
7638	054376			ESCAPE TST			
	054376	104410			TRAP		C#ESCAPE
	054400	000334			.WORD		L10053
7639							
7640				DESTINATION ADDRESS NOT = PHYSICAL ADDRESS			
7641							
7642				SET UP RINGS FOR ONE BUFFER LOOPBACK			
7643	054402	012705	013554	5004: MOV #TDRB1A,R5			
7644	054406	004737	027046	JSR PC,LDTDRB			
7645	054412	012705	013354	MOV #RDRB1A,R5			
7646	054416	004737	027010	JSR PC,LDRDRB			
7647							
7648				SET UP BUFFERS AND START			
7649	054422	012705	014320	MOV #ADR21,R5			
7650	054426	004737	026714	JSR PC,LDDDEST			
7651	054432	004737	027342	JSR PC,SETBUF			
7652	054436	012777	000004	MOV #START,SPCSR0			
7653	054444	004737	024574	JSR PC,CHKDNI			
7654	054450	103006		BCC 5104			
7655	054452			ERRHRD 304.,ERR012,MSG003			
	054452	104456			TRAP		C#ERHRD
	054454	000460			.WORD		304
	054456	020633			.WORD		ERR012
	054460	017110			.WORD		MSG003
7656	054462			ESCAPE TST			
	054462	104410			TRAP		C#ESCAPE
	054464	000250			.WORD		L10053
7657							
7658	054466	004737	025546	5104: JSR PC,CLRDN1			
7659							
7660	054472	103006		BCC 5204			
7661	054474			ERRHRD 305.,ERR006,MSG003			
	054474	104456			TRAP		C#ERHRD
	054476	000461			.WORD		305
	054500	020202			.WORD		ERR006
	054502	017110			.WORD		MSG003
7662	054504			ESCAPE TST			
	054504	104410			TRAP		C#ESCAPE
	054506	000226			.WORD		L10053
7663							
7664	054510	004737	025404	5204: JSR PC,CHKTXI			
7665	054514	103006		BCC 5304			
7666	054516			ERRHRD 306.,ERR013,MSG003			
	054516	104456			TRAP		C#ERHRD
	054520	000462			.WORD		306
	054522	020714			.WORD		ERR013
	054524	017110			.WORD		MSG003

7667	054526			ESCAPE	TST		; AND ABORT TEST		
	054526	104410						TRAP	C#ESCAPE
	054530	000204						.WORD	L10053 .
7668									
7669	054532	004737	025730	i 530:	JSR	PC,CLRTXI	; WRITE ONE TO CLEAR TXI		
7670							; ERROR ?		
7671	054536	103006			BCC	540:	; NO		
7672	054540				ERRHRD	307.,ERR014,MSG003	; YES, REPORT ERROR		
	054540	104456						TRAP	C#ERRHRD
	054542	000463						.WORD	307
	054544	020745						.WORD	ERR014
	054546	017110						.WORD	MSG003
7673	054550				ESCAPE	TST	; AND ABORT TEST		
	054550	104410						TRAP	C#ESCAPE
	054552	000162						.WORD	L10053 .
7674									
7675	054554	012705	002604	i 540:	MOV	#TDRB,R5	; CHECK TDRB OWNERSHIP		
7676	054560	004737	024676		JSR	PC,CHKOWN	; OWN = PORT DRIVER ?		
7677	054564	103006			BCC	550:	; YES		
7678	054566				ERRHRD	308.,ERR018	; NO, REPORT ERROR		
	054566	104456						TRAP	C#ERRHRD
	054570	000464						.WORD	308
	054572	021212						.WORD	ERR018
	054574	000000						.WORD	0
7679	054576				ESCAPE	TST	; AND ABORT TEST		
	054576	104410						TRAP	C#ESCAPE
	054600	000134						.WORD	L10053-.
7680									
7681	054602	012705	014614	i 550:	MOV	#TDR21X,R5	; POINT TO EXPECTED TDRB		
7682	054606	004737	027252		JSR	PC,LDXTOR	; LOAD INTO XTDRBO TABLE		
7683	054612	012705	002604		MOV	#TDRB,R5	; CHECK TDRB		
7684	054616	004737	025316		JSR	PC,CHKTOR	; ERRORS ?		
7685	054622	103006			BCC	560:	; NO		
7686	054624				ERRHRD	309.,ERR020,MSG005	; YES, REPORT ERROR		
	054624	104456						TRAP	C#ERRHRD
	054626	000465						.WORD	309
	054630	021372						.WORD	ERR020
	054632	017214						.WORD	MSG005
7687	054634				ESCAPE	TST	; AND ABORT TEST		
	054634	104410						TRAP	C#ESCAPE
	054636	000076						.WORD	L10053 .
7688									
7689	054640	004737	027302	i 560:	JSR	PC,NORXI	; RXI ?		
7690	054644	103006			BCC	570:	; NO		
7691	054646				ERRHRD	310.,ERR039	; YES, REPORT ERROR		
	054646	104456						TRAP	C#ERRHRD
	054650	000466						.WORD	310
	054652	023344						.WORD	ERR039
	054654	000000						.WORD	0
7692	054656				ESCAPE	TST	; AND ABORT TEST		
	054656	104410						TRAP	C#ESCAPE
	054660	000054						.WORD	L10053 .
7693									
7694	054662	012777	000217	i 570:	MOV	#STOP,@PCSR0	; ISSUE STOP PORT COMMAND		
7695	054670	004737	024574		JSR	PC,CHKDNI	; DNI ?		
7696	054674	103006			BCC	580:	; YES		
7697	054676				ERRHRD	311.,ERR019,MSG003	; NO, REPORT ERROR		

Address	Hex	Dec	Label	Instruction	Comment	Trap	Word
054676	104456					TRAP	C#ERHRD
054700	000467					.WORD	311
054702	021312					.WORD	ERR019
054704	017110					.WORD	MSG003
7698	054706	104410		ESCAPE TST	; AND ABORT TEST	TRAP	C#ESCAPE
	054710	000024				.WORD	L10053
7699							
7700	054712	004737	025546	JSR	PC,CLRDN1		
7701							
7702	054716	103006		BCC	590\$		
7703	054720			ERRHRD	312.,ERR006,MSG003		
	054720	104456				TRAP	C#ERHRD
	054722	000470				.WORD	312
	054724	020202				.WORD	ERR006
	054726	017110				.WORD	MSG003
7704	054730			ESCAPE TST	; AND ABORT TEST	TRAP	C#ESCAPE
	054730	104410				.WORD	L10053
	054732	000002					
7705	054734						
7706	054734			ENDTST			
	054734						
	054734	104401				TRAP	C#ETST

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7744 054736
7745 054736
7746 054736 004737 027446
7747 054742 103025
7748 054744 012777 000040 125254
7749 054752 004737 024574
7750 054756 103006
7751 054760 104456
7752 054762 000471
7753 054764 020102
7754 054766 017110
7755 054770
7756 054770 104410
7757 054772 003016
7758 054774 004737 025546
7759 055000 103006
7760 055002 104456
7761 055002 104456

.SBTTL TEST 22: MULTICAST ADDRESS TEST

```

*****
THIS TEST VERIFIES THAT MULTICAST ADDRESSING
IS OPERATIONAL.
A WRITE MULTICAST ADDRESS LIST FUNCTION IS USED TO SET
THE DEUNA'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 = COMPLEMENTED 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 VALUES
16. REPEAT STEPS 5 - 14
*****

```

BGNTST

```

JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
BCC 30$ ; NO
MOV #RSET,BPCSR0 ; YES, RESET DEUNA
JSR PC,CHKDNI ; DNI ?
BCC 20$ ; YES
ERRHRD 313.,ERR004,MSG003 ; NO, REPORT ERROR

```

```

TRAP C$ERRHRD
.WCRD 313
.WORD ERR004
.WORD MSG003

```

ESCAPE TST ; AND ABORT TEST

```

TRAP C$ESCAPE
.WORD L10054-.

```

```

20$: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
      ; ERROR ?
BCC 30$ ; NO
ERRHRD 314.,ERR006,MSG003 ; YES, REPORT ERROR

```

```

TRAP C$ERRHRD

```

```

055004 000472
055006 020202
055010 017110
7757 055012          ESCAPE TST          ; AND ABORT TEST          TRAP C$ESCAPE
055012 104410          .WORD L10054 .
055014 002774

7758
7759 055016 004737 026772 125176 30$: JSR PC,LDPCSR          ; ADDRESS OF PCBB -> PCSR2:3
7760 055022 012777 000001      MOV #GETPCB,SPCSR0      ; ISSUE GET_PCBB PORT COMMAND
7761 055030 004737 024574      JSR PC,CHKDNI          ; DNI?
7762 055034 103006      BCC 40$          ; YES
7763 055036      ERRHRD 315.,ERR009,MSG003      ; NO, REPORT ERROR          TRAP C$ERHRD
055036 104456          .WORD 315
055040 000473          .WORD ERR009
055042 020416          .WORD MSG003
055044 017110
7764 055046          ESCAPE TST          ; AND ABORT TEST          TRAP C$ESCAPE
055046 104410          .WORD L10054 .
055050 002740

7765
7766 055052 004737 025546      40$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
7767          BCC 50$          ; ERROR ?
7768 055056 103006      ERRHRD 316.,ERR006,MSG003      ; NO
7769 055060          ; YES, REPORT ERROR          TRAP C$ERHRD
055060 104456          .WORD 316
055062 000474          .WORD ERR006
055064 020202          .WORD MSG003
055066 017110
7770 055070          ESCAPE TST          ; AND ABORT TEST          TRAP C$ESCAPE
055070 104410          .WORD L10054 .
055072 002716

7771
7772          ;WRITE MODE REGISTER = INTERNAL LOOPBACK
7773 055074 012705 013244      50$: MOV #WTMODE,R5          ; DEFAULT WRITE MODE FUNCTION
7774 055100 004737 026742      JSR PC,LDPCBB          ; LOAD FUNCTION -> PCBB
7775 055104 013737 015116 002266      MOV MODE21,PCBB+2      ; MODE = INTL LOOPBACK ONLY
7776 055112 012777 000002 125176      MOV #GETCMD,SPCSR0      ; ISSUE GET_CMD PORT COMMAND
7777 055120 004737 024574      JSR PC,CHKDNI          ; DNI ?
7778 055124 103006      BCC 60$          ; YES
7779 055126      ERRHRD 317.,ERR010,MSG003      ; NO, REPORT ERROR          TRAP C$ERHRD
055126 104456          .WORD 317
055130 000475          .WORD EPR010
055132 020502          .WORD MSG003
055134 017110
7780 055136          ESCAPE TST          ; AND ABORT TEST          TRAP C$ESCAPE
055136 104410          .WORD L10054 .
055140 002650

7781
7782 055142 004737 025546      60$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
7783          BCC 70$          ; ERROR ?
7784 055146 103006      ERRHRD 318.,ERR006,MSG003      ; NO
7785 055150          ; YES, REPORT ERROR          TRAP C$ERHRD
055150 104456          .WORD 318
055152 000476          .WORD ERR006
055154 020202          .WORD MSG003
055156 017110
7786 055160          ESCAPE TST          ; AND ABORT TEST

```

055160	104410				TRAP	C\$ESCAPE
055162	002626				.WORD	L10054
7787						
7788						
7789	055164	012705	013204			
7790	055170	004737	026742			
7791	055174	012705	013324			
7792	055200	012700	000006			
7793	055204	004737	027142			
7794	055210	012777	000002	125010		
7795	055216	004737	024574			
7796	055222	103006				
7797	055224					
	055224	104456			TRAP	C\$ERHRD
	055226	000477			.WORD	319
	055230	020502			.WORD	ERR010
	055232	017110			.WORD	MSG003
7798	055234					
	055234	104410			TRAP	C\$ESCAPE
	055236	002552			.WORD	L10054
7799						
7800	055240	004737	025546			
7801						
7802	055244	103006				
7803	055246					
	055246	104456			TRAP	C\$ERHRD
	055250	000500			.WORD	320
	055252	020202			.WORD	ERR006
	055254	017110			.WORD	MSG003
7804	055256					
	055256	104410			TRAP	C\$ESCAPE
	055260	002530			.WORD	L10054
7805						
7806						
7807	055262	012705	013144			
7808	055266	004737	026742			
7809	055272	012777	000002	124726		
7810	055300	004737	024574			
7811	055304	103006				
7812	055306					
	055306	104456			TRAP	C\$ERHRD
	055310	000501			.WORD	321
	055312	020502			.WORD	ERR010
	055314	017110			.WORD	MSG003
7813	055316					
	055316	104410			TRAP	C\$ESCAPE
	055320	002470			.WORD	L10054
7814						
7815	055322	004737	025546			
7816						
7817	055326	103006				
7818	055330					
	055330	104456			TRAP	C\$ERHRD
	055332	000502			.WORD	322
	055334	020202			.WORD	ERR006
	055336	017110			.WORD	MSG003
7819	055340					

055340	104410				TRAP	C1ESCAPE
055342	002446				.WORD	L10054
7820						
7821						
7822	055344	012705	013164			
7823	055350	004737	026742			
7824	055354	012705	014334			
7825	055360	012700	000036			
7826	055364	004737	027142			
7827	055370	012777	000002	124630		
7828	055376	004737	024574			
7829	055402	103006				
7830	055404					
	055404	104456			TRAP	C1ERRRD
	055406	000503			.WORD	323
	055410	020502			.WORD	ERR010
	055412	017110			.WORD	MSG003
7831	055414			ESCAPE TST		
	055414	104410			TRAP	C1ESCAPE
	055416	002372			.WORD	L10054
7832						
7833	055420	004737	025546	1044:	JSR	PC,CLRDN1
7834						
7835	055424	103006			BCC	1064
7836	055426				ERRMRD	324.,ERR006,MSG003
	055426	104456				
	055430	000504			TRAP	C1ERRRD
	055432	020202			.WORD	324
	055434	017110			.WORD	ERR006
7837	055436			ESCAPE TST		
	055436	104410			TRAP	C1ESCAPE
	055440	002350			.WORD	L10054
7838						
7839						
7840						
7841	055442	012701	000012	1064:	MOV	#10.,R1
7842	055444	012702	014334		MOV	#MULTL,R2
7843	055452	012703	014754		MOV	#CRC22A,R3
7844						
7845						
7846	055456	012705	013554			
7847	055462	004737	027046			
7848	055466	012705	013354			
7849	055472	004737	027010			
7850						
7851						
7852	055476	010205				
7853	055500	004737	026714			
7854	055504	004737	027342			
7855	055510	012777	000004	124510		
7856	055516	004737	024574			
7857	055522	103006				
7858	055524					
	055524	104456			TRAP	C1ERRRD
	055526	000505			.WORD	325
	055530	020633			.WORD	ERR012
	055532	017110			.WORD	MSG003

7859	055534			ESCAPE	TST	:	AND ABORT TEST		
	055534	104410						TRAP	C#ESCAPE
	055536	002252						.WORD	L10054-.
7860									
7861	055540	004737	025546	1204:	JSR	PC,CLRDN1	:	WRITE ONE TO CLEAR DNI	
7862							:	ERROR ?	
7863	055544	103006			BCC	1304	:	NO	
7864	055546				ERRHRD	326.,ERR006,MSG003	:	YES, REPORT ERROR	
	055547	104456						TRAP	C#ERRHRD
	055550	000506						.WORD	326
	055552	020202						.WORD	ERR006
	055554	017110						.WORD	MSG003
7865	055556				ESCAPE	TST	:	AND ABORT TEST	
	055556	104410						TRAP	C#ESCAPE
	055560	002230						.WORD	L10054-.
7866									
7867	055562	004737	025404	1304:	JSR	PC,CHKTXI	:	TXI ?	
7868	055566	103006			BCC	1404	:	YES	
7869	055570				ERRHRD	327.,ERR013,MSG003	:	NO, REPORT ERROR	
	055570	104456						TRAP	C#ERRHRD
	055572	000507						.WORD	327
	055574	020714						.WORD	ERR013
	055576	017110						.WORD	MSG003
7870	055600				ESCAPE	TST	:	AND ABORT TEST	
	055600	104410						TRAP	C#ESCAPE
	055602	002206						.WORD	L10054-.
7871									
7872	055604	004737	025730	1404:	JSR	PC,CLRTXI	:	WRITE ONE TO CLEAR TXI	
7873							:	ERROR ?	
7874	055610	103006			BCC	1504	:	NO	
7875	055612				ERRHRD	328.,ERR014,MSG003	:	YES, REPORT ERROR	
	055612	104456						TRAP	C#ERRHRD
	055614	000510						.WORD	328
	055616	020745						.WORD	ERR014
	055620	017110						.WORD	MSG003
7876	055622				ESCAPE	TST	:	AND ABORT TEST	
	055622	104410						TRAP	C#ESCAPE
	055624	002164						.WORD	L10054-.
7877									
7878	055626	012705	002604	1504:	MOV	#TDRB,R5	:	CHECK TDRB OWNERSHIP	
7879	055632	004737	024676		JSR	PC,CHKOWN	:	OWN = PORT DRIVER ?	
7880	055636	103006			BCC	1604	:	YES	
7881	055640				ERRHRD	329.,ERR018	:	NO, REPORT ERROR	
	055640	104456						TRAP	C#ERRHRD
	055642	000511						.WORD	329
	055644	021212						.WORD	ERR018
	055646	000000						.WORD	0
7882	055650				ESCAPE	TST	:	AND ABORT TEST	
	055650	104410						TRAP	C#ESCAPE
	055652	002136						.WORD	L10054-.
7883									
7884	055654	012705	014524	1604:	MOV	#TDR14A,R5	:	POINT TO EXPECTED TDRB	
7885	055660	004737	027252		JSR	PC,LDXTDR	:	LOAD INTO XTDRBO TABLE	
7886	055664	012705	002604		MOV	#TDRB,R5	:	CHECK TDRB	
7887	055670	004737	025316		JSR	PC,CHKTDR	:	ERRORS ?	
7888	055674	103006			BCC	1704	:	NO	
7889	055676				ERRHRD	330.,ERR020,MSG005	:	YES, REPORT ERROR	


```

7950      ;DO TEN LOOPS WITH DEST ADDRESS = COMPLEMENTED MULTICAST ADDRESS
7951
7952      ;
7953 056216 012701 000012      246:  MOV    #10.,R1      ; DO LOOP = TEN
7954 056222 012702 014430      MOV    #MULTLC,R2      ; R2 POINTS TO COMPLEMENTED LIST
7955
7956      ;SET UP RINGS FOR ONE BUFFER LOOPBACK
7957 056226 012705 013554      250:  MOV    #TDRB1A,R5      ; DEFAULT ONE BUFFER TRANSMIT RING
7958 056232 004737 027046      JSR    PC,LDTDRB      ; LOAD TDRB
7959 056236 012705 013354      MOV    #RDRB1A,R5      ; DEFAULT ONE BUFFER RECEIVE RING
7960 056242 004737 027010      JSR    PC,LDRDRB      ; LOAD RDRB
7961
7962      ;SET UP BUFFERS AND START
7963 056246 010205              MOV    R2,R5      ; POINT TO COMPLEMENTED ADDRESS
7964 056250 004737 026714      JSR    PC,LDDDEST      ; LOAD DEST
7965 056254 004737 027342      JSR    PC,SETBUF      ; SET UP BUFFERS
7966 056260 012777 000004      MOV    #START,BPCSR0      ; ISSUE START PORT COMMAND
7967 056266 004737 024574      JSR    PC,CHKDNI      ; DNI?
7968 056272 103006              BCC    260:      ; YES
7969 056274              ERRHRD 339.,ERR012,MSG003      ; NO, REPORT ERROR
7970 056304              ESCAPE TST      ; AND ABORT TEST
7971 056310 004737 025546      260:  JSR    PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
7972 056314 103006              BCC    270:      ; ERROR ?
7973 056316 104456              ERRHRD 340.,ERR006,MSG003      ; NO
7974 056320 000524              ; YES, REPORT ERROR
7975 056322 020202              ;
7976 056326 104410              ESCAPE TST      ; AND ABORT TEST
7977 056332 004737 025404      270:  JSR    PC,CHKTXI      ; TXI ?
7978 056336 103006              BCC    280:      ; YES
7979 056340 104456              ERRHRD 341.,ERR013,MSG003      ; NO, REPORT ERROR
7980 056342 000525              ;
7981 056346 020714              ESCAPE TST      ; AND ABORT TEST
7982 056350 104410              ;
7983 056352 001436              ;
7984 056354 004737 025730      280:  JSR    PC,CLRTXI      ; WRITE ONE TO CLEAR TXI
7985 056360 103006              BCC    290:      ; ERROR ?
7986 056362 104456              ERRHRD 342.,ERR014,MSG003      ; NO
7987 056364 000526              ; YES, REPORT ERROR

```

```

TRAP      C#ERRHRD
.WORD     339
.WORD     ERR012
.WORD     MSG003

TRAP      C#ESCAPE
.WORD     L10054-.

TRAP      C#ERRHRD
.WORD     340
.WORD     ERR006
.WORD     MSG003

TRAP      C#ESCAPE
.WORD     L10054-.

TRAP      C#ERRHRD
.WORD     341
.WORD     ERR013
.WORD     MSG003

TRAP      C#ESCAPE
.WORD     L10054-.

TRAP      C#ERRHRD
.WORD     342

```



```

8016 056540 103006          BCC 335$          ; NO
8017 056542          ERRHRD 347.,ERR006,MSG003 ; YES, REPORT ERROR
      056542 104456          TRAP C$ERRHRD
      056544 060533          .WORD 347
      056546 020202          .WORD ERR006
      056550 017110          .WORD MSG003
8018 056552          ESCAPE TST          ; AND ABORT TEST
      056552 104410          TRAP C$ESCAPE
      056554 001234          .WORD L10054
8019
8020 056556 062702 000006    ; 335$: ADD #6,R2          ; UPDATE R2
8021 056562 005301          DEC R1          ; DONE 10 LOOPBACKS
8022 056564 001220          BNE 250$        ; NO
8023
8024          ; REPEAT WITH COMPLEMENTED MULTICAST ADDRESS LIST
8025          ;
8026          ; WRITE MULTICAST ADDRESS LIST
8027 056566 012705 013164    340$: MOV #HTMULA,R5          ; DEFAULT WRITE MULTICAST ADDR FUNC
8028 056572 004737 026742    JSR PC,LDP CBB          ; LOAD FUNCTION -> PCBB
8029 056576 012705 014430    MOV #MULTLC,R5          ; LOAD LIST INTO UDBB
8030 056602 012700 000036    MOV #30.,R0          ; LOAD 30 ENTRIES
8031 056606 004737 027142    JSR PC,LDUDBB          ; MULTICAST LIST -> UDBB
8032 056612 012777 000002 123406 MOV #GETCMD,SPCSR0 ; ISSUE GET_CMD PORT COMMAND
8033 056620 004737 024574    JSR PC,CHKDNI          ; DNI ?
8034 056624 103006          BCC 350$        ; YES
8035 056626          ERRHRD 348.,ERR010,MSG003 ; NO, REPORT ERROR
      056626 104456          TRAP C$ERRHRD
      056630 000534          .WORD 348
      056632 020502          .WORD ERR010
      056634 017110          .WORD MSG003
8036 056636          ESCAPE TST          ; AND ABORT TEST
      056636 104410          TRAP C$ESCAPE
      056640 001150          .WORD L10054
8037
8038 056642 004737 025546    ; 350$: JSR PC,CLR DNI          ; WRITE ONE TO CLEAR DNI
8039
8040 056646 103006          BCC 355$        ; ERROR ?
8041 056650          ERRHRD 349.,ERR006,MSG003 ; NO
      056650 104456          TRAP C$ERRHRD
      056652 000535          .WORD 349
      056654 020202          .WORD ERR006
      056656 017110          .WORD MSG003
8042 056660          ESCAPE TST          ; AND ABORT TEST
      056660 104410          TRAP C$ESCAPE
      056662 001126          .WORD L10054
8043
8044          ; DO TEN LOOPS WITH DEST ADDR = NEW COMPLEMENTED MULTICAST ADDRESS
8045          ;
8046 056664 012701 000012    ; 355$: MOV #10.,R1          ; DO LOOP = TEN
8047 056670 012702 014430    MOV #MULTLC,R2          ; R2 = COMPLEMENTED ADDRESS LIST
8048 056674 012703 015024    MOV #CRC22B,R3          ; R3 POINTS TO EXPECTED CRC TABLE
8049
8050          ; SET UP RINGS FOR ONE BUFFER LOOPBACK
8051 056700 012705 013554    360$: MOV #TDRB1A,R5          ; DEFAULT ONE BUFFER TRANSMIT RING
8052 056704 004737 027046    JSR PC,LDTDRB          ; LOAD TDRB
8053 056710 012705 013354    MOV #RDRB1A,R5          ; DEFAULT ONE BUFFER RECEIVE RING
8054 056714 004737 027010    JSR PC,LDRDRB          ; LOAD RDRB

```

Address	Offset	Hex	Dec	Label	Instruction	Comment	Trap Word	Trap Label
8055					SET UP BUFFERS AND START			
8056					MOV R2,R5	POINT TO DESTINATION ADDRESS		
8057	056720	010205			JSR PC,LDDST	LOAD DEST		
8058	056722	004737	026714		JSR PC,SETBUF	SET UP BUFFERS		
8059	056726	004737	027342		MOV #START,BPCSR0	ISSUE START PORT COMMAND		
8060	056732	012777	000004	123266	JSR PC,CHKDNI	DNI?		
8061	056740	004737	024574		BCC 3704	YES		
8062	056744	103006			ERRHRD 350.,ERR012,MSG003	NO, REPORT ERROR		
8063	056746						TRAP	C\$ERRHRD
	056746	104456					.WORD	350
	056750	000536					.WORD	ERR012
	056752	020633					.WORD	MSG003
	056754	017110						
8064	056756				ESCAPE TST	AND ABORT TEST	TRAP	C\$ESCAPE
	056756	104410					.WORD	L10054
	056760	001030						
8065								
8066	056762	004737	025546		3704: JSR PC,CLRDN1	WRITE ONE TO CLEAR DNI		
8067						ERROR ?		
8068	056766	103006			BCC 3804	NO		
8069	056770				ERRHRD 351.,ERRC06,MSG003	YES, REPORT ERROR		
	056770	104456					TRAP	C\$ERRHRD
	056772	000537					.WORD	351
	056774	020202					.WORD	ERRC06
	056776	017110					.WORD	MSG003
8070	057000				ESCAPE TST	AND ABORT TEST	TRAP	C\$ESCAPE
	057000	104410					.WORD	L10054
	057002	001006						
8071								
8072	057004	004737	025404		3804: JSR PC,CHKTXI	TXI ?		
8073	057010	103006			BCC 3904	YES		
8074	057012				ERRHRD 352.,ERR013,MSG003	NO, REPORT ERROR		
	057012	104456					TRAP	C\$ERRHRD
	057014	000540					.WORD	352
	057016	020714					.WORD	ERR013
	057020	017110					.WORD	MSG003
8075	057022				ESCAPE TST	AND ABORT TEST	TRAP	C\$ESCAPE
	057022	104410					.WORD	L10054
	057024	000764						
8076								
8077	057026	004737	025730		3904: JSR PC,CLRTXI	WRITE ONE TO CLEAR TXI		
8078						ERROR ?		
8079	057032	103006			BCC 4004	NO		
8080	057034				ERRHRD 353.,ERR014,MSG003	YES, REPORT ERROR		
	057034	104456					TRAP	C\$ERRHRD
	057036	000541					.WORD	353
	057040	020745					.WORD	ERR014
	057042	017110					.WORD	MSG003
8081	057044				ESCAPE TST	AND ABORT TEST	TRAP	C\$ESCAPE
	057044	104410					.WORD	L10054
	057046	000742						
8082								
8083	057050	012705	002604		4004: MOV #TDRB,R5	CHECK TDRB OWNERS		

	057064	000542					.WORD	354
	057066	021212					.WORD	ERR018
	057070	000000					.WORD	0
8087	057072			ESCAPE	TST	:	AND ABORT TEST	
	057072	104410					TRAP	C#ESCAPE
	057074	000714					.WORD	L10054
8088								
8089	057076	012705	014524	i 410:	MOV	#TDR14A,R5	:	POINT TO EXPECTED TDRB
8090	057102	004737	027252		JSR	PC,LDXTDR	:	LOAD INTO XTDRB0 TABLE
8091	057106	012705	002604		MOV	#TDRB,R5	:	CHECK TDRB
8092	057112	004737	025316		JSR	PC,CHKTDR	:	ERPGNS ?
8093	057116	103006			BCC	420:	:	NO
8094	057120				ERRHRD	355.,ERR020,MSG005	:	YES, REPORT ERROR
	057120	104456					TRAP	C#ERHRD
	057122	000543					.WORD	355
	057124	021372					.WORD	ERR020
	057126	017214					.WORD	MSG005
8095	057130				ESCAPE	TST	:	AND ABORT TEST
	057130	104410					TRAP	C#ESCAPE
	057132	000656					.WORD	L10054
8096								
8097	057134	004737	025132	i 420:	JSR	PC,CHKRXI	:	RXI ?
8098	057140	103006			BCC	430:	:	YES
8099	057142				ERRHRD	356.,ERR015,MSG003	:	NO, REPORT ERROR
	057142	104456					TRAP	C#ERHRD
	057144	000544					.WORD	356
	057146	021013					.WORD	ERR015
	057150	017110					.WORD	MSG003
8100	057152				ESCAPE	TST	:	AND ABORT TEST
	057152	104410					TRAP	C#ESCAPE
	057154	000634					.WORD	L10054
8101								
8102	057156	004737	025662	i 430:	JSR	PC,CLRRXI	:	WRITE ONE TO CLEAR RXI
8103							:	ERROR ?
8104	057162	103006			BCC	440:	:	NO
8105	057164				ERRHRD	357.,ERR016,MSG003	:	YES, REPORT ERROR
	057164	104456					TRAP	C#ERHRD
	057166	000545					.WORD	357
	057170	021044					.WORD	ERR016
	057172	017110					.WORD	MSG003
8106	057174				ESCAPE	TST	:	AND ABORT TEST
	057174	104410					TRAP	C#ESCAPE
	057176	000612					.WORD	L10054
8107								
8108	057200	012705	002644	i 440:	MOV	#RDRB,R5	:	CHECK RDRB OWNERSHIP
8109	057204	004737	024676		JSR	PC,CHKOWN	:	OWN = PORT DRIVER ?
8110	057210	103006			BCC	450:	:	YES
8111	057212				ERRHRD	358.,ERR017	:	NO, REPORT ERROR
	057212	104456					TRAP	C#ERHRD
	057214	000546					.WORD	358
	057216	021112					.WORD	ERR017
	057220	000000					.WORD	0
8112	057222				ESCAPE	TST	:	AND ABORT TEST
	057222	104410					TRAP	C#ESCAPE
	057224	000544					.WORD	L10054
8113								
9114	057226	012705	014634	i 450:	MOV	#RDR14A,R5	:	POINT TO EXPECTED RDRB

8115	057232	004737	027222		JSR	PC,LDXRDR		; LOAD INTO XRDRBO TABLE		
8116	057236	012705	002644		MOV	#RDRB,R5		; CHECK RDRB		
8117	057242	004737	025032		JSR	PC,CHKRDR		; ERRORS ?		
8118	057246	103006			BCC	460\$		; NO		
8119	057250				ERRHRD	359.,ERR021,MSG006		; YES, REPORT ERROR		
	057250	104456							TRAP	C#EPHRD
	057252	000547							.WORD	359
	057254	021453							.WORD	ERR021
	057256	017356							.WORD	MSG006
8120	057260				ESCAPE	TST		; AND ABORT TEST		
	057260	104410							TRAP	C#ESCAPE
	057262	000526							.WORD	L10054.
8121										
8122										
8123	057264	012705	000070		460\$:	MOV	#56.,R5		; COMPARE 56 WORDS OF DATA	
8124	057270	004737	026044		JSR	PC,CMPCAT		; DATA COMPARE ERROR ?		
8125	057274	103006			BCC	470\$		; NO		
8126	057276				ERRHRD	360.,ERR022,MSG007		; YES, REPORT ERROR		
	057276	104456							TRAP	C#ERHRD
	057300	000550							.WORD	360
	057302	021534							.WORD	ERR022
	057304	017520							.WORD	MSG007
8127	057306				ESCAPE	TST		; AND ABORT TEST		
	057306	104410							TRAP	C#ESCAPE
	057310	000500							.WORD	L10054.-.
8128										
8129	057312	010305			470\$:	MOV	R3,R5		; POINT TO EXPECTED CRC TABLE	
8130	057314	004737	027176		JSR	PC,LDXCRC		; LOAD INTO XCRC TABLE		
8131	057320	012705	007300		MOV	#RBUF+124.,R5		; CHECK CRC		
8132	057324	004737	026124		JSR	PC,CMPCRC		; ERRORS ?		
8133	057330	103006			BCC	480\$		; NO		
8134	057332				ERRHRD	361.,ERR023,MSG008		; YES, REPORT ERROR		
	057332	104456							TRAP	C#ERHRD
	057334	000551							.WORD	361
	057336	021603							.WORD	ERR02.
	057340	017552							.WORD	MSG008
8135	057342				ESCAPE	TST		; AND ABORT TEST		
	057342	104410							TRAP	C#ESCAPE
	057344	000444							.WORD	L10054.-.
8136										
8137	057346	012777	000017	122652	480\$:	MOV	#STOP,SPCSRO		; ISSUE STOP PORT COMMAND	
8138	057354	004737	024574		JSR	PC,CHKDNI		; DNI ?		
8139	057360	103006			BCC	490\$		; YES		
8140	057362				ERRHRD	362.,ERR019,MSG003		; NO, REPORT ERROR		
	057362	104456							TRAP	C#ERHRD
	057364	000552							.WORD	362
	057366	021312							.WORD	ERR019
	057370	017110							.WORD	MSG003
8141	057372				ESCAPE	TST		; AND ABORT TEST		
	057372	104410							TRAP	C#ESCAPE
	057374	000414							.WORD	L10054.-.
8142										
8143	057376	004737	025546		490\$:	JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI	
8144										
8145	057402	103006			BCC	495\$		; ERROR ?		
8146	057404				ERRHRD	363.,ERR006,MSG003		; NO		
	057404	104456						; YES, REPORT ERROR		
									TRAP	C#ERHRD

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 TEST 22: MULTICAST ADDRESS TEST

8214	057740	103006		BCC	580\$		; YES		
8215	057742			ERRHRD	371.	ERR019.MSG003	; NO, REPORT ERROR		
	057742	104456						TRAP	C\$ERHRD
	057744	000563						.WORD	371
	057746	021312						.WORD	ERR019
	057750	017110						.WORD	MSG003
8216	057752			ESCAPE	TST		; AND ABORT TEST		
	057752	104410						TRAP	C\$ESCAPE
	057754	000034						.WORD	L10054
8217									
8218	057756	004737	025546	580\$:	JSR	PC.CLRDNI	; WRITE ONE TO CLEAR DNI		
8219							; ERROR ?		
8220	057762	103006		BCC	590\$		; NO		
8221	057764			ERRHRD	372.	ERR006.MSG003	; YES, REPORT ERROR		
	057764	104456						TRAP	C\$ERHRD
	057766	000564						.WORD	372
	057770	020202						.WORD	ERR006
	057772	017110						.WORD	MSG003
8222	057774			ESCAPE	TST		; AND ABORT TEST		
	057774	104410						TRAP	C\$ESCAPE
	057776	000012						.WORD	L10054-
8223									
8224	060000	062702	000006	590\$:	ADD	#6,R2	; UPDATE R2		
8225	060004	005301			DEC	R1	; DONE TEN LOOPBACKS ?		
8226	060006	001220			BNE	500\$	; NO		
8227									
8228	060010				ENDTST				
	060010							L10054:	
	060010	104401						TR. P	C\$ETST


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8230 .SBTTL TEST 23: PROMISCUOUS ADDRESS MODE TEST
8231 .....
8232 ;
8233 ; THIS TEST VERIFIES THAT PROMISCUOUS ADDRESSING MODE
8234 ; IS OPERATIONAL.
8235 ; A WRITE PHYSICAL ADDRESS FUNCTION IS USED TO SET
8236 ; THE DEUNA'S PHYSICAL ADDRESS.
8237 ; A WRITE MULTICAST ADDRESS LIST FUNCTION IS USED TO SET
8238 ; THE DEUNA'S MULTICAST ADDRESS LIST.
8239 ; INTERNAL LOOPBACKS ARE THEN PERFORMED WITH
8240 ; CURRENTLY ENABLED AND THEN CURRENTLY DISABLED
8241 ; PHYSICAL AND MULTICAST DESTINATION ADDRESSES.
8242 ;
8243 ; TEST SEQUENCE:
8244 ; 1. WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
8245 ; 2. WRITE RING FORMAT
8246 ; 3. WRITE PHYSICAL ADDRESS
8247 ; 4. WRITE MULTICAST ADDRESS LIST
8248 ; 5. SET UP RINGS AND BUFFERS
8249 ; WITH DESTINATION ADDRESS = PHYSICAL ADDRESS
8250 ; 6. ISSUE START
8251 ; 7. CHECK FOR ERRORS
8252 ; 8. ISSUE STOP
8253 ; 9. SET UP RINGS AND BUFFERS
8254 ; WITH DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
8255 ; 10. ISSUE START
8256 ; 11. CHECK FOR ERRORS
8257 ; 12. ISSUE STOP
8258 ; 13. SET UP RINGS AND BUFFERS
8259 ; WITH DESTINATION ADDRESS = MULTICAST ADDRESS
8260 ; 14. ISSUE START
8261 ; 15. CHECK FOR ERRORS
8262 ; 16. ISSUE STOP
8263 ; 17. REPEAT STEPS 13 - 16 FOR ALL TEN LIST ENTRIES
8264 ; 18. SET UP RINGS AND BUFFERS
8265 ; WITH DESTINATION ADDRESS NOT = MULTICAST ADDRESS
8266 ; 19. ISSUE START
8267 ; 20. CHECK FOR ERRORS
8268 ; 21. ISSUE STOP
8269 ; 22. REPEAT STEPS 18 - 21 FOR ALL TEN ENTRIES
8270 ;
8271 ; .....
8272 ;
8273 ;
8274 060012 BGNTST
8275 060012 T23::
8275 060012 004737 027446 JSR PC,TINIT ; IS A DEVICE RESET NEEDED?
8276 060016 103025 BCC 304 ; NO
8277 060020 012777 000040 122200 MOV #RSET,BPCSR0 ; YES, RESET DEUNA
8278 060026 004737 024574 JSR PC,CHKDNI ; DNI ?
8279 060032 103006 BCC 204 ; YES
8280 060034 ERMRD 373.,ERR004,MSG003 ; NO, REPORT ERROR
8280 060034 104456 TRAP C1ERMRD
8280 060036 000565 .WORD 373
8280 060040 020102 .WORD ERR004
8280 060042 017110 .WORD MSG003
8281 060044 ESCAPE TST ; AND ABORT TEST

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8348	060402			ESCAPE	TST		AND ABORT TEST		
	060402	104410						TRAP	C#ESCAPE
	060404	003004						.WORD	L10055 .
8349									
8350	060406	004737	025546	1004:	JSR	PC,CLRDNI			
8351									
8352	060412	103006			BCC	1024			
8353	060414				ERRHRD	382.,ERR006,MSG003			
	060414	104456						TRAP	C#ERRHRD
	060416	000576						.WORD	382
	060420	020202						.WORD	ERR006
	060422	017110						.WORD	MSG003
8354	060424			ESCAPE	TST		AND ABORT TEST		
	060424	104410						TRAP	C#ESCAPE
	060426	002762						.WORD	L10055 .
8355									
8356									
8357	060430	012705	013164						
8358	060434	004737	026742	1024:	MOV	#WITHULA,R5			
8359	060440	012705	014334		JSR	PC,LDPCCB			
8360	060444	012700	000036		MOV	#MULTL,R5			
8361	060450	004737	027142		MOV	#30.,R0			
8362	060454	012777	000002	121544	JSR	PC,LDDDBB			
8363	060462	004737	024574		MOV	#GETCMD,SPCSR0			
8364	060466	103006			JSR	PC,CHKDNI			
8365	060470				BCC	1044			
	060470	104456			ERRHRD	383.,ERR010,MSG003			
	060472	000577						TRAP	C#ERRHRD
	060474	020502						.WORD	383
	060476	017110						.WORD	ERR010
8366	060500			ESCAPE	TST		AND ABORT TEST		
	060500	104410						TRAP	C#ESCAPE
	060502	002706						.WORD	L10055 .
8367									
8368	060504	004737	025546	1044:	JSR	PC,CLRDNI			
8369									
8370	060510	103006			BCC	1104			
8371	060512				ERRHRD	384.,ERR006,MSG003			
	060512	104456							
	060514	000600						TRAP	C#ERRHRD
	060516	020202						.WORD	384
	060520	017110						.WORD	ERR006
8372	060522			ESCAPE	TST		AND ABORT TEST		
	060522	104410						TRAP	C#ESCAPE
	060524	002664						.WORD	L10055 .
8373									
8374									
8375									
8376									
8377	060526	012705	013554						
8378	060532	004737	027046	1104:	MOV	#TDRB1A,R5			
8379	060536	012705	013354		JSR	PC,LDTDRB			
8380	060542	004737	027010		MOV	#RDRB1A,R5			
8381					JSR	PC,LDRDRB			
8382									
8383	060546	012705	014320						
8384	060552	004737	026714						

8385	060556	004737	027342		JSR	PC,SETBUF		; SET UP BUFFERS		
8386	060562	012777	000004	121436	MOV	#START,BPCSR0		; ISSUE START PORT COMMAND		
8387	060570	004737	024574		JSR	PC,CHKDNI		; DNI?		
8388	060574	103006			BCC	1204		; YES		
8389	060576				ERRHRD	385.,ERR012,MSG003		; NO, REPORT ERROR		
	060576	104456							TRAP	C\$ERRHRD
	060600	000601							.WORD	385
	060602	020633							.WORD	ERR012
	060604	017110							.WORD	MSG003
8390	060606				ESCAPE	TST		; AND ABORT TEST		
	060606	104410							TRAP	C\$ESCAPE
	060610	002600							.WORD	L10055
8391										
8392	060612	004737	025546		JSR	PC,CLRDNI		; WRITE ONE TO CLEAR DNI		
8393				1204:				; ERROR ?		
8394	060616	103006			BCC	1304		; NO		
8395	060620				ERRHRD	386.,ERR006,MSG003		; YES, REPORT ERROR		
	060620	104456							TRAP	C\$ERRHRD
	060622	000602							.WORD	386
	060624	020202							.WORD	ERR006
	060626	017110							.WORD	MSG003
8396	060630				ESCAPE	TST		; AND ABORT TEST		
	060630	104410							TRAP	C\$ESCAPE
	060632	002556							.WORD	L10055
8397										
8398	060634	004737	025404		JSR	PC,CHKTXI		; TXI ?		
8399	060640	103006		1304:	BCC	1404		; YES		
8400	060642				ERRHRD	387.,ERR013,MSG003		; NO, REPORT ERROR		
	060642	104456							TRAP	C\$ERRHRD
	060644	000603							.WORD	387
	060646	020714							.WORD	ERR013
	060650	017110							.WORD	MSG003
8401	060652				ESCAPE	TST		; AND ABORT TEST		
	060652	104410							TRAP	C\$ESCAPE
	060654	002534							.WORD	L10055
8402										
8403	060656	004737	025730		JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI		
8404				1404:				; ERROR ?		
8405	060662	103006			BCC	1504		; NO		
8406	060664				ERRHRD	388.,ERR014,MSG003		; YES, REPORT ERROR		
	060664	104456							TRAP	C\$ERRHRD
	060666	000604							.WORD	388
	060670	020745							.WORD	ERR014
	060672	017110							.WORD	MSG003
8407	060674				ESCAPE	TST		; AND ABORT TEST		
	060674	104410							TRAP	C\$ESCAPE
	060676	002512							.WORD	L10055
8408										
8409	060700	012705	002604		MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP		
8410	060704	004737	024676	1504:	JSR	PC,CHKOWN		; OWN = PORT DRIVER ?		
8411	060710	103006			BCC	1604		; YES		
8412	060712				ERRHRD	389.,ERR018		; NO, REPORT ERROR		
	060712	104456							TRAP	C\$ERRHRD
	060714	000605							.WORD	389
	060716	021212							.WORD	ERR018
	060720	000000							.WORD	0
8413	060722				ESCAPE	TST		; AND ABORT TEST		

060722	104410					TRAP	C#ESCAPE
060724	002464					WORD	L10055
8414							
8415	060726	012705	014524	1604:	MOV	#TDR14A,R5	; POINT TO EXPECTED TDRB
8416	060732	004737	027252		JSR	PC,LDX TDR	; LOAD INTO XTDRBC TABLE
8417	060736	012705	002604		MOV	#TDRB,R5	; CHECK TDRB
8418	060742	004737	025316		JSR	PC,CHK TDR	; ERRORS ?
8419	060746	103006			BCC	1704	; NO
8420	060750				ERRHRD	390.,ERR020,MSG005	; YES, REPORT ERROR
	060750	104456					TRAP
	060752	000606					WORD
	060754	021372					WORD
	060756	017214					WORD
8421	060760				ESCAPE	TST	; AND ABORT TEST
	060760	104410					TRAP
	060762	002426					WORD
8422							C#ESCAPE
8423	060764	004737	025132	1704:	JSR	PC,CHKRXI	; RXI ?
8424	060770	103006			BCC	1804	; YES
8425	060772				ERRHRD	391.,ERR015,MSG003	; NO, REPORT ERROR
	060772	104456					TRAP
	060774	000607					WORD
	060776	021013					WORD
	061000	017110					WORD
8426	061002				ESCAPE	TST	; AND ABORT TEST
	061002	104410					TRAP
	061004	002404					WORD
8427							C#ESCAPE
8428	061006	004737	025662	1804:	JSR	PC,CLR RXI	; WRITE ONE TO CLEAR RXI
8429							; ERROR ?
8430	061012	103006			BCC	1904	; NO
8431	061014				ERRHRD	392.,ERR016,MSG003	; YES, REPORT ERROR
	061014	104456					TRAP
	061016	000610					WORD
	061020	021044					WORD
	061022	017110					WORD
8432	061024				ESCAPE	TST	; AND ABORT TEST
	061024	104410					TRAP
	061026	002362					WORD
8433							C#ESCAPE
8434	061030	012705	002644	1904:	MOV	#RDRB,R5	; CHECK RDRB OWNERSHIP
8435	061034	004737	024676		JSR	PC,CHKOWN	; OWN = PORT DRIVER ?
8436	061040	103006			BCC	2004	; YES
8437	061042				ERRHRD	393.,ERR017	; NO, REPORT ERROR
	061042	104456					TRAP
	061044	000611					WORD
	061046	021112					WORD
	061050	000000					WORD
8438	061052				ESCAPE	TST	; AND ABORT TEST
	061052	104410					TRAP
	061054	002334					WORD
8439							C#ESCAPE
8440	061056	012705	014634	2004:	MOV	#RDR14A,R5	; POINT TO EXPECTED RDRB
8441	061062	004737	027222		JSR	PC,LDXRDR	; LOAD INTO XRDRBO TABLE
8442	061066	012705	002644		MOV	#RDRB,R5	; CHECK RDRB
8443	061072	004737	025032		JSR	PC,CHKRDR	; ERRORS ?
8444	061076	103006			BCC	2104	; NO

8445	061100			ERRHRD	394.,ERR021,MSG006	; YES, REPORT ERROR	TRAP	C#ERRHRD
	061100	104456					.WORD	394
	061102	000612					.WORD	ERR021
	061104	021453					.WORD	MSG006
	061106	017356						
8446	061110			ESCAPE	TST	; AND ABORT TEST	TRAP	C#ESCAPE
	061110	104410					.WORD	L10055
	061112	002276						
8447								
8448								
8449	061114	012705	000070					
8450	061120	004737	026044	2104:	MOV #55.,R5	; COMPARE 56 WORDS OF DATA		
8451	061124	103006			JSR PC,CMPCAT	; DATA COMPARE ERROR ?		
8452	061126				BCC 2204	; NO		
	061126	104456			ERRHRD 395.,ERR022,MSG007	; YES, REPORT ERROR	TRAP	C#ERRHRD
	061130	000613					.WORD	395
	061132	021534					.WORD	ERR022
	061134	017520					.WORD	MSG007
8453	061136			ESCAPE	TST	; AND ABORT TEST	TRAP	C#ESCAPE
	061136	104410					.WORD	L10055-
	061140	002250						
8454								
8455	061142	012705	014744	2204:	MOV #CRC21A,R5	; POINT TO EXPECTED CRC		
8456	061146	004737	027176		JSR PC,LDXCRC	; LOAD INTO XCRC TABLE		
8457	061152	012705	007300		MOV #RBUF+124.,R5	; CHECK CRC		
8458	061156	004737	026124		JSR PC,CMPCRC	; ERRORS ?		
8459	061162	103006			BCC 2304	; NO		
8460	061164				ERRHRD 396.,ERR023,MSG008	; YES, REPORT ERROR	TRAP	C#ERRHRD
	061164	104456					.WORD	396
	061166	000614					.WORD	ERR023
	061170	021603					.WORD	MSG008
	061172	017552						
8461	061174			ESCAPE	TST	; AND ABORT TEST	TRAP	C#ESCAPE
	061174	104410					.WORD	L10055
	061176	002212						
8462								
8463	061200	012777	000017	2304:	MOV #STOP,BPCSR0	; ISSUE STOP PORT COMMAND		
8464	061206	004737	024574		JSR PC,CHKDNI	; DNI ?		
8465	061212	103006			BCC 2404	; YES		
8466	061214				ERRHRD 397.,ERR019,MSG003	; NO, REPORT ERROR	TRAP	C#ERRHRD
	061214	104456					.WORD	397
	061216	000615					.WORD	ERR019
	061220	021312					.WORD	MSG003
	061222	017110						
8467	061224			ESCAPE	TST	; AND ABORT TEST	TRAP	C#ESCAPE
	061224	104410					.WORD	L10055
	061226	002162						
8468								
8469	061230	004737	025546	2404:	JSR PC,CLRDN1	; WRITE ONE TO CLEAR DNI		
8470						; ERROR ?		
8471	061234	103006			BCC 2504	; NO		
8472	061236				ERRHRD 398.,ERR006,MSG003	; YES, REPORT ERROR	TRAP	C#ERRHRD
	061236	104456					.WORD	398
	061240	000616					.WORD	ERR006
	061242	020202					.WORD	MSG003
	061244	017110						
8473	061246			ESCAPE	TST	; AND ABORT TEST		

	061246	104410				TRAP	C#ESCAPE
	061250	002140				.WORD	L10055 .
8474							
8475							
8476							
8477							
8478	061252	012705	013554				
8479	061256	004737	027046				
8480	061262	012705	013354				
8481	061266	004737	027010				
8482							
8483							
8484	061272	012705	014326				
8485	061276	004737	026714				
8486	061302	004737	027342				
8487	061306	012777	000004	120712			
8488	061314	004737	024574				
8489	061320	103006					
8490	061322						
	061322	104456				TRAP	C#ERRRD
	061324	000617				.WORD	399
	061326	020633				.WORD	ERR012
	061330	017110				.WORD	MSG003
8491	061332				ESCAPE TST		
	061332	104410				TRAP	C#ESCAPE
	061334	002034				.WORD	L10055 .
8492							
8493	061336	004737	025546				
8494							
8495	061342	103006					
8496	061344						
	061344	104456				TRAP	C#ERRRD
	061346	000620				.WORD	400
	061350	020202				.WORD	ERR006
	061352	017110				.WORD	MSG003
8497	061354						
	061354	104410				TRAP	C#ESCAPE
	061356	002032				.WORD	L10055 .
8498							
8499	061360	004737	025404				
8500	061364	103006					
8501	061366						
	061366	104456				TRAP	C#ERRRD
	061370	000621				.WORD	401
	061372	020714				.WORD	ERR013
	061374	017110				.WORD	MSG003
8502	061376						
	061376	104410				TRAP	C#ESCAPE
	061400	002010				.WORD	L10055 .
8503							
8504	061402	004737	025730				
8505							
8506	061406	103006					
8507	061410						
	061410	104456				TRAP	C#ERRRD
	061412	000622				.WORD	402
	061414	020745				.WORD	ERR014

8508	061416	017110		ESCAPE	TST	; AND ABORT TEST	.WORD	MSG003
	061420						TRAP	C\$ESCAPE
	061420	104410					.WORD	L10055
	061422	001766						
8509								
8510	061424	012705	002604	290:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP
8511	061430	004737	024676		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
8512	061434	103006			BCC	300:		; YES
8513	061436				ERRHRD	403.,ERR018		; NO, REPORT ERROR
	061436	104456					TRAP	C\$ERRHRD
	061440	000623					.WORD	403
	061442	021212					.WORD	ERR018
	061444	000000					.WORD	0
8514	061446			ESCAPE	TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	061446	104410					.WORD	L10055-
	061450	001740						
8515								
8516	061452	012705	014524	300:	MOV	#TDR14A,R5		; POINT TO EXPECTED TDRB
8517	061456	004737	027252		JSR	PC,LDXTDR		; LOAD INTO XTDRB0 TABLE
8518	061462	012705	002604		MOV	#TDRB,R5		; CHECK TDRB
8519	061466	004737	025316		JSR	PC,CHKTDR		; ERRORS ?
8520	061472	103006			BCC	310:		; NO
8521	061474				ERRHRD	404.,ERR020,MSG005		; YES, REPORT ERROR
	061474	104456					TRAP	C\$ERRHRD
	061476	000624					.WORD	404
	061500	021372					.WORD	ERR020
	061502	017214					.WORD	MSG005
8522	061504			ESCAPE	TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	061504	104410					.WORD	L10055-
	061506	001702						
8523								
8524	061510	004737	025132	310:	JSR	PC,CHKRXI		; RXI ?
8525	061514	103006			BCC	320:		; YES
8526	061516				ERRHRD	405.,ERR015,MSG003		; NO, REPORT ERROR
	061516	104456					TRAP	C\$ERRHRD
	061520	000625					.WORD	405
	061522	021013					.WORD	ERR015
	061524	017110					.WORD	MSG003
8527	061526			ESCAPE	TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	061526	104410					.WORD	L10055-
	061530	001660						
8528								
8529	061532	004737	025662	320:	JSR	PC,CLRXXI		; WRITE ONE TO CLEAR RXI
8530								; ERROR ?
8531	061536	103006			BCC	330:		; NO
8532	061540				ERRHRD	406.,ERR016,MSG003		; YES, REPORT ERROR
	061540	104456					TRAP	C\$ERRHRD
	061542	000626					.WORD	406
	061544	021044					.WORD	ERR016
	061546	017110					.WORD	MSG003
8533	061550			ESCAPE	TST	; AND ABORT TEST	TRAP	C\$ESCAPE
	061550	104410					.WORD	L10055-
	061552	001636						
8534								
8535	061554	012705	002644	330:	MOV	#RDRB,R5		; CHECK RDRB OWNERSHIP
8536	061560	004737	024676		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
8537	061564	103006			BCC	340:		; YES

8538	061566			ERRHRD	407.,ERR017		; NO, REPORT ERROR	TRAP	C\$ERRHRD
	061566	104456						.WORD	407
	061570	000627						.WORD	ERR017
	061572	021112						.WORD	0
	061574	000000							
8539	061576			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	061576	104410						.WORD	L10055 .
	061600	001610							
8540									
8541	061602	012705	014634				; POINT TO EXPECTED RDRB		
8542	061606	004737	027222				; LOAD INTO XRDRB0 TABLE		
8543	061612	012705	002644				; CHECK RDRB		
8544	061616	004737	025032				; ERRORS ?		
8545	061622	103006					; NO		
8546	061624						; YES, REPORT ERROR		
	061624	104456						TRAP	C\$ERRHRD
	061626	000630						.WORD	408
	061630	021453						.WORD	ERR021
	061632	017356						.WORD	MSG006
8547	061634			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	061634	104410						.WORD	L10055 .
	061636	001552							
8548									
8549									
8550	061640	012705	000070				; COMPARE 56 WORDS OF DATA		
8551	061644	004737	026044				; DATA COMPARE ERROR ?		
8552	061650	103006					; NO		
8553	061652						; YES, REPORT ERROR		
	061652	104456						TRAP	C\$ERRHRD
	061654	000631						.WORD	409
	061656	021537						.WORD	ERR022
	061660	017520						.WORD	MSG007
8554	061662			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	061662	104410						.WORD	L10055 .
	061664	001524							
8555									
8556	061666	012705	015074				; POINT TO EXPECTED CRC		
8557	061672	004737	027176				; LOAD INTO XCRC TABLE		
8558	061676	012705	007300				; CHECK CRC		
8559	061702	004737	026124				; ERRORS ?		
8560	061706	103006					; NO		
8561	061710						; YES, REPORT ERROR		
	061710	104456						TRAP	C\$ERRHRD
	061712	000632						.WORD	410
	061714	021603						.WORD	ERR023
	061716	017552						.WORD	MSG008
8562	061720			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	061720	104410						.WORD	L10055 .
	061722	001466							
8563									
8564	061724	012777	000017				; ISSUE STOP PORT COMMAND		
8565	061732	004737	024574				; DNI ?		
8566	061736	103006					; YES		
8567	061740						; NO, REPORT ERROR		
	061740	104456						TRAP	C\$ERRHRD
	061742	000633						.WORD	411
	061744	021312						.WORD	ERR019

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      061746 017110
8568 061750          ESCAPE TST          ; AND ABORT TEST          .WORD MSG003
      061750 104410          TRAP C$ESCAPE
      061752 001436          .WORD L10055 .

8569
8570 061754 004737 025546      ;380$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
8571                                ; ERROR ?
8572 061760 103006          BCC 390$          ; NO
8573 061762          ERRHRD 412.,ERR006,MSG003 ; YES. REPORT ERROR          TRAP C$ERRRD
      061762 104456          .WORD 412
      061764 000634          .WORD ERR006
      061766 020202          .WORD MSG003
      061770 017110
8574 061772          ESCAPE TST          ; AND ABORT TEST          TRAP C$ESCAPE
      061772 104410          .WORD L10055 .
      061774 001414

8575
8576      ;REWRITE DEFAULT PHYSICAL ADDRESS
8577 061776 012705 013144      390$: MOV #WTPHYA,R5          ; DEFAULT WRITE PHYSICAL ADDR FUNC
8578 062002 004737 026742      JSR PC,LDPCBB          ; LOAD FUNCTION -> PCBB
8579 062006 012777 000002 120212 MOV #GETCMD,BPCSR0          ; ISSUE GET_CMD PORT COMMAND
8580 062014 004737 024574      JSR PC,CHKDNI          ; DNI ?
8581 062020 103006          BCC 400$          ; YES
8582 062022          ERRHRD 413.,ERR010,MSG003 ; NO. REPORT ERROR          TRAP C$ERRRD
      062022 104456          .WORD 413
      062024 000635          .WORD ERR010
      062026 020502          .WORD MSG003
      062030 017110
8583 062032          ESCAPE TST          ; AND ABORT TEST          TRAP C$ESCAPE
      062032 104410          .WORD L10055 .
      062034 001354

8584
8585 062036 004737 025546      ;400$: JSR PC,CLRDNI          ; WRITE ONE TO CLEAR DNI
8586                                ; ERROR ?
8587 062042 103006          BCC 410$          ; NO
8588 062044          ERRHRD 414.,ERR006,MSG003 ; YES. REPORT ERROR          TRAP C$ERRRD
      062044 104456          .WORD 414
      062046 000636          .WORD ERR006
      062050 020202          .WORD MSG003
      062052 017110
8589 062054          ESCAPE TST          ; AND ABORT TEST          TRAP C$ESCAPE
      062054 104410          .WORD L10055 .
      062056 001332

8590
8591      ;DO TEN LOOPS WITH DEST ADDR = MULTICAST ADDRESS
8592
8593 062060 012701 000012      ;410$: MOV #10.,R1          ; DO LOOP = TEN
8594 062064 012702 014334      MOV #MULTL,R2          ; R2 POINTS TO MULTICAST LIST
8595 062070 012703 014754      MOV #CRC22A,R3          ; R3 POINTS TO EXPECTED CRC TABLE
8596
8597      ;SET UP RINGS FOR ONE BUFFER LOOPBACK
8598 062074 012705 013554      420$: MOV #TDRB1A,R5          ; DEFAULT ONE BUFFER TRANSMIT RING
8599 062100 004737 027046      JSR PC,LDTDRB          ; LOAD TDRB
8600 062104 012705 013354      MOV #RDRB1A,R5          ; DEFAULT ONE BUFFER RECEIVE RING
8601 062110 004737 027010      JSR PC,LDRDRB          ; LOAD RDRB
8602
8603      ;SET UP BUFFERS AND START

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8604	062114	010205		MOV	R2,R5		; POINT TO DESTINATION ADDRESS		
8605	062116	004737	026714	JSR	PC,LDDDEST		; LOAD DEST		
8606	062122	004737	027342	JSR	PC,SETBUF		; SET UP BUFFERS		
8607	062126	012777	000004	MOV	#START,SPCSRO	120072	; ISSUE START PORT COMMAND		
8608	062134	004737	024574	JSR	PC,CHKDNI		; DNI?		
8609	062140	103006		BCC	430\$		; YES		
8610	062142			ERRHRD	415.,ERR012,MSG003		; NO, REPORT ERROR	TRAP	C\$ERHRD
	062142	104456						.WORD	415
	062144	000637						.WORD	ERR012
	062146	020633						.WORD	MSG003
	062150	017110							
8611	062152			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	062152	104410						.WORD	L10055
	062154	001234							
8612									
8613	062156	004737	025546	430\$: JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI		
8614							; ERROR ?		
8615	062162	103006		BCC	440\$		; NO		
8616	062164			ERRHRD	416.,ERR006,MSG003		; YES, REPORT ERROR	TRAP	C\$ERHRD
	062164	104456						.WORD	416
	062166	000640						.WORD	ERR006
	062170	020202						.WORD	MSG003
	062172	017110							
8617	062174			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	062174	104410						.WORD	L10055-
	062176	001212							
8618									
8619	062200	004737	025404	440\$: JSR	PC,CHKTXI		; TXI ?		
8620	062204	103006		BCC	450\$		; YES		
8621	062206			ERRHRD	417.,ERR013,MSG003		; NO, REPORT ERROR	TRAP	C\$ERHRD
	062206	104456						.WORD	417
	062210	000641						.WORD	ERR013
	062212	020714						.WORD	MSG003
	062214	017110							
8622	062216			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	062216	104410						.WORD	L10055
	062220	001170							
8623									
8624	062222	004737	025730	450\$: JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI		
8625							; ERROR ?		
8626	062226	103006		BCC	470\$		; NO		
8627	062230			ERRHRD	418.,ERR014,MSG003		; YES, REPORT ERROR	TRAP	C\$ERHRD
	062230	104456						.WORD	418
	062232	000642						.WORD	ERR014
	062234	020745						.WORD	MSG003
	062236	017110							
8628	062240			ESCAPE	TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	062240	104410						.WORD	L10055
	062242	001146							
8629									
8630	062244	012705	002604	470\$: MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP		
8631	062250	004737	024676	JSR	PC,CHKOWN		; OWN = PORT DRIVER ?		
8632	062254	103006		BCC	480\$		; YES		
8633	062256			ERRHRD	419.,ERR018		; NO, REPORT ERROR	TRAP	C\$ERHRD
	062256	104456						.WORD	419
	062260	000643						.WORD	ERR018
	062262	021212							

ADDRESS	HEX ADDRESS	HEX ADDRESS	HEX ADDRESS	INSTR	COMMENT	TEST	TRAP	WORD
8634	062264	000000		ESCAPE	TST	; AND ABORT TEST		0
	062266						TRAP	C\$ESCAPE
	062266	104410					.WORD	L10055
	062270	001120						
8635								
8636	062272	012705	014524	MOV	#TDR14A,R5	; POINT TO EXPECTED TDRB		
8637	062276	004737	027252	JSR	PC,LDXTDR	; LOAD INTO XTDRB0 TABLE		
8638	062302	012705	002604	MOV	#TDRB,R5	; CHECK TDRB		
8639	062306	004737	02531C	JSR	PC,CHKTDR	; ERRORS ?		
8640	062312	103006		BCC	490\$	; NO		
8641	062314			ERRHRD	420.,ERR020,MSG005	; YES, REPORT ERROR		
	062314	104456					TRAP	C\$ERHRD
	062316	000644					.WORD	420
	062320	021372					.WORD	ERR020
	062322	017214					.WORD	MSG005
8642	062324			ESCAPE	TST	; AND ABORT TEST		
	062324	104410					TRAP	C\$ESCAPE
	062326	001062					.WORD	L10055
8643								
8644	062330	004737	025132	JSR	PC,CHKRXI	; RXI ?		
8645	062334	103006		BCC	500\$	; YES		
8646	062336			ERRHRD	421.,ERR015,MSG003	; NO, REPORT ERROR		
	062336	104456					TRAP	C\$ERHRD
	062340	000645					.WORD	421
	062342	021013					.WORD	ERR015
	062344	017110					.WORD	MSG003
8647	062346			ESCAPE	TST	; AND ABORT TEST		
	062346	104410					TRAP	C\$ESCAPE
	062350	001040					.WORD	L10055
8648								
8649	062352	004737	025652	JSR	PC,CLRRXI	; WRITE ONE TO CLEAR RXI		
8650						; ERROR ?		
8651	062356	103006		BCC	510\$	; NO		
8652	062360			ERRHRD	422.,ERR016,MSG003	; YES, REPORT ERROR		
	062360	104456					TRAP	C\$ERHRD
	062362	000646					.WORD	422
	062364	021044					.WORD	ERR016
	062366	017110					.WORD	MSG003
8653	062370			ESCAPE	TST	; AND ABORT TEST		
	062370	104410					TRAP	C\$ESCAPE
	062372	001016					.WORD	L10055
8654								
8655	062374	012705	002644	MOV	#RDRB,R5	; CHECK RDRB OWNERSHIP		
8656	062400	004737	024676	JSR	PC,CHKOWN	; OWN = PORT DRIVER ?		
8657	062404	103006		BCC	520\$	; YES		
8658	062406			ERRHRD	423.,ERR017	; NO, REPORT ERROR		
	062406	104456					TRAP	C\$ERHRD
	062410	000647					.WORD	423
	062412	021112					.WORD	ERR017
	062414	000000					.WORD	0
8659	062416			ESCAPE	TST	; AND ABORT TEST		
	062416	104410					TRAP	C\$ESCAPE
	062420	000770						

8664	062436	004737	025032	JSR	PC,CHKRDR	; ERRORS ?		
8665	062442	103006		BCC	530:	; NO		
8666	062444			ERRHRD	424.,ERR021,MSG006	; YES, REPORT ERROR	TRAP	C1ERRHRD
	062444	104456					.WORD	424
	062446	000650					.WORD	ERR021
	062450	02145					.WORD	MSG006
	062452	017356						
8667	062454			ESCAPE	TST	; AND ABORT TEST	TRAP	C1ESCAPE
	062454	104410					.WORD	L10055
	062456	000732						
8658								
8669				; COMPARE RBUF WITH TBUF				
8670	062460	012705	000070	530:	MOV #56.,R5	; COMPARE 56 WORDS OF DATA		
8671	062464	004737	026044	JSR	PC,CMPCAT	; DATA COMPARE ERROR ?		
8672	062470	103006		BCC	540:	; NO		
8673	062472			ERRHRD	425.,ERR022,MSG007	; YES, REPORT ERROR	TRAP	C1ERRHRD
	062472	104456					.WORD	425
	062474	000651					.WORD	ERR022
	062476	021534					.WORD	MSG007
	062500	017520						
8674	062502			ESCAPE	TST	; AND ABORT TEST	TRAP	C1ESCAPE
	062502	104410					.WORD	L10055
	062504	000704						
8675								
8676	062506	010305		540:	MOV R3,R5	; POINT TO EXPECTED CRC TABLE		
8677	062510	004737	027176	JSR	PC,LDXCRC	; LOAD INTO XCRC TABLE		
8678	062514	012705	007300	MOV	#RBUF+124.,R5	; CHECK CRC		
8679	062520	004737	026124	JSR	PC,CHPCRC	; ERRORS ?		
8680	062524	103006		BCC	550:	; NO		
8681	062526			ERRHRD	426.,ERR023,MSG008	; YES, REPORT ERROR	TRAP	C1ERRHRD
	062526	104456					.WORD	426
	062530	000652					.WORD	ERR023
	062532	021603					.WORD	MSG008
	062534	017552						
8682	062536			ESCAPE	TST	; AND ABORT TEST	TRAP	C1ESCAPE
	062536	104410					.WORD	L10055
	062540	000650						
8683								
8684	062542	012777	000017	550:	MOV #STOP,BPCSR0	; ISSUE STOP PORT COMMAND		
8685	062550	004737	024574	JSR	PC,CHKDNI	; DNI ?		
8686	062554	103006		BCC	560:	; YES		
8687	062556			ERRHRD	427.,ERR019,MSG003	; NO, REPORT ERROR	TRAP	C1ERRHRD
	062556	104456					.WORD	427
	062560	000653					.WORD	ERR019
	062562	021312					.WORD	MSG003
	062564	017110						
8688	062566			ESCAPE	TST	; AND ABORT TEST	TRAP	C1ESCAPE
	062566	104410					.WORD	L10055
	062570	000620						
8689								
8690	062572	004737	025546	560:	JSR PC,CLRDN1	; WRITE ONE TO CLEAR DNI		
8691						; ERROR ?		
8692	062576	103006		BCC	565:	; NO		
8693	062600			ERRHRD	428.,ERR006,MSG003	; YES, REPORT ERROR	TRAP	C1ERRHRD
	062600	104456					.WORD	428
	062602	000654					.WORD	ERR006
	062604	020202						

C5

8694	062606	017110		ESCAPE	TST		AND ABORT TEST	.WORD	MSG003
	062610							TRAP	C#ESCAPE
	062610	104410						.WORD	L10055
	062612	000576							
8695									
8696	062614	062702	000006	565:	ADD	#6,R2			
8697	062620	062703	000004		ADD	#4,R3			
8698	062624	005301			DEC	R1			
8699	062626	001402			BEQ	566:			
8700	062630	000137	062074		JMP	420:			
8701									
8702									
8703									
8704									
8705	062634	012701	000012						
8706	062640	012702	014430						
8707	062644	012703	015024						
8708									
8709									
8710	062650	012705	013554						
8711	062654	004737	027046						
8712	062660	012705	013354						
8713	062664	004737	027010						
8714									
8715									
8716	062670	010205							
8717	062672	004737	026714						
8718	062676	004737	027342						
8719	062702	012777	000004						
8720	062710	004737	024574						
8721	062714	103006							
8722	062716								
	062716	104456							
	062720	000655							
	062722	020633							
	062724	017110							
8723	062726								
	062726	104410							
	062730	000460							
8724									
8725	062732	004737	025546						
8726									
8727	062736	103006							
8728	062740								
	062740	104456							
	062742	000656							
	062744	020202							
	062746	017110							
8729	062750								
	062750	104410							
	062752	000436							
8730									
8731	062754	004737	025404						
8732	062760	103006							
8733	062762								
	062762	104456							
	062764	000657							

117316

8763	063132	103006		BCC	6504		; NO		
8764	063134			ERRHRD	436.	ERR016,MSG003	; YES, REPORT ERROR		
	063134	104456						TRAP	C\$ERRHRD
	063136	000664						.WORD	436
	063140	021044						.WORD	ERR016
	063142	017110						.WORD	MSG003
8765	063144			ESCAPE	TST		; AND ABORT TEST		
	063144	104410						TRAP	C\$ESCAPE
	063146	000242						.WORD	L10055
8766									
8767	063150	012705	002644	6504:	MOV	#RDRB,R5	; CHECK RDRB OWNERSHIP		
8768	063154	004737	024676		JSR	PC,CHKOWN	; OWN = PORT DRIVER ?		
8769	063160	103006			BCC	5604	; YES		
8770	063162				ERRHRD	437.,ERR017	; NO, REPORT ERROR		
	063162	104456						TRAP	C\$ERRHRD
	063164	000665						.WORD	437
	063166	021112						.WORD	ERR017
	063170	000000						.WORD	0
8771	063172			ESCAPE	TST		; AND ABORT TEST		
	063172	104410						TRAP	C\$ESCAPE
	063174	000214						.WORD	L10055
8772									
8773	063176	012705	014634	6604:	MOV	#RDR14A,R5	; POINT TO EXPECTED FDRB		
8774	063202	004737	027222		JSR	PC,LDRDR	; LOAD INTO XRDRB0 TABLE		
8775	063206	012705	002644		MOV	#RDRB,R5	; CHECK RDRB		
8776	063212	004737	025032		JSR	PC,CHKRDR	; ERRORS ?		
8777	063216	103006			BCC	6704	; NO		
8778	063220				ERRHRD	438.,ERR021,MSG006	; YES, REPORT ERROR		
	063220	104456						TRAP	C\$ERRHRD
	063222	000666						.WORD	438
	063224	021453						.WORD	ERR021
	063226	017356						.WORD	MSG006
8779	063230			ESCAPE	TST		; AND ABORT TEST		
	063230	104410						TRAP	C\$ESCAPE
	063232	000156						.WORD	L10055
8780									
8781									
8782	063234	012705	000070	6704:	MOV	#56.,R5	; COMPARE 56 WORDS OF DATA		
8783	063240	004737	026044		JSR	PC,CMPDAT	; DATA COMPARE ERROR ?		
8784	063244	103006			BCC	6804	; NO		
8785	063246				ERRHRD	439.,ERR022,MSG007	; YES, REPORT ERROR		
	063246	104456						TRAP	C\$ERRHRD
	063250	000667						.WORD	439
	063252	021534						.WORD	ERR022
	063254	017520						.WORD	MSG007
8786	063256			ESCAPE	TST		; AND ABORT TEST		
	063256	104410						TRAP	C\$ESCAPE
	063260	000130						.WORD	L10055
8787									
8788	063262	010305		6804:	MOV	R3,R5	; POINT TO EXPECTED CRC TABLE		
8789	063264	004737	027176		JSR	PC,LDXCRC	; LOAD INTO XCRC TABLE		
8790	063270	012705	007300		MOV	#RBUF+124.,R5	; CHECK CRC		
8791	063274	004737	026124		JSR	PC,CMPCRC	; ERRORS ?		
8792	063300	103006			BCC	6904	; NO		
8793	063302				ERRHRD	440.,ERR023,MSG008	; YES, REPORT ERROR		
	063302	104456						TRAP	C\$ERRHRD
	063304	000670						.WORD	440

	063306	021603					.WORD	ERR023
	063310	017552					.WORD	MSG008
8794	063312			ESCAPE	TST			; AND ABORT TEST
	063312	104410					TRAP	C\$ESCAPE
	063314	000074					.WORD	L10055-
8795								
8796	063316	012777	000017	116702	6901:	MOV		; ISSUE STOP PORT COMMAND
8797	063324	004737	024574			JSR		; DNI ?
8798	063330	103006				BCC		; YES
8799	063332					ERRHRD	441.,ERR019,MSG003	; NO, REPORT ERROR
	063332	104456					TRAP	C\$ERRHRD
	063334	000671					.WORD	441
	063336	021312					.WORD	ERR019
	063340	017110					.WORD	MSG003
8800	063342			ESCAPE	TST			; AND ABORT TEST
	063342	104410					TRAP	C\$ESCAPE
	063344	000044					.WORD	L10055 .
8801								
8802	063346	004737	025546		7001:	JSR	PC,CLRDN1	; WRITE ONE TO CLEAR DNI
8803								; ERROR ?
8804	063352	103006				BCC	7101	; NO
8805	063354					ERRHRD	442.,ERR006,MSG003	; YES, REPORT ERROR
	063354	104456					TRAP	C\$ERRHRD
	063356	000672					.WORD	442
	063360	020202					.WORD	ERR006
	063362	017110					.WORD	MSG003
8806	063364			ESCAPE	TST			; AND ABORT TEST
	063364	104410					TRAP	C\$ESCAPE
	063366	000022					.WORD	L10055 .
8807								
8808	063370	062702	000006		7101:	ADD	#6,R2	; UPDATE R2
8809	063374	062703	000004			ADD	#4,R3	; UPDATE R3
8810	063400	005301				DEC	R1	; DONE TEN LOOPBACKS
8811	063402	001402				BEQ	9001	; YES
8812	063404	000137	062650			JMP	5701	; NO
8813								
8814	063410				9001:			
8815	063410					ENDTST		
	063410							
	063410	104401						
							L10055:	TRAP C\$ETST

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8817 .SBTTL TEST 24: ENABLE ALL MULTICAST MODE TEST
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8851 063412          BGNTST
      063412
8852 063412 004737 027446      JSR    PC,TINIT          ; IS A DEVICE RESET NEEDED?
8853 063416 103025          BCC    304          ; NO
8854 063420 012777 000040 116600  MOV    #RSET,BPCSR0      ; YES, RESET DEUNA
8855 063426 004737 024574      JSR    PC,CHKDNI        ; DNI ?
8856 063432 103006          BCC    204          ; YES
8857 063434          ERRHRD  443.,ERR004,MSG003      ; NO, REPORT ERROR
      063434 104456          TRAP    C$ERRHRD
      063436 000673          .WORD  443
      063440 020102          .WORD  ERR004
      063442 017110          .WORD  MSG003
8858 063444          ESCAPE  TST          ; AND ABORT TEST
      063444 104410          TRAP    C$ESCAPE
      063446 002000          .WORD  L10056
8859
8860 063450 004737 025546      ; 204: JSR    PC,CLRDN1        ; WRITE ONE TO CLEAR DNI
8861          BCC    304          ; ERROR ?
8862 063454 103006          BCC    304          ; NO
8863 063456          ERRHRD  444.,ERR006,MSG003      ; YES, REPORT ERROR
      063456 104456          TRAP    C$ERRHRD
      063460 000674          .WORD  444
      063462 020202          .WORD  ERR006

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      063464 017110
8864 063466          ESCAPE TST          ; AND ABORT TEST          .WORD MSG003
      063466 104410          TRAP          C#ESCAPE
      063470 001756          .WORD          L10056 .

8865
8866 063472 004737 026772          ; 301: JSR PC,LDPCSR          ; ADDRESS OF PCBB -> PCSR2!3
8867 063476 012777 000001 116522 MOV #GETPCB,BPCSR0          ; ISSUE GET_PCBB PORT COMMAND
8868 063504 004737 024574          JSR PC,CHKDNI          ; DNI?
8869 063510 103006          BCC 401          ; YES
8870 063512          ERRHRD 445.,ERR009,MSG003          ; NO, REPORT ERROR
      063512 104456          TRAP          C#ERRHRD
      063514 000675          .WORD          445
      063516 020416          .WORD          ERR009
      063520 017110          .WORD          MSG003

8871 063522          ESCAPE TST          ; AND ABORT TEST          TRAP          C#ESCAPE
      063522 104410          .WORD          L10056 .
      063524 001722

8872
8873 063526 004737 025546          ; 401: JSR PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
8874          BCC 501          ; ERROR ?
8875 063532 103006          ERRHRD 446.,ERR006,MSG003          ; NO
8876 063534          ; YES, REPORT ERROR
      063534 104456          TRAP          C#ERRHRD
      063536 000676          .WORD          446
      063540 020202          .WORD          ERR006
      063542 017110          .WORD          MSG003

8877 063544          ESCAPE TST          ; AND ABORT TEST          TRAP          C#ESCAPE
      063544 104410          .WORD          L10056-.
      063546 001700

8878
8879          ; WRITE MODE REGISTER = INTERNAL LOOPBACK
8880          ; AND ENABLE ALL MULTICAST MODE
8881
8882 063550 012705 013244          ; 501: MOV #WTHMODE,R5          ; DEFAULT WRITE MODE FUNCTION
8883 063554 004737 026742          JSR PC,LDPCCB          ; LOAD FUNCTION -> PCBB
8884 063560 013737 015120 002266 MOV MODE24,PCBB+2          ; MODE = INTL LOOPBACK AND ENAL
8885 063566 012777 000002 116432 MOV #GETCMD,BPCSR0          ; ISSUE GET_CMD PORT COMMAND
8886 063574 004737 024574          JSR PC,CHKDNI          ; DNI ?
8887 063600 103006          BCC 601          ; YES
8888 063602          ERRHRD 447.,ERR010,MSG003          ; NO, REPORT ERROR
      063602 104456          TRAP          C#ERRHRD
      063604 000677          .WORD          447
      063606 020502          .WORD          ERR010
      063610 017110          .WORD          MSG003

8889 063612          ESCAPE TST          ; AND ABORT TEST          TRAP          C#ESCAPE
      063612 104410          .WORD          L10056-.
      063614 001632

8890
8891 063616 004737 025546          ; 601: JSR PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
8892          BCC 701          ; ERROR ?
8893 063622 103006          ERRHRD 448.,ERR006,MSG003          ; NO
8894 063624          ; YES, REPORT ERROR
      063624 104456          TRAP          C#ERRHRD
      063626 000700          .WORD          448
      063630 020202          .WORD          ERR006
      063632 017110          .WORD          MSG003

8895 063634          ESCAPE TST          ; AND ABORT TEST

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063634	104410				TRAP	C#ESCAPE
063636	001610				.WORD	L10056
8896						
8897						
8898	063640	012705	013204			
8899	063644	004737	026742			
8900	063650	012705	013324			
8901	063654	012700	000006			
8902	063660	004737	027142			
8903	063664	012777	000002	116334		
8904	063672	004737	024574			
8905	063676	103006				
8906	063700					
	063700	104456			TRAP	C#ERRRD
	063702	000701			.WORD	449
	063704	020502			.WORD	ERR010
	063706	017110			.WORD	MSG003
8907	063710					
	063710	104410			TRAP	C#ESCAPE
	063712	001534			.WORD	L10056
8908						
8909	063714	004737	025546			
8910						
8911	063720	103006				
8912	063722					
	063722	104456			TRAP	C#ERRRD
	063724	000702			.WORD	450
	063726	020202			.WORD	ERR006
	063730	017110			.WORD	MSG003
8913	063732					
	063732	104410			TRAP	C#ESCAPE
	063734	001512			.WORD	L10056
8914						
8915						
8916	063736	012705	013144			
8917	063742	004737	026742			
8918	063746	012777	000002	116252		
8919	063754	004737	024574			
8920	063760	103006				
8921	063762					
	063762	104456			TRAP	C#ERRRD
	063764	000703			.WORD	451
	063766	020502			.WORD	ERR010
	063770	017110			.WORD	MSG003
8922	063772					
	063772	104410			TRAP	C#ESCAPE
	063774	001452			.WORD	L10056
8923						
8924	063776	004737	025546			
8925						
8926	064002	103006				
8927	064004					
	064004	104456			TRAP	C#ERRRD
	064006	000704			.WORD	452
	064010	020202			.WORD	ERR006
	064012	017110			.WORD	MSG003
8928	064014					

064014	104410				TRAP	C#ESCAPE
064016	001430				.WORD	L10056
8929						
8930						
8931	06402C	012705	013164			
8932	064024	004737	026742			
8933	064030	012705	014334			
8934	064034	012700	000036			
8935	064040	004737	027142			
8936	064044	012777	000002	116154		
8937	064052	004737	024574			
8938	064056	103006				
8939	064060					
	06406C	104456			TRAP	C#ERRRD
	064062	000705			.WORD	453
	064064	020502			.WORD	ERR010
	064066	017110			.WORD	MSG003
8940	064070			ESCAPE TST		
	064070	104410			TRAP	C#ESCAPE
	064072	001354			.WORD	L10055
8941						
8942	064074	004737	025546			
8943						
8944	064100	103006				
8945	064102					
	064102	104456			TRAP	C#ERRRD
	064104	000706			.WORD	454
	064106	020202			.WORD	ERR006
	064110	017110			.WORD	MSG003
8946	064112			ESCAPE TST		
	064112	104410			TRAP	C#ESCAPE
	064114	001332			.WORD	L10056
8947						
8948						
8949						
8950	064116	012701	000012			
8951	064122	012702	014334			
8952	064126	012703	014754			
8953						
8954						
8955	064132	012705	013554			
8956	064136	004737	027046			
8957	064142	012705	013354			
8958	064146	004737	027010			
8959						
8960						
8961	064152	010205				
8962	064154	004737	026714			
8963	064160	004737	027342			
8964	064164	012777	000004	116034		
8965	064172	004737	024574			
8966	064176	103006				
8967	064200					
	064200	104456			TRAP	C#ERRRD
	064202	000707			.WORD	455
	064204	020633			.WORD	ERR012
	064206	017110			.WORD	MSG003

8968	064210			ESCAPE	TST	; AND ABORT TEST		
	064210	104410					TRAP	C#ESCAPE
	064212	001234					.WORD	L10056-
8969								
8970	064214	004737	025546	i 1204:	JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI
8971								; ERROR ?
8972	064220	103006			BCC	1304		; NO
8973	064222				ERRHRD	456.,ERR006,MSG003		; YES, REPORT ERROR
	064222	104456					TRAP	C#ERRHRD
	064224	000710					.WORD	456
	064226	020202					.WORD	ERR006
	064230	017110					.WORD	MSG003
8974	064232				ESCAPE	TST		; AND ABORT TEST
	064232	104410					TRAP	C#ESCAPE
	064234	001212					.WORD	L10056
8975								
8976	064236	004737	025404	i 1304:	JSR	PC,CHKTXI		; TXI ?
8977	064242	103006			BCC	1404		; YES
8978	064244				ERRHRD	457.,ERR013,MSG003		; NO, REPORT ERROR
	064244	104456					TRAP	C#ERRHRD
	064246	000711					.WORD	457
	064250	020714					.WORD	ERR013
	064252	017110					.WORD	MSG003
8979	064254				ESCAPE	TST		; AND ABORT TEST
	064254	104410					TRAP	C#ESCAPE
	064256	001170					.WORD	L10056
8980								
8981	064260	004737	025730	i 1404:	JSR	PC,CLRTXI		; WRITE ONE TO CLEAR TXI
8982								; ERROR ?
8983	064264	103006			BCC	1504		; NO
8984	064266				ERRHRD	458.,ERR014,MSG003		; YES, REPORT ERROR
	064266	104456					TRAP	C#ERRHRD
	064270	000712					.WORD	458
	064272	020745					.WORD	ERR014
	064274	017110					.WORD	MSG003
8985	064276				ESCAPE	TST		; AND ABORT TEST
	064276	104410					TRAP	C#ESCAPE
	064300	001146					.WORD	L10056-
8986								
8987	064302	012705	002604	i 1504:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP
8988	064306	064737	024676		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
8989	064312	103006			BCC	1604		; YES
8990	064314				ERRHRD	459.,ERR018		; NO, REPORT ERROR
	064314	104456					TRAP	C#ERRHRD
	064316	000713					.WORD	459
	064320	021212					.WORD	ERR018
	064322	000000					.WORD	0
8991	064324				ESCAPE	TST		; AND ABORT TEST
	064324	104410					TRAP	C#ESCAPE
	064326	001120					.WORD	L10056
8992								
8993	064330	012705	014524	i 1604:	MOV	#TDR14A,R5		; POINT TO EXPECTED TDRB
8994	064334	004737	027252		JSR	PC,LDXTDR		; LOAD INTO XTDRB0 TABLE
8995	064340	012705	002604		MOV	#TDRB,R5		; CHECK TDRB
8996	064344	004737	025316		JSR	PC,CHKTDR		; ERRORS ?
8997	064350	103006			BCC	1704		; NO
8998	064352				ERRHRD	460.,ERR020,MSG005		; YES, REPORT ERROR


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9026                                     ;COMPARE RBUF WITH TBUF
9027 064516 012705 000070      210$: MOV    #56.,R5          ; COMPARE 56 WORDS OF DATA
9028 064522 064737 026044      JSR     PC,CMPDAT        ; DATA COMPARE ERROR ?
9029 064526 103006              BCC     220$            ; NO
9030 064530              ERRHRD  465.,ERR022,MSG007      ; YES, REPORT ERROR
                                TRAP     C$ERRHRD
                                .WORD    465
                                .WORD    ERR022
                                .WORD    MSG007
                                064530 104456
                                064532 000721
                                064534 021534
                                064536 017520
9031 064540              ESCAPE  TST                    ; AND ABORT TEST
                                TRAP     C$ESCAPE
                                .WORD    L10056
                                064540 104410
                                064542 000704
9032                                     ;
9033 064544 010305              220$: MOV    R3,R5          ; POINT TO EXPECTED CRC TABLE
9034 064546 004737 027176      JSR     PC,LDXCRC        ; LOAD INTO XCRC TABLE
9035 064552 012705 007300      MOV    #RBUF+124.,R5      ; CHECK CRC
9036 064556 004737 026124      JSR     PC,CMPCRC        ; ERRORS ?
9037 064562 103006              BCC     230$            ; NO
9038 064564              ERRHRD  466.,ERR023,MSG008      ; YES, REPORT ERROR
                                TRAP     C$ERRHRD
                                .WORD    466
                                .WORD    ERR023
                                .WORD    MSG008
                                064564 104456
                                064566 000722
                                064570 021603
                                064572 017552
9039 064574              ESCAPE  TST                    ; AND ABORT TEST
                                TRAP     C$ESCAPE
                                .WORD    L10056
                                064574 104410
                                064576 000650
9040                                     ;
9041 064600 012777 000017 115420 230$: MOV    #STOP,SPCSRO ; ISSUE STOP PORT COMMAND
9042 064606 004737 024574      JSR     PC,CHKDNI        ; DNI ?
9043 064612 103006              BCC     240$            ; YES
9044 064614              ERRHRD  467.,ERR019,MSG003      ; NO, REPORT ERROR
                                TRAP     C$ERRHRD
                                .WORD    467
                                .WORD    ERR019
                                .WORD    MSG003
                                064614 104456
                                064616 000723
                                064620 021312
                                064622 017110
9045 064624              ESCAPE  TST                    ; AND ABORT TEST
                                TRAP     C$ESCAPE
                                .WORD    L10056
                                064624 104410
                                064626 000620
9046                                     ;
9047 064630 004737 025546      240$: JSR     PC,CLRDN1    ; WRITE ONE TO CLEAR DNI
9048                                     ; ERROR ?
9049                                     ; NO
9050 064634 103006              BCC     245$            ; YES, REPORT ERROR
                                TRAP     C$ERRHRD
                                .WORD    468
                                .WORD    ERR006
                                .WORD    MSG003
                                064636 104456
                                064640 000724
                                064642 020202
                                064644 017110
9051 064646              ESCAPE  TST                    ; AND ABORT TEST
                                TRAP     C$ESCAPE
                                .WORD    L10056
                                064646 104410
                                064650 000576
9052                                     ;
9053 064652 062702 000006      245$: ADD     #6,R2        ; UPDATE R2
9054 064656 062703 000004      ADD     #4,R3            ; UPDATE R3
9055 064662 005301              DEC     R1              ; DONE TEN LOOPBACKS
9056 064664 001402              BEQ     246$            ; YES
9057 064666 000137 064132      JMP     110$            ; NO
9058                                     ;

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TEST 24: ENABLE ALL MULTICAST MODE TEST

SEQ 273

	065044	000730					.WORD	472
	065046	020745					.WORD	ERR014
	065050	017110					.WORD	MSG003
9097	065052			ESCAPE	TST			; AND ABORT TEST
	065052	104410					TRAP	C1ESCAPE
	065054	000372					.WORD	L10056
9098								
9099	065056	012705	002604	2901:	MOV	#TDRB,R5		; CHECK TDRB OWNERSHIP
9100	065062	004737	024676		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
9101	065066	103006			BCC	3001		; YES
9102	065070				ERRMRD	473.,ERR018		; NO, REPORT ERROR
	065070	104456					TRAP	C1ERRMRD
	065072	000731					.WORD	473
	065074	021212					.WORD	ERR018
	065076	000000					.WORD	0
9103	065100			ESCAPE	TST			; AND ABORT TEST
	065100	104410					TRAP	C1ESCAPE
	065102	000344					.WORD	L10056
9104								
9105	065104	012705	014524	3001:	MOV	#TDR14A,R5		; POINT TO EXPECTED TDRB
9106	065110	004737	027252		JSR	PC,LDXTDR		; LOAD INTO XTDRB TABLE
9107	065114	012705	002604		MOV	#TDRB,R5		; CHECK TDRB
9108	065120	004737	025316		JSR	PC,CHKTDR		; ERRORS ?
9109	065124	103006			BCC	4201		; NO
9110	065126				ERRMRD	474.,ERR020,MSG005		; YES, REPORT ERROR
	065126	104456					TRAP	C1ERRMRD
	065130	000732					.WORD	474
	065132	021372					.WORD	ERR020
	065134	017214					.WORD	MSG005
9111	065136			ESCAPE	TST			; AND ABORT TEST
	065136	104410					TRAP	C1ESCAPE
	065140	000306					.WORD	L10056
9112								
9113	065142	004737	025132	4201:	JSR	PC,CHKRXI		; RXI ?
9114	065146	103006			BCC	4301		; YES
9115	065150				ERRMRD	475.,ERR015,MSG003		; NO, REPORT ERROR
	065150	104456					TRAP	C1ERRMRD
	065152	000733					.WORD	475
	065154	021013					.WORD	ERR015
	065156	017110					.WORD	MSG003
9116	065160			ESCAPE	TST			; AND ABORT TEST
	065160	104410					TRAP	C1ESCAPE
	065162	000264					.WORD	L10056
9117								
9118	065164	004737	025662	4301:	JSR	PC,CLRRXI		; WRITE ONE TO CLEAR RXI
9119								; ERROR ?
9120	065170	103006			BCC	4401		; NO
9121	065172				ERRMRD	476.,ERR016,MSG003		; YES, REPORT ERROR
	065172	104456					TRAP	C1ERRMRD
	065174	000734					.WORD	476
	065176	021044					.WORD	ERR016
	065200	017110					.WORD	MSG003
9122	065202			ESCAPE	TST			; AND ABORT TEST
	065202	104410					TRAP	C1ESCAPE
	065204	000242					.WORD	L10056
9123								
9124	065206	012705	002644	4401:	MOV	#RDRB,R5		; CHECK RDRB OWNERSHIP

9125	065212	004737	024676		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?		
9126	065216	103006			BCC	4501		; YES		
9127	065220				ERRHRD	477.,ERR017		; NO, REPORT ERROR		
	065220	104456							TRAP	C1ERRHRD
	065222	000735							.WORD	477
	065224	021112							.WORD	ERR017
	065226	000000							.WORD	0
9128	065230				ESCAPE	TST		; AND ABORT TEST		
	065230	104410							TRAP	C1ESCAPE
	065232	000214							.WORD	L10056
9129										
9130	065234	012705	014634		4501:	MOV	#RDR14A,R5	; POINT TO EXPECTED RDRB		
9131	065240	004737	027222			JSR	PC,LDXRDR	; LOAD INTO XDRB0 TABLE		
9132	065244	012705	002644			MOV	#RDRB,R5	; CHECK RDRB		
9133	065250	004737	025032			JSR	PC,CHKRDR	; ERRORS ?		
9134	065254	103006				BCC	4601	; NO		
9135	065256					ERRHRD	478.,ERR021,MSG006	; YES, REPORT ERROR		
	065256	104456							TRAP	C1ERRHRD
	065260	000736							.WORD	478
	065262	021453							.WORD	ERR021
	065264	017356							.WORD	MSG006
9136	065266				ESCAPE	TST		; AND ABORT TEST		
	065266	104410							TRAP	C1ESCAPE
	065270	000156							.WORD	L10056
9137										
9138										
9139	065272	012705	000070							
9140	065276	004737	026044		4601:	MOV	#56.,R5	; COMPARE 56 WORDS OF DATA		
9141	065302	103006				JSR	PC,CHPDAT	; DATA COMPARE ERROR ?		
9142	065304					BCC	4701	; NO		
	065304	104456				ERRHRD	479.,ERR022,MSG007	; YES, REPORT ERROR		
	065306	000737							TRAP	C1ERRHRD
	065310	021534							.WORD	479
	065312	017520							.WORD	ERR022
9143	065314				ESCAPE	TST		; AND ABORT TEST		
	065314	104410							TRAP	C1ESCAPE
	065316	000130							.WORD	L10056
9144										
9145	065320	010305			4701:	MOV	R3,R5	; POINT TO EXPECTED CRC TABLE		
9146	065322	004737	027176			JSR	PC,LDXCRC	; LOAD INTO XCRC TABLE		
9147	065326	012705	007300			MOV	#RBUF+124.,R5	; CHECK CRC		
9148	065332	004737	026124			JSR	PC,CHPCRC	; ERRORS ?		
9149	065336	103006				BCC	4801	; NO		
9150	065340					ERRHRD	480.,ERR023,MSG008	; YES, REPORT ERROR		
	065340	104456							TRAP	C1ERRHRD
	065342	000740							.WORD	480
	065344	021603							.WORD	ERR023
	065346	017552							.WORD	MSG008
9151	065350				ESCAPE	TST		; AND ABORT TEST		
	065350	104410							TRAP	C1ESCAPE
	065352	000074							.WORD	L10056
9152										
9153	065354	012777	000017	114644	4801:	MOV	#STOP,BPCSR0	; ISSUE STOP PORT COMMAND		
9154	065362	004737	024574			JSR	PC,CHKDNI	; DNI ?		
9155	065366	103006				BCC	4901	; YES		
9156	065370					ERRHRD	481.,ERR019,MSG003	; NO, REPORT ERROR		
	065370	104456							TRAP	C1ERRHRD

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 TEST 24: ENABLE ALL MULTICAST MODE TEST

SEQ 275

	065372	000741					.WORD	481
	065374	021312					.WORD	ERR019
	065376	017110					.WORD	MSG003
9157	065400			ESCAPE	TST			
	065400	104410					TRAP	C#ESCAPE
	065402	000044					.WORD	L10056
9158								
9159	065404	004737	025546	4901:	JSR	PC,CLRDNI		
9160								
9161	065410	103006			BCC	4951		
9162	065412				ERRHRD	482..ERR006,MSG003		
	065412	104456					TRAP	C#ERRHRD
	065414	000742					.WORD	482
	065416	020202					.WORD	ERR006
	065420	017110					.WORD	MSG003
9163	065422			ESCAPE	TST			
	065422	104410					TRAP	C#ESCAPE
	065424	000022					.WORD	L10056..
9164								
9165	065426	062702	000006	4951:	ADD	#6,R2		
9166	065432	062703	000004		ADD	#4,R3		
9167	065436	005301			DEC	R1		
9168	065440	001402			BEQ	5001		
9169	065442	000137	064706		JMP	2501		
9170								
9171	065446			5001:				
9172	065446				ENDTST			
	065446							
	065446	104401					L10056:	TRAP C#ETST

.SBTTL TEST 25: PAD RUNT PACKETS TEST

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065450
065450
065450 004737 027446
065454 173025
065456 012777 000040 114542
065464 004737 024574
065470 103006
065472
065472 104456
065474 000743
065476 020102
065500 017110
065502
065502 104410
065504 001462
065506 004737 025546
065512 103006
065514
065514 104456
065516 000744
065520 020202
065522 017110

THIS TEST VERIFIES THAT PAD RUNT PACKET MODE IS OPERATIONAL.
THIS TEST WILL
FIRST, ATTEMPT TO TRANSMIT A RUNT PACKET
WHEN NOT IN PAD RUNT PACKET MODE AND VERIFY THAT A
BUFL ERROR IN TDRB+6 OCCURS.
SECOND, TRANSMIT A RUNT PACKET
WHEN IN PAD RUNT PACKET MODE AND VERIFY
SUCCESSFUL TRANSMISSION AS WELL AS PADDING OCCURS.

TEST SEQUENCE:

1. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM MODE
2. WRITE RING FORMAT
3. WRITE PHYSICAL ADDRESS
4. SET UP RINGS AND BUFFERS
WITH THE TRANSMIT BUFFER = RUNT PACKET
5. ISSUE START
6. CHECK FOR BUFL ERROR IN TDRB+6
7. ISSUE STOP
8. WRITE MODE REGISTER = INTERNAL LOOPBACK, PROM
AND PAD RUNT PACKET MODE
9. SET UP RINGS AND BUFFERS
WITH THE TRANSMIT BUFFER = RUNT PACKET
10. ISSUE START
11. CHECK FOR ERRORS
12. VERIFY PACKET HAS BEEN PADDED
13. ISSUE STOP

BGNTST

JSR PC.TINIT ; IS A DEVICE RESET NEEDED?
BCC 304 ; NO
MOV #RSET,BPCSR0 ; YES, RESET DEUNA
JSR PC.CKDN1 ; DNI ?
BCC 204 ; YES
ERRHRD 483.,ERR004,MSG003 ; NO, REPORT ERROR

TRAP C\$ERRHRD
.WORD 483
.WORD ERR004
.WORD MSG003

ESCAPE TST ; AND ABORT TEST

TRAP C\$ESCAPE
.WORD L1C057-.

204: JSR PC.CLRDNI ; WRITE ONE TO CLEAR DNI
BCC 304 ; ERROR ?
ERRHRD 484.,ERR006,MSG003 ; NO
YES, REPORT ERROR

TRAP C\$ERRHRD
.WORD 484
.WORD ERR006
.WORD MSG003


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9220 065524          ESCAPE TST          ; AND ABORT TEST          TRAP      C$ESCAPE
      065524 104410          .WORD      L10057 .
      065526 001440

9221
9222 065530 004737 026772      ; 30$: JSR      PC,LDPCSR      ; ADDRESS OF PCBB -> PCSR2:3
9223 065534 012777 000001 114464 MOV      #GETPCB,BPCSR0      ; ISSUE GET_PCBB PORT COMMAND
9224 065542 004737 024574      JSR      PC,CHKDNI      ; DNI?
9225 065546 103006      BCC      40$      ; YES
9226 065550      ERRHRD 485.,ERR009,MSG003      ; NO, REPORT ERROR
      065550 104456          TRAP      C$ERRRD
      065552 000745          .WORD      485
      065554 020416          .WORD      ERR009
      065556 017110          .WORD      MSG003

9227 065560          ESCAPE TST          ; AND ABORT TEST          TRAP      C$ESCAPE
      065560 104410          .WORD      L10057 .
      065562 001404

9228
9229 065564 004737 025546      ; 40$: JSR      PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
9230      BCC      50$      ; ERROR ?
9231 065570 103006      BCC      50$      ; NO
9232 065572      ERRHRD 486.,ERR006,MSG003      ; YES, REPORT ERROR
      065572 104456          TRAP      C$ERRRD
      065574 000746          .WORD      486
      065576 020202          .WORD      ERR006
      065600 017110          .WORD      MSG003

9233 065602          ESCAPE TST          ; AND ABORT TEST          TRAP      C$ESCAPE
      065602 104410          .WORD      L10057-.
      065604 001362

9234
9235      ; WRITE MODE REGISTER - INTERNAL LOOPBACK AND PROM MODE
9236 065606 012705 013244      ; 50$: MOV      #WTHMODE,R5      ; DEFAULT WRITE MODE FUNCTION
9237 065612 004737 026742      JSR      PC,LDPCCB      ; LOAD FUNCTION -> PCBB
9238 065616 012777 000002 114402 MOV      #GETCMD,BPCSR0      ; ISSUE GET_CMD PORT COMMAND
9239 065624 004737 024574      JSR      PC,CHKDNI      ; DNI ?
9240 065630 103006      BCC      60$      ; YES
9241 065632      ERRHRD 487.,ERR010,MSG003      ; NO, REPORT ERROR
      065632 104456          TRAP      C$ERRRD
      065634 000747          .WORD      487
      065636 020502          .WORD      ERR010
      065640 017110          .WORD      MSG003

9242 065642          ESCAPE TST          ; AND ABORT TEST          TRAP      C$ESCAPE
      065642 104410          .WORD      L10057-.
      065644 001322

9243
9244 065646 004737 025546      ; 60$: JSR      PC,CLRDNI      ; WRITE ONE TO CLEAR DNI
9245      BCC      70$      ; ERROR ?
9246 065652 103006      BCC      70$      ; NO
9247 065654      ERRHRD 488.,ERR006,MSG003      ; YES, REPORT ERROR
      065654 104456          TRAP      C$ERRRD
      065656 000750          .WORD      488
      065660 020202          .WORD      ERR006
      065662 017110          .WORD      MSG003

9248 065664          ESCAPE TST          ; AND ABORT TEST          TRAP      C$ESCAPE
      065664 104410          .WORD      L10057-.
      065666 001300

9249
9250      ; WRITE RING FORMAT

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9251	065670	012705	013204	704:	MOV	#WTRNGS,R5	; DEFAULT WRITE RING FORMAT FUNCTION
9252	065674	004737	026742		JSR	PC,LDPCBB	; LOAD FUNCTION -> PCBB
9253	065700	012705	013324		MOV	#RFRMT,R5	; DEFAULT RING FORMAT
9254	065704	012700	000006		MOV	#6,R0	; FORMAT = SIX WORDS
9255	065710	004737	027142		JSR	PC,LDUDBB	; LOAD RING FORMAT -> UDDB
9256	065714	012777	000302	114304	MOV	#GETCMD,SPCSPO	; ISSUE GET_CMD PORT COMMAND
9257	065722	004737	024574		JSR	PC,CHKDNI	; DNI ?
9258	065726	103006			BCC	804	; YES
9259	065730				ERRHRD	489.,ERR010,MSG003	; NO, REPORT ERROR
	065730	104456					TRAP C#ERRHRD
	065732	000751					.WORD 489
	065734	020502					.WORD ERR010
	065736	017110					.WORD MSG003
9260	065740				ESCAPE	TST	; AND ABORT TEST
	065740	104410					TRAP C#ESCAPE
	065742	001224					.WORD L10057
9261							
9262	065744	004737	025546	804:	JSR	PC,CLRDN1	; WRITE ONE TO CLEAR DNI
9263							; ERROR ?
9264	065750	103006			BCC	904	; NO
9265	065752				ERRHRD	490.,ERR006,MSG003	; YES, REPORT ERROR
	065752	104456					TRAP C#ERRHRD
	065754	000752					.WORD 490
	065756	020202					.WORD ERR006
	065760	017110					.WORD MSG003
9266	065762				ESCAPE	TST	; AND ABORT TEST
	065762	104410					TRAP C#ESCAPE
	065764	001202					.WORD L10057
9267							
9268					; WRITE PHYSICAL ADDRESS		
9269	065766	012705	013144	904:	MOV	#WTPHYA,R5	; DEFAULT WRITE PHYSICAL ADDR FUNC
9270	065772	004737	026742		JSR	PC,LDPCBB	; LOAD FUNCTION -> PCBB
9271	065776	012777	000002	114222	MOV	#GETCMD,SPCSRO	; ISSUE GET_CMD PORT COMMAND
9272	066004	004737	024574		JSR	PC,CHKDNI	; DNI ?
9273	066010	103006			BCC	1004	; YES
9274	066012				ERRHRD	491.,ERR010,MSG003	; NO, REPORT ERROR
	066012	104456					TRAP C#ERRHRD
	066014	000753					.WORD 491
	066016	020502					.WORD ERR010
	066020	017110					.WORD MSG003
9275	066022				ESCAPE	TST	; AND ABORT TEST
	066022	104410					TRAP C#ESCAPE
	066024	001142					.WORD L10057
9276							
9277	066026	004737	025546	1004:	JSR	PC,CLRDN1	; WRITE ONE TO CLEAR DNI
9278							; ERROR ?
9279	066032	103006			BCC	1104	; NO
9280	066034				ERRHRD	492.,ERR006,MSG003	; YES, REPORT ERROR
	066034	104456					TRAP C#ERRHRD
	066036	000754					.WORD 492
	066040	020202					.WORD ERR006
	066042	017110					.WORD MSG003
9281	066044				ESCAPE	TST	; AND ABORT TEST
	066044	104410					TRAP C#ESCAPE
	066046	001120					.WORD L10057
9282							
9283					; SET UP RINGS FOR ONE BUFFER LOOPBACK (RUNT PACKET)		

9284	066050	012705	013654	1104:	MOV	#TDRB1C,R1	; DEFAULT ONE BUFFER (RUNT PACKET)		
9285	066054	004737	027046		JSR	PC,LDTDRB	; LOAD TDRB		
9286	066060	012705	013354		MOV	#RDRB1A,R5	; DEFAULT ONE BUFFER RECEIVE RING		
9287	066064	004737	027010		JSR	PC,LDRDRB	; LOAD RDRB		
9288									
9289					; SET UP	BUFFERS AND START			
9290	066070	012705	002266		MOV	#PCBB+2,R5	; POINT TO DESTINATION ADDRESS		
9291	066074	004737	026714		JSR	PC,LDDDEST	; LOAD DEST		
9292	066100	004737	027342		JSR	PC,SETBUF	; SET UP BUFFERS		
9293	066104	012777	000004	114114	MOV	#START,SPCSRO	; ISSUE START PORT COMMAND		
9294	066112	004737	024574		JSR	PC,CHKDNI	; DNI?		
9295	066116	103006			BCC	1204	; YES		
9296	066120				ERRHRD	493.,ERR012,MSG003	; NO, REPORT ERROR	TRAP	C#ERRHRD
	066120	104456						.WORD	493
	066122	000755						.WORD	ERR012
	066124	020633						.WORD	MSG003
	066126	017110							
9297	066130				ESCAPE	TST	; AND ABORT TEST	TRAP	C#ESCAPE
	066130	104410						.WORD	L10057.
	066132	0C1034							
9298									
9299	066134	004737	025546	1204:	JSR	PC,CLRDN1	; WRITE ONE TO CLEAR DNI		
9300							; ERROR ?		
9301	066140	103006			BCC	1304	; NO		
9302	066142				ERRHRD	494.,ERR006,MSG003	; YES, REPORT ERROR	TRAP	C#ERRHRD
	066142	104456						.WORD	494
	066144	000756						.WORD	ERR006
	066146	020202						.WORD	MSG003
	066150	017110							
9303	066152				ESCAPE	TST	; AND ABORT TEST	TRAP	C#ESCAPE
	066152	104410						.WORD	L10057.
	066154	001012							
9304									
9305	066156	004737	025404	1304:	JSR	PC,CHKTXI	; TXI ?		
9306	066162	103006			BCC	1404	; YES		
9307	066164				ERRHRD	495.,ERR013,MSG003	; NO, REPORT ERROR	TRAP	C#ERRHRD
	066164	104456						.WORD	495
	066166	000757						.WORD	ERR013
	066170	020714						.WORD	MSG003
	066172	017110							
9308	066174				ESCAPE	TST	; AND ABORT TEST	TRAP	C#ESCAPE
	066174	104410						.WORD	L10057.
	066176	000770							
9309									
9310	066200	004737	025730	1404:	JSR	PC,CLRTXI	; WRITE ONE TO CLEAR TXI		
9311							; ERROR ?		
9312	066204	103006			BCC	1504	; NO		
9313	066206				ERRHRD	496.,ERR014,MSG003	; YES, REPORT ERROR	TRAP	C#ERRHRD
	066206	104456						.WORD	496
	066210	000760						.WORD	ERR014
	066212	020745						.WORD	MSG003
	066214	017110							
9314	066216				ESCAPE	TST	; AND ABORT TEST	TRAP	C#ESCAPE
	066216	104410						.WORD	L10057.
	066220	000746							
9315									
9316					; CHECK FOR BUFL ERROR IN TDRB+6				

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9317 066222 012705 002612      150$: MOV    #TDRB.6,R5      ; R5 POINTS TO TDRB.6
9318 066226 011504              MOV    (R5),R4      ; R4 = TDRB.6
9319 066230 032704 100000      BIT     #BUFL,R4      ; BUFL SET ?
9320 066234 001006              BNE     160$      ; YES
9321 066236              ERRHRD  497.,ERR040      ; NO, REPORT ERROR
          066236 104456              TRAP    C$ERRHRD
          066240 000761              .WORD   497
          066242 023445              .WORD   ERR040
          066244 000000              .WORD   0
9322 066246              ESCAPE  TST              TRAP    C$ESCAPE
          066246 104410              .WORD   L10057
          066250 000716
9323 066252 012777 000017 113746 160$: MOV    #STOP,SPCSRO      ; ISSUE STOP PORT COMMAND
9324 066252 012777 000017 113746 JSR     PC,CHKDNI      ; DNI ?
9325 066260 004737 024574      BCC     170$      ; YES
9326 066264 103006              ERRHRD  498.,ERR019,MSG003 ; NO, REPORT ERROR
9327 066266              TRAP    C$ERRHRD
          066266 104456              .WORD   498
          066270 000762              .WORD   ERR019
          066272 021312              .WORD   MSG003
          066274 017110
9328 066276              ESCAPE  TST              ; AND ABORT TEST
          066276 104410              TRAP    C$ESCAPE
          066300 000606              .WORD   L10057
9329 066302 004737 025546      170$: JSR     PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
9330 066302 004737 025546      BCC     180$      ; ERROR ?
9331 066306 103006              ERRHRD  499.,ERR006,MSG003 ; NO
9332 066310              TRAP    C$ERRHRD
          066310 104456              .WORD   499
          066312 000763              .WORD   ERR006
          066314 020202              .WORD   MSG003
          066316 017110
9333 066320              ESCAPE  TST              ; AND ABORT TEST
          066320 104410              TRAP    C$ESCAPE
          066322 000644              .WORD   L10057
9335 066324 012705 013244      ; PART 2 - VERIFY PAD RUNT PACKET MODE
9336 066330 004737 026742      ;
9337 066334 013737 015122 002266 ; WRITE MODE REGISTER = INTERNAL LOOPBACK, FROM
9338 066338 012777 000002 113656 ; AND PAD RUNT PACKET MODE
9339 066342 004737 024574      ;
9340 066346 103006      180$: MOV    #WTHMODE,R5      ; DEFAULT WRITE MODE FUNCTION
9341 066350 004737 026742      ISR     PC,LDPBB      ; LOAD FUNCTION -> PCBB
9342 066354 013737 015122 002266 MOV    MODE25,PCBB+2      ; PRGM, TPAD AND INTL MODE
9343 066358 012777 000002 113656 MOV    #GETCMD,SPCSRO      ; ISSUE GET_CMD PORT COMMAND
9344 066362 004737 024574      JSR     PC,CHKDNI      ; DNI ?
9345 066366 103006      BCC     190$      ; YES
9346 066370              ERRHRD  500.,ERR010,MSG003 ; NO, REPORT ERROR
9347 066374              TRAP    C$ERRHRD
          066374 104456              .WORD   500
          066376 000764              .WORD   ERR010
          066378 020502              .WORD   MSG003
          066380 017110
9348 066384              ESCAPE  TST              ; AND ABORT TEST
          066384 104410              TRAP    C$ESCAPE
          066386 000576              .WORD   L10057
9349 066390

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9350 066372 004737 025546      1904: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
9351                               ; ERROR ?
9352 066376 103006              BCC      2004      ; NO
9353 066400                      ERRHRD  501.,ERR006,MSG003 ; YES, REPORT ERROR
                                TRAP      C$ERRHRD
                                .WORD     501
                                .WORD     ERR006
                                .WORD     MSG003
                                ESCAPE  TST      ; AND ABORT TEST
9354 066410                      TRAP      C$ESCAPE
                                .WORD     L10057
                                066410 104410
                                066412 000554

9355                               ; SET UP RINGS FOR ONE BUFFER LOOPBACK (RUNT PACKET)
9356                               2004: MOV      @TDRB1C,R5      ; DEFAULT BUFFER = RUNT PACKET
9357 066414 012705 013654      JSR      PC,LDTDRB      ; LOAD TDRB
9358 066420 004737 027046      MOV      @RDRB1A,R5      ; DEFAULT ONE BUFFER RECEIVE RING
9359 066424 012705 013354      JSR      PC,LDRDRB      ; LOAD RDRB
9360 066430 004737 027010

9361                               ; SET UP BUFFERS AND START
9362                               MOV      @WTPHYA+2,R5      ; POINT TO DESTINATION ADDRESS
9363 066434 012705 013146      JSR      PC,LDDEST      ; LOAD DEST
9364 066440 004737 026714      JSR      PC,SETBUF      ; SET UP BUFFERS
9365 066444 004737 027342      MOV      @START,@PCSR0      ; ISSUE START PORT COMMAND
9366 066450 012777 000004 113550 JSR      PC,CHKDNI      ; DNI?
9367 066456 004737 024574      BCC      2104      ; YES
9368 066462 103006              ERRHRD  502.,ERR012,MSG003 ; NO, REPORT ERROR
9369 066464                      TRAP      C$ERRHRD
                                .WORD     502
                                .WORD     ERR012
                                .WORD     MSG003
                                066464 104456
                                066466 000766
                                066470 020633
                                066472 017110
                                ESCAPE  TST      ; AND ABORT TEST
9370 066474                      TRAP      C$ESCAPE
                                .WORD     L10057
                                066474 104410
                                066476 000470

9371                               ;
9372 066500 004737 025546      2104: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
9373                               ; ERROR ?
9374 066504 103006              BCC      2204      ; NO
9375 066506                      ERRHRD  503.,ERR006,MSG003 ; YES, REPORT ERROR
                                TRAP      C$ERRHRD
                                .WORD     503
                                .WORD     ERR006
                                .WORD     MSG003
                                066506 104456
                                066510 000767
                                066512 020202
                                066514 017110
                                ESCAPE  TST      ; AND ABORT TEST
9376 066516                      TRAP      C$ESCAPE
                                .WORD     L10057
                                066516 104410
                                066520 000446

9377                               ;
9378 066522 004737 025404      2204: JSR      PC,CHKTXI      ; TXI ?
9379 066526 103006              BCC      2304      ; YES
9380 066530                      ERRHRD  504.,ERR013,MSG003 ; NO, REPORT ERROR
                                TRAP      C$ERRHRD
                                .WORD     504
                                .WORD     ERR013
                                .WORD     MSG003
                                066530 104456
                                066532 000770
                                066534 020714
                                066536 017110
                                ESCAPE  TST      ; AND ABORT TEST
9381 066540                      TRAP      C$ESCAPE
                                .WORD     L10057
                                066540 104410
                                066542 000424

9382                               ;

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9383	066544	004737	025730	2304:	JSR	PC,CLRTXI	; WRITE ONE TO CLEAR TXI		
9384							; ERROR ?		
9385	066550	103006			BCC	2404	; NO		
9386	066552				ERRHRD	505.,ERR014,MSG003	; YES, REPORT ERROR		
	066552	104456						TRAP	C#ERRHRD
	066554	000771						.WORD	505
	066556	020745						.WORD	ERR014
	066560	017110						.WORD	MSG003
9387	066562				ESCAPE	TST	; AND ABORT TEST		
	066562	104410						TRAP	C#ESCAPE
	066564	000402						.WORD	L10057 .
9388				i					
9389	066566	012705	002604	2404:	MOV	#TDRB,R5	; CHECK TDRB OWNERSHIP		
9390	066572	004737	024676		JSR	PC,CHKOWN	; OWN = PORT DRIVER ?		
9391	066576	103006			BCC	2504	; YES		
9392	066600				ERRHRD	506.,ERR018	; NO, REPORT ERROR		
	066600	104456						TRAP	C#ERRHRD
	066602	000772						.WORD	506
	066604	021212						.WORD	ERR018
	066606	000000						.WORD	0
9393	066610				ESCAPE	TST	; AND ABORT TEST		
	066610	104410						TRAP	C#ESCAPE
	066612	000354						.WORD	L10057-.
9394				i					
9395	066614	012705	014624	2504:	MOV	#TDR25A,R5	; POINT TO EXPECTED TDRB		
9396	066620	004737	027252		JSR	PC,LDXTDR	; LOAD INTO XTDRB0 TABLE		
9397	066624	012705	002604		MOV	#TDRB,R5	; CHECK TDRB		
9398	066630	004737	025316		JSR	PC,CHKTDR	; ERRORS ?		
9399	066634	103006			BCC	2604	; NO		
9400	066636				ERRHRD	507.,ERR020,MSG005	; YES, REPORT ERROR		
	066636	104456						TRAP	C#ERRHRD
	066640	000773						.WORD	507
	066642	001372						.WORD	ERR020
	066644	017214						.WORD	MSG005
9401	066646				ESCAPE	TST	; AND ABORT TEST		
	066646	104410						TRAP	C#ESCAPE
	066650	000316						.WORD	L10057 .
9402				i					
9403	066652	004737	025132	2604:	JSR	PC,CHKRXI	; RXI ?		
9404	066656	103006			BCC	2704	; YES		
9405	066660				ERRHRD	508.,ERR015,MSG003	; NO, REPORT ERROR		
	066660	104456						TRAP	C#ERRHRD
	066662	000774						.WORD	508
	066664	021013						.WORD	ERR015
	066666	017110						.WORD	MSG003
9406	066670				ESCAPE	TST	; AND ABORT TEST		
	066670	104410						TRAP	C#ESCAPE
	066672	000274						.WORD	L10057 .
9407				i					
9408	066674	004737	025662	2704:	JSR	PC,CLRRXI	; WRITE ONE TO CLEAR RXI		
9409							; ERROR ?		
9410	066700	103006			BCC	2804	; NO		
9411	066702				ERRHRD	509.,ERR016,MSG003	; YES, REPORT ERROR		
	066702	104456						TRAP	C#ERRHRD
	066704	000775						.WORD	509
	066706	021044						.WORD	ERR016
	066710	017110						.WORD	MSG003

9412	066712			ESCAPE TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	066712	104410					.WORD	L10057
	066714	000252						
9413								
9414	066716	012705	002644	280:	MOV	#RDRB,R5		; CHECK RDRB OWNERSHIP
9415	066722	004737	024676		JSR	PC,CHKOWN		; OWN = PORT DRIVER ?
9416	066726	103006			BCC	290:		; YES
9417	066730				ERRHRD	510.,ERR017		; NO, REPORT ERROR
	066730	104456					TRAP	C\$ERRHRD
	066732	00 776					.WORD	510
	066734	021112					.WORD	ERR017
	066736	000000					.WORD	0
9418	066740			ESCAPE TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	066740	104410					.WORD	L10057
	066742	000224						
9419								
9420	066744	012705	014634	290:	MOV	#RDR14A,R5		; POINT TO EXPECTED RDRB
9421	066750	004737	027222		JSR	PC,LDRDR		; LOAD INTO XRDRBO TABLE
9422	066754	012705	002644		MOV	#RDRB,R5		; CHECK RDRB
9423	066760	004737	025032		JSR	PC,CHKRDR		; ERRORS ?
9424	066764	103006			BCC	300:		; NO
9425	066766				ERRHRD	511.,ERR021,MSG006		; YES, REPORT ERROR
	066766	104456					TRAP	C\$ERRHRD
	066770	000777					.WORD	511
	066772	021453					.WORD	ERR021
	066774	017356					.WORD	MSG006
9426	066776			ESCAPE TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	066776	104410					.WORD	L10057
	067000	000166						
9427								
9428								
9429	067002	012705	000027					
9430	067006	004737	026044	300:	MOV	#23.,R5		; COMPARE 23 WORDS OF DATA
9431	067012	103006			JSR	PC,CHPDAT		; DATA COMPARE ERROR ?
9432	067014				BCC	310:		; NO
	067014	104456			ERRHRD	512.,ERR022,MSG007		; YES, REPORT ERROR
	067016	001000					TRAP	C\$ERRHRD
	067020	021534					.WORD	512
	067022	017520					.WORD	ERR022
							.WORD	MSG007
9433	067024			ESCAPE TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	067024	104410					.WORD	L10057
	067026	000140						
9434								
9435								
9436	067030	012705	000001					
9437	067034	004737	026254	310:	MOV	#1.,R5		; COMPARE 1 WORD OF DATA PADDING
9438	067040	103006			JSR	PC,CHPRNT		; DATA COMPARE ERROR ?
9439	067042				BCC	320:		; NO
	067042	104456			ERRHRD	513.,ERR041,MSG007		; YES, REPORT ERROR
	067044	001001					TRAP	C\$ERRHRD
	067046	023550					.WORD	513
	067050	017520					.WORD	ERR041
							.WORD	MSG007
9440	067052			ESCAPE TST		; AND ABORT TEST	TRAP	C\$ESCAPE
	067052	104410					.WORD	L10057
	067054	000112						
9441								
9442	067056	012705	015100	320:	MOV	#CRC258,R5		; POINT TO EXPECTED CRCB

Address	Offset	Hex	Label	Instruction	Comment	Trap	Trap Word
9443	067062	004737	027176	JSR	PC,LDXCRC		
9444	067066	012705	007200	MOV	#RBUF+60.,R5		
9445	067072	004737	026124	JSR	PC,CHPCRC		
9446	067076	103006		BCC	330\$		
9447	067100			ERRHRD	514.,ERR023,MSG008		
	067100	104456				TRAP	C\$ERHRD
	067102	001002				.WORD	514
	067104	021603				.WORD	ERR023
	067106	017552				.WORD	MSG008
9448	067110			ESCAPE	TST		
	067110	104410				TRAP	C\$ESCAPE
	067112	000054				.WORD	L10057
9449							
9450	067114	012777	000017	MOV	#STOP,SPCSR0		
9451	067122	004737	024574	JSR	PC,CHKDNI		
9452	067126	103006		BCC	340\$		
9453	067130			ERRHRD	515.,ERR019,MSG003		
	067130	104456				TRAP	C\$ERHRD
	067132	001003				.WORD	515
	067134	021312				.WORD	ERR019
	067136	017110				.WORD	MSG003
9454	067140			ESCAPE	TST		
	067140	104410				TRAP	C\$ESCAPE
	067142	000024				.WORD	L10057
9455							
9456	067144	004737	025546	JSR	PC,CLR DNI		
9457							
9458	067150	103006		BCC	350\$		
9459	067152			ERRHRD	516.,ERR006,MSG003		
	067152	104456				TRAP	C\$ERHRD
	067154	001004				.WORD	516
	067156	020202				.WORD	ERR006
	067160	017110				.WORD	MSG003
9460	067162			ESCAPE	TST		
	067162	104410				TRAP	C\$ESCAPE
	067164	000002				.WORD	L10057
9461	067166						
9462	067166			ENDTST			
	067166						
	067166	104401					

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.SBTTL TEST 26: HALF DUPLEX TEST

THIS TEST VERIFIES THAT HALF DUPLEX MODE IS OPERATIONAL
WHILE IN HALF DUPLEX MODE,
A WRITE PHYSICAL ADDRESS FUNCTION IS USED TO SET
THE DEUNA'S PHYSICAL ADDRESS.
INTERNAL LOOPBACKS ARE THEN PERFORMED WITH A
CURRENTLY ENABLED AND THEN A CURRENTLY DISABLED
DESTINATION ADDRESS.

TEST SEQUENCE:

1. WRITE MODE REGISTER INTERNAL LOOPBACK AND
HALF DUPLEX MODES
 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 (MATCH BIT SHOULD BE SET)
 7. CHECK FOR NO RXI
 8. ISSUE STOP
 9. SET UP RINGS AND BUFFERS
WITH DESTINATION ADDRESS NOT = PHYSICAL ADDRESS
 10. ISSUE START
 11. CHECK FOR ERRORS (MATCH BIT SHOULD NOT BE SET)
 12. CHECK FOR NO RXI
 13. ISSUE STOP
- *****

9496	067170			BGNTST					
	067170							T26::	
9497	067170	004737	027446	JSR	PC,TINIT			; IS A DEVICE RESET NEEDED?	
9498	067174	103025		BCC	30\$			; NO	
9499	067176	012777	000040	MOV	#RSET,SPCSRO			; YES, RESET DEUNA	
9500	067204	004737	024574	JSR	PC,CHKDNI			; DNI ?	
9501	067210	103006		BCC	20\$			; YES	
9502	067212			ERRHRD	517.,ERR004,MSG003			; NO, REPORT ERROR	
	067212	104456						TRAP	C\$ERRHRD
	067214	001005						.WORD	517
	067216	020102						.WORD	ERR004
	067220	017110						.WORD	MSG003
9503	067222			ESCAPE	TST			; AND ABORT TEST	
	067222	104410						TRAP	C\$ESCAPE
	067224	001254						.WORD	110060
9504									
9505	067226	004737	025546	20\$: JSR	PC,CLRDN1			; WRITE ONE TO CLEAR DNI	
9506								; ERROR ?	
9507	067232	103006		BCC	30\$			; NO	
9508	067234			ERRHRD	518.,ERR006,MSG003			; YES, REPORT ERROR	
	067234	104456						TRAP	C\$ERRHRD
	067236	001006						.WORD	518
	067240	020202						.WORD	ERR006
	067242	017110						.WORD	MSG003
9509	067244			ESCAPE	TST			; AND ABORT TEST	

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067244 104410
067246 001232
9510
9511 067250 004737 026772 112744 304: JSR PC,LDPCSR ; ADDRESS OF PCBB -> PCSR2:3
9512 067254 012777 000001 MOV @GETPCB,BPCSR0 ; ISSUE GET_PCBB PORT COMMAND
9513 067262 004737 024574 JSR PC,CHKDNI ; DNI?
9514 067266 103006 BCC 404 ; YES
9515 067270 ERRHRD 519.,ERR009,MSG003 ; NO, REPORT ERROR
067270 104456 TRAP C1ERRRD
067272 001007 .WORD 519
067274 020416 .WORD ERR009
067276 017110 .WORD MSG003
9516 067300 ESCAPE TST ; AND ABORT TEST
067300 104410 TRAP C1ESCAPE
067302 001176 .WORD L10060
9517
9518 067304 004737 025546 404: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
9519 BCC 504 ; ERROR ?
9520 067310 103006 BCC 504 ; NO
9521 067312 ERRHRD 520.,ERR006,MSG003 ; YES, REPORT ERROR
067312 104456 TRAP C1ERRRD
067314 001010 .WORD 520
067316 020202 .WORD ERR006
067320 017110 .WORD MSG003
9522 067322 ESCAPE TST ; AND ABORT TEST
067322 104410 TRAP C1ESCAPE
067324 001154 .WORD L10060
9523
9524 ;WRITE MODE REGISTER = INTERNAL LOOPBACK AND HALF DUPLEX MODE
9525 067326 012705 013244 504: MOV @WTHODE,R5 ; DEFAULT WRITE MODE FUNCTION
9526 067332 004737 026742 JSR PC,LDPCCB ; LOAD FUNCTION -> PCBB
9527 067336 013737 015124 002266 MOV MODE26,PCBB+2 ; MODE = INTL, HDUP
9528 067344 012777 000002 112654 MOV @GETCHD,BPCSR0 ; ISSUE GET_CHD PORT COMMAND
9529 067352 004737 024574 JSR PC,CHKDNI ; DNI ?
9530 067356 103006 BCC 604 ; YES
9531 067360 ERRHRD 521.,ERR010,MSG003 ; NO, REPORT ERROR
067360 104456 TRAP C1ERRRD
067362 001011 .WORD 521
067364 020502 .WORD ERR010
067366 017110 .WORD MSG003
9532 067370 ESCAPE TST ; AND ABORT TEST
067370 104410 TRAP C1ESCAPE
067372 001106 .WORD L10060
9533
9534 067374 004737 025546 604: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
9535 BCC 704 ; ERROR ?
9536 067400 103006 BCC 704 ; NO
9537 067402 ERRHRD 522.,ERR006,MSG003 ; YES, REPORT ERROR
067402 104456 TRAP C1ERRRD
067404 001012 .WORD 522
067406 020202 .WORD ERR006
067410 017110 .WORD MSG003
9538 067412 ESCAPE TST ; AND ABORT TEST
067412 104410 TRAP C1ESCAPE
067414 001064 .WORD L10060
9539
9540 ;WRITE RING FORMAT

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9541	067416	012705	013204	701:	MOV	@WTRNGS,R5	;	DEFAULT WRITE RING FORMAT FUNCTION	
9542	067422	004737	026742		JSR	PC,LDPCCB	;	LOAD FUNCTION -> PCBB	
9543	067426	012705	013324		MOV	@RFRMT,R5	;	DEFAULT RING FORMAT	
9544	067432	012700	000006		MOV	@6,R0	;	FORMAT = SIX WORDS	
9545	067436	004737	027142		JSR	PC,LDDDBB	;	LOAD RING FORMAT -> UDBB	
9546	067442	012777	000002	112556	MOV	@GETCMD,@PCSR0	;	ISSUE GET_CMD PORT COMMAND	
9547	067450	004737	024574		JSR	PC,CHKDNI	;	DNI ?	
9548	067454	103006			BCC	801	;	YES	
9549	067456				ERRHRD	523.,ERR010,MSG003	;	NO, REPORT ERROR	
	067456	104456					TRAP	C1ERRHRD	
	067460	001013					.WORD	523	
	067462	020502					.WORD	ERR010	
	067464	017110					.WORD	MSG003	
9550	067466				ESCAPE	TST	;	AND ABORT TEST	
	067466	104410					TRAP	C1ESCAPE	
	067470	001010					.WORD	L10060	
9551									
9552	067472	004737	025546	801:	JSR	PC,CLRDN1	;	WRITE ONE TO CLEAR DNI	
9553							;	ERROR ?	
9554	067476	103006			BCC	901	;	NO	
9555	067500				ERRHRD	524.,ERR006,MSG003	;	YES, REPORT ERROR	
	067500	104456					TRAP	C1ERRHRD	
	067502	001014					.WORD	524	
	067504	020202					.WORD	ERR006	
	067506	017110					.WORD	MSG003	
9556	067510				ESCAPE	TST	;	AND ABORT TEST	
	067510	104410					TRAP	C1ESCAPE	
	067512	000766					.WORD	L10060	
9557									
9558					;	WRITE PHYSICAL ADDRESS			
9559	067514	012705	013144	901:	MOV	@WTPHYA,R5	;	DEFAULT WRITE PHYSICAL ADDR FUNC	
9560	067520	004737	026742		JSR	PC,LDPCCB	;	LOAD FUNCTION -> PCBB	
9561					;	LOAD DEFAULT PHYSICAL ADDRESS			
9562	067524	012703	014320		MOV	@ADR21,R3	;	POINT TO PHYSICAL ADDRESS	
9563	067530	012704	002266		MOV	@PCBB+2,R4	;	POINT TO PCBB + 2	
9564	067534	012324			MOV	(R3),.(R4).	;	LOAD ADDRESS	
9565	067536	012324			MOV	(R3),.(R4).			
9566	067540	012324			MOV	(R3),.(R4).			
9567	067542	012777	000002	112456	MOV	@GETCMD,@PCSR0	;	ISSUE GET_CMD PORT COMMAND	
9568	067550	004737	024574		JSR	PC,CHKDNI	;	DNI ?	
9569	067554	103006			BCC	1001	;	YES	
9570	067556				ERRHRD	525.,ERR010,MSG003	;	NO, REPORT ERROR	
	067556	104456					TRAP	C1ERRHRD	
	067560	001015					.WORD	525	
	067562	020502					.WORD	ERR010	
	067564	017110					.WORD	MSG003	
9571	067566				ESCAPE	TST	;	AND ABORT TEST	
	067566	104410					TRAP	C1ESCAPE	
	067570	000710					.WORD	L10060	
9572									
9573	067572	004737	025546	1001:	JSR	PC,CLRDN1	;	WRITE ONE TO CLEAR DNI	
9574							;	ERROR ?	
9575	067576	103006			BCC	1101	;	NO	
9576	067600				ERRHRD	526.,ERR006,MSG003	;	YES, REPORT ERROR	
	067600	104456					TRAP	C1ERRHRD	
	067602	001016					.WORD	526	
	067604	020202					.WORD	ERR006	

9577	067606	017110		ESCAPE TST		AND ABORT TEST	WORD	MSG003
	067610						TRAP	C#ESCAPE
	067610	104410					WORD	L10060
	067612	000666						
9578								
9579				SET UP RINGS FOR ONE BUFFER LOOPBACK				
9580	067614	012705	013554	1104: MOV #TDRB1A,R5		DEFAULT ONE BUFFER TRANSMIT RING		
9581	067620	004737	027046	JSR PC,LDTRB		LOAD TDRB		
9582	067624	012705	013354	MOV #RDRB1A,R5		DEFAULT ONE BUFFER RECEIVE RING		
9583	067630	004737	027010	JSR PC,LDRDRB		LOAD RDRB		
9584								
9585				SET UP BUFFERS AND START				
9586	067634	012705	002266	MOV #PCBB+2,R5		POINT TO DESTINATION ADDRESS		
9587	067640	004737	026714	JSR PC,LDDST		LOAD DEST		
9588	067644	004737	027342	JSR PC,SETBUF		SET UP BUFFERS		
9589	067650	012777	000004	MOV #START,SPCSRO	112350	ISSUE START PORT COMMAND		
9590	067656	004737	024574	JSR PC,CHKDNI		DNI?		
9591	067662	103006		BCC 1204		YES		
9592	067664			ERRMRD 527.,ERR012,MSG003		NO, REPORT ERROR		
	067664	104456					TRAP	C#ERRMRD
	067666	001017					WORD	527
	067670	020633					WORD	ERR012
	067672	017110					WORD	MSG003
9593	067674			ESCAPE TST		AND ABORT TEST		
	067674	104410					TRAP	C#ESCAPE
	067676	000602					WORD	L10060-
9594								
9595	067700	004737	025546	1204: JSR PC,CLRDN1		WRITE ONE TO CLEAR DNI		
9596						ERROR ?		
9597	067704	103006		BCC 1304		NO		
9598	067706			ERRMRD 528.,ERR006,MSG003		YES, REPORT ERROR		
	067706	104456					TRAP	C#ERRMRD
	067710	001020					WORD	528
	067712	020202					WORD	ERR006
	067714	017110					WORD	MSG003
9599	067716			ESCAPE TST		AND ABORT TEST		
	067716	104410					TRAP	C#ESCAPE
	067720	000560					WORD	L10060-
9600								
9601	067722	004737	025404	1304: JSR PC,CHKTXI		TXI ?		
9602	067726	103006		BCC 1404		YES		
9603	067730			ERRMRD 529.,ERR013,MSG003		NO, REPORT ERROR		
	067730	104456					TRAP	C#ERRMRD
	067732	001021					WORD	529
	067734	020714					WORD	ERR013
	067736	017110					WORD	MSG003
9604	067740			ESCAPE TST		AND ABORT TEST		
	067740	104410					TRAP	C#ESCAPE
	067742	000536					WORD	L10060
9605								
9606	067744	004737	025730	1404: JSR PC,CLRTXI		WRITE ONE TO CLEAR TXI		
9607						ERROR ?		
9608	067750	103006		BCC 1504		NO		
9609	067752			ERRMRD 530.,ERR014,MSG003		YES, REPORT ERROR		
	067752	104456					TRAP	C#ERRMRD
	067754	001022					WORD	530
	067756	020745					WORD	ERR014

9610	067760	017110			ESCAPE	TST		; AND ABORT TEST	.WORD	MSG003
	067762								TRAP	C#ESCAPE
	067762	104410							.WORD	L10060
	067764	000514								
9611										
9612	067766	012705	002604		1504:	MOV	#TDRB,R5	; CHECK TDRB OWNERSHIP		
9613	067772	004737	024676			JSR	PC,CHKOWN	; OWN - PORT DRIVER ?		
9614	067776	103006				BCC	1604	; YES		
9615	070000					ERRHRD	531.,ERR018	; NO, REPORT ERROR		
	070000	104456							TRAP	L#ERRHRD
	070002	001023							.WORD	531
	070004	021212							.WORD	ERR018
	070006	000000							.WORD	0
9616	070010					ESCAPE	TST	; AND ABORT TEST		
	070010	104410							TRAP	C#ESCAPE
	070012	000466							.WORD	L10060
9617										
9618	070014	012705	014524		1604:	MOV	#TDR14A,R5	; POINT TO EXPECTED TDRB		
9619	070020	004737	027252			JSR	PC,LDXTDR	; LOAD INTO XTDRB0 TABLE		
9620	070024	012705	002604			MOV	#TDRB,R5	; CHECK TDRB		
9621	070030	004737	025316			JSR	PC,CHKTDR	; ERRORS ?		
9622	070034	103006				BCC	1704	; NO		
9623	070036					ERRHRD	532.,ERR020,MSG005	; YES, REPORT ERROR		
	070036	104456							TRAP	C#ERRHRD
	070040	001024							.WORD	532
	070042	021372							.WORD	ERR020
	070044	017214							.WORD	MSG005
9624	070046					ESCAPE	TST	; AND ABORT TEST		
	070046	104410							TRAP	C#ESCAPE
	070050	000430							.WORD	L10060-
9625										
9626	070052	004737	027302		1704:	JSR	PC,NORXI	; RXI ?		
9627	070056	103006				BCC	1804	; NO		
9628	070060					ERRHRD	533.,ERR046	; YES, REPORT ERROR		
	070060	104456							TRAP	C#ERRHRD
	070062	001025							.WORD	533
	070064	024064							.WORD	ERR046
	070066	000000							.WORD	0
9629	070070					ESCAPE	TST	; AND ABORT TEST		
	070070	104410							TRAP	C#ESCAPE
	070072	000406							.WORD	L10060-
9630										
9631	070074	012777	000017	112124	1804:	MOV	#STOP,SPCSRO	; ISSUE STOP PORT COMMAND		
9632	070102	004737	024574			JSR	PC,CHKDNI	; DNI ?		
9633	070106	103006				BCC	2404	; YES		
9634	070110					ERRHRD	534.,ERR019,MSG003	; NO, REPORT ERROR		
	070110	104456							TRAP	C#ERRHRD
	070112	001026							.WORD	534
	070114	021312							.WORD	ERR019
	070116	017110							.WORD	MSG003
9635	070120					ESCAPE	TST	; AND ABORT TEST		
	070120	104410							TRAP	C#ESCAPE
	070122	000356							.WORD	L10060-
9636										
9637	070124	004737	025546		2404:	JSR	PC,CLR0NI	; WRITE ONE TO CLEAR DNI		
9638										
9639	070130	103006				BCC	2504	; ERROR ?		
								; NO		

```

9640 070132          ERRHRD  535.,ERR006,MSG003      ; YES, REPORT ERROR
      070132 104456
      070134 001027
      070136 020202
      070140 017110
9641 070142          ESCAPE  TST                    ; AND ABORT TEST
      070142 104410
      070144 000334
9642
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9646 070146 012705 013554
9647 070152 004737 027046
9648 070156 012705 013354
9649 070162 004737 027010
9650
9651
9652 070166 012705 014326
9653 070172 004737 026714
9654 070176 004737 027342
9655 070202 012777 000004 112016
9656 070210 004737 024574
9657 070214 103006
9658 070216          ERRHRD  536.,ERR012,MSG003      ; NO, REPORT ERROR
      070216 104456
      070220 001030
      070222 020633
      070224 017110
9659 070226          ESCAPE  TST                    ; AND ABORT TEST
      070226 104410
      070230 000250
9660
9661 070232 004737 025546
9662
9663 070236 103006
9664 070240          ERRHRD  537.,ERR006,MSG003      ; YES, REPORT ERROR
      070240 104456
      070242 001031
      070244 020202
      070246 017110
9665 070250          ESCAPE  TST                    ; AND ABORT TEST
      070250 104410
      070252 000226
9666
9667 070254 004737 025404
9668 070260 103006
9669 070262          ERRHRD  538.,ERR013,MSG003      ; NO, REPORT ERROR
      070262 104456
      070264 001032
      070266 020714
      070270 017110
9670 070272          ESCAPE  TST                    ; AND ABORT TEST
      070272 104410
      070274 000204
9671
9672 070276 004737 025730

```

; DESTINATION ADDRESS NOT - PHYSICAL ADDRESS

; SET UP RINGS FOR ONE BUFFER LOOPBACK

250: 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 #ADR21C,R5 ; POINT TO COMPLEMENTED ADDRESS
JSR PC,LDDDEST ; LOAD DEST
JSR PC,SETBUF ; SET UP BUFFERS
MOV #START,SPCSR0 ; ISSUE START PORT COMMAND
JSR PC,CHKDNI ; DNI?
BCC 260: ; YES
ERRHRD 536.,ERR012,MSG003 ; NO, REPORT ERROR

TRAP C#ERRHRD
.WORD 536
.WORD ERR012
.WORD MSG003

260: JSR PC,CLRDN1 ; WRITE ONE TO CLEAR DNI
BCC 270: ; ERROR ?
ERRHRD 537.,ERR006,MSG003 ; NO
; YES, REPORT ERROR

TRAP C#ERRHRD
.WORD 537
.WORD ERR006
.WORD MSG003

270: JSR PC,CHKTXI ; TXI ?
BCC 280: ; YES
ERRHRD 538.,ERR013,MSG003 ; NO, REPORT ERROR

TRAP C#ERRHRD
.WORD 538
.WORD ERR013
.WORD MSG003

280: JSR PC,CLRTXI ; WRITE ONE TO CLEAR TXI

TRAP C#ESCAPE
.WORD L10060

Address	Instruction	Comments	Trap	Trap Word
9702	070452 104410			
	070454 000024			
9703	070456 004737 025546	330\$: JSR PC,CLRDN1		
9704				
9705	070462 103006	BCC 340\$		
9706	070464	ERRHRD 544.,ERR006,MSG003		
	070464 104456		TRAP	C\$ERRHRD
	070466 001040		.WORD	544
	070470 020202		.WORD	ERR006
	070472 017110		.WORD	MSG003
9707	070474	ESCAPE TST		
	070474 104410		TRAP	C\$ESCAPE
	070476 000002		.WORD	L10060
9708				
9709	070500	340\$:		
9710	070500	ENDTST		
	070500			
	070500 104401		L10060:	
			TRAP	C\$ETST

.SBTTL TEST 27: SIMULTANEOUS OPERATIONS TEST

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*****
:
:   THIS TEST VERIFIES THAT SIMULTANEOUS OPERATIONS CAN BE PERFORMED.
:   A CHAINED 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
:           THREE TRANSMIT AND RECEIVE BUFFERS
:       5. SET UP READ COUNTERS FUNCTION
:       6. ISSUE START
:       7. ISSUE GET COMMAND PORT COMMAND
:       8. CHECK FOR ERRORS
:       9. ISSUE STOP
:
*****

```

9734	070502			BGNTST					
	070502								
9735	070502	004737	027446	JSR	PC,TINIT		T27::		
9736	070506	103025		BCC	30:		; IS A DEVICE RESET NEEDED?		
9737	070510	012777	000040 111510	MOV	#RSET,BPCSR0		; NO		
9738	070516	004737	024574	JSR	PC,CHKDNI		; YES, RESET DEUNA		
9739	070522	103006		BCC	20:		; DNI ?		
9740	070524			ERRHRD	545.,ERR004,MSG003		; YES		
	070524	104456					; NO, REPORT ERROR	TRAP	C#ERRHRD
	070526	001041						.WORD	545
	070530	020102						.WORD	ERR004
	070532	017110						.WORD	MSG003
9741	070534			ESCAPE	TST		; AND ABORT TEST		
	070534	104410						TRAP	C#ESCAPE
	070536	001472						.WORD	L10061 .
9742									
9743	070540	004737	025546	20:	JSR	PC,CLRDN1			
9744							; WRITE ONE TO CLEAR DNI		
9745	070544	103006		BCC	30:		; ERROR ?		
9746	070546			ERRHRD	546.,ERR006,MSG003		; NO		
	070546	104456					; YES, REPORT ERROR	TRAP	C#ERRHRD
	070550	001042						.WORD	546
	070552	020202						.WORD	ERR006
	070554	017110						.WORD	MSG003
9747	070556			ESCAPE	TST		; AND ABORT TEST		
	070556	104410						TRAP	C#ESCAPE
	070560	001450						.WORD	L10061
9748									
9749	070562	004737	026772	30:	JSR	PC,LDPCSR			
9750	070566	012777	000001 111432	MOV	#GETPCB,BPCSP0		; ADDRESS OF PCBB -> PCSR2!3		
9751	070574	004737	024574	JSR	PC,CHKDNI		; ISSUE GET_PCBB PORT COMMAND		
9752	070600	103006		BCC	40:		; DNI?		
9753	070602			ERRHRD	547.,ERR009,MSG003		; YES		
	070602	104456					; NO, REPORT ERROR	TRAP	C#ERRHRD
	070604	001043						.WORD	547

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          070606 020416
          070610 017110
9754 070612      ESCAPE TST      ; AND ABORT TEST
          070612 104410
          070614 001414
          ;
9755          ;
9756 070616 004737 025546      404: JSR PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
9757          ;
9758 070622 103006      BCC 504      ; ERROR ?
9759 070624      ERRHRD 548.,ERR006,MSG003      ; NO
          ; YES, REPORT ERROR
          TRAP C#ERMPD
          .WORD 548
          .WORD ERR006
          .WORD MSG003
          ;
9760 070634      ESCAPE TST      ; AND ABORT TEST
          070634 104410
          070636 001372
          ;
9761          ; WRITE MODE REGISTER = INTERNAL LOOPBACK AND PROM MODE
9762          504:
9763 070640 012705 013244      MOV #WTHODE,R5      ; DEFAULT WRITE MODE FUNCTION
9764 070644 004737 026742      JSR PC,LDP CBB      ; LOAD FUNCTION -> PCBB
9765 070650 012777 000002 111350      MOV #GETCMD,BPCSR0      ; ISSUE GET_CMD PORT COMMAND
9766 070656 004737 024574      JSR PC,CHKDNI      ; DNI ?
9767 070662 103006      BCC 604      ; YES
9768 070664      ERRHRD 549.,ERR010,MSG003      ; NO, REPORT ERROR
          TRAP C#ERHRD
          .WORD 549
          .WORD ERR010
          .WORD MSG003
          ;
9769 070674      ESCAPE TST      ; AND ABORT TEST
          070674 104410
          070676 001332
          ;
9770          ;
9771 070700 004737 025546      604: JSR PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
9772          ;
9773 070704 103006      BCC 704      ; ERROR ?
9774 070706      ERRHRD 550.,ERR006,MSG003      ; NO
          ; YES, REPORT ERROR
          TRAP C#ERHRD
          .WORD 550
          .WORD ERR006
          .WORD MSG003
          ;
9775 070716      ESCAPE TST      ; AND ABORT TEST
          070716 104410
          070720 001310
          ;
9776          ; WRITE RING FORMAT
9777          704:
9778 070722 012705 013204      MOV #WTRNGS,R5      ; DEFAULT WRITE RING FORMAT FUNCTION
9779 070726 004737 026742      JSR PC,LDP CBB      ; LOAD FUNCTION -> PCBB
9780 070732 012705 013324      MOV #RFRMT,R5      ; DEFAULT RING FORMAT
9781 070736 012700 000006      MOV #6,R0      ; FORMAT = SIX WORDS
9782 070742 004737 027142      JSR PC,LDUDBB      ; LOAD RING FORMAT -> UDBB
9783 070746 012777 000002 111252      MOV #GETCMD,BPCSR0      ; ISSUE GET_CMD PORT COMMAND
9784 070754 004737 024574      JSR PC,CHKDNI      ; DNI ?
9785 070760 103006      BCC 804      ; YES
9786 070762      ERRHRD 551.,ERR010,MSG003      ; NO, REPORT ERROR
          TRAP C#ERHRD
          .WORD 551
          070762 104456
          070764 001047

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          070766 020502
          070770 017110
9787 070772          ESCAPE TST          ; AND ABORT TEST          .WORD  ERR010
          070772 104410          ; .WORD  MSG003
          070774 001234          TRAP  C$ESCAPE
          .WORD  L10061 .

9788
9789 070776 004737 025546      ; 804: JSR PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
9790          BCC 904          ; ERROR ?
9791 071002 103006          ; NO
9792 071004          ERRHRD 552.,ERR006,MSG003 ; YES, REPORT ERROR          TRAP  C$ERRRD
          071004 104456          .WORD  552
          071006 001050          .WORD  ERR006
          071010 020202          .WORD  MSG003
          071012 017110          ESCAPE TST          ; AND ABORT TEST          TRAP  C$ESCAPE
9793 071014          .WORD  L10061 .
          071014 104410
          071016 001212

9794
9795      ;WRITE PHYSICAL ADDRESS
9796 071020 012705 013144      904: MOV #WTPHYA,R5          ; DEFAULT WRITE PHYSICAL ADDR FUNC
9797 071024 004737 026742      JSR PC,LDPCCB          ; LOAD FUNCTION -> PCBB
9798 071030 012777 000002 111170 MOV #GETCMD,SPCSR0 ; ISSUE GET_CMD PORT COMMAND
9799 071036 004737 024574      JSR PC,CHKDNI          ; DNI ?
9800 071042 103006          BCC 1004          ; YES
9801 071044          ERRHRD 553.,ERR010,MSG003 ; NO, REPORT ERROR          TRAP  C$ERRRD
          071044 104456          .WORD  553
          071046 001051          .WORD  ERR010
          071050 020502          .WORD  MSG003
          071052 017110          ESCAPE TST          ; AND ABORT TEST          TRAP  C$ESCAPE
9802 071054          .WORD  L10061 .
          071054 104410
          071056 001152

9803
9804 071060 004737 025546      ; 1004: JSR PC,CLRDN1          ; WRITE ONE TO CLEAR DNI
9805          BCC 1104          ; ERROR ?
9806 071064 103006          ERRHRD 554.,ERR006,MSG003 ; NO
9807 071066          ; YES, REPORT ERROR          TRAP  C$ERRRD
          071066 104456          .WORD  554
          071070 001052          .WORD  ERR006
          071072 020202          .WORD  MSG003
          071074 017110          ESCAPE TST          ; AND ABORT TEST          TRAP  C$ESCAPE
9808 071076          .WORD  L10061 .
          071076 104410
          071100 001130

9809
9810      ;SET UP RINGS FOR THREE BUFFERS CHAINED LOOPBACK
9811 071102 012705 013754      1104: MOV #TDRB3A,R5          ; DEFAULT THREE BUFFER TRANSMIT RING
9812 071106 004737 027046      JSR PC,LDTDRB          ; LOAD TDRB
9813 071112 012705 013514      MOV #RDRB3A,R5          ; DEFAULT THREE BUFFER RECEIVE RING
9814 071116 004737 027010      JSR PC,LDRDRB          ; LOAD RDRB
9815
9816      ;SET UP BUFFERS
9817 071122 012705 002266      MOV #PCBB+2,R5          ; POINT TO DESTINATION ADDRESS
9818 071126 004737 026714      JSR PC,LDDEST          ; LOAD DEST
9819 071132 004737 027342      JSR PC,SETBUF          ; SET UP BUFFERS
9820
9821      ;SET UP READ COUNTERS FUNCTION

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9822 071136 012705 013214      MOV    #RDCNT,R5      ; DEFAULT READ COUNTERS FUNCTION
9823 071142 004737 026742      JSR    PC,LDPCCB      ; LOAD FUNCTION -> PCBB
9824
9825      ;ISSUE START
9826 071146 012777 000004 111052  MOV    #START,BPCSR0      ; ISSUE START PORT COMMAND
9827 071154 004737 024574      JSR    PC,CHKDNI      ; DNI?
9828 071160 103006      BCC     115$      ; YES
9829 071162      ERRHRD  555.,ERR012,MSG003      ; NO, REPORT ERROR
      071162 104456      TRAP    C$ERRHRD
      071164 001053      .WORD   555
      071166 020633      .WORD   ERR012
      071170 017110      .WORD   MSG003
9830 071172      ESCAPE  TST      ; AND ABORT TEST
      071172 104410      TRAP    C$ESCAPE
      071174 0C1034      .WORD   L10061
9831
9832 071176 004737 025546      115$: JSR    PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
9833      BCC     120$      ; ERROR ?
9834 071202 103006      ERRHRD  556.,ERR006,MSG003      ; NO
9835 071204      BCC     120$      ; YES, REPORT ERROR
      071204 104456      TRAP    C$ERRHRD
      071206 001054      .WORD   556
      071210 020202      .WORD   ERR006
      071212 017110      .WORD   MSG003
9836 071214      ESCAPE  TST      ; AND ABORT TEST
      071214 104410      TRAP    C$ESCAPE
      071216 001012      .WORD   L10061
9837
9838      ;ISSUE GET COMMAND FOR READ COUNTERS FUNCTION
9839 071220 012777 000002 111000 120$: MOV    #GETCMD,BPCSR0      ; ISSUE GET_CMD PORT COMMAND
9840 071226 004737 024574      JSR    PC,CHKDNI      ; DNI ?
9841 071232 103006      BCC     125$      ; YES
9842 071234      ERRHRD  557.,ERR044,MSG003      ; NO, REPORT ERROR
      071234 104456      TRAP    C$ERRHRD
      071236 001055      .WORD   557
      071240 023706      .WORD   ERR044
      071242 017110      .WORD   MSG003
9843 071244      ESCAPE  TST      ; AND ABORT TEST
      071244 104410      TRAP    C$ESCAPE
      071246 000762      .WORD   L10061
9844
9845 071250 004737 025546      125$: JSR    PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
9846      BCC     130$      ; ERROR ?
9847 071254 103006      ERRHRD  558.,ERR006,MSG003      ; NO
9848 071256      BCC     130$      ; YES, REPORT ERROR
      071256 104456      TRAP    C$ERRHRD
      071260 001056      .WORD   558
      071262 020202      .WORD   ERR006
      071264 017110      .WORD   MSG003
9849 071266      ESCAPE  TST      ; AND ABORT TEST
      071266 104410      TRAP    C$ESCAPE
      071270 000740      .WORD   L10061
9850
9851 071272 004737 025404      130$: JSR    PC,CHKTXI      ; TXI ?
9852 071276 103006      BCC     140$      ; YES
9853 071300      ERRHRD  559.,ERR013,MSG003      ; NO, REPORT ERROR
      071300 104456      TRAP    C$ERRHRD

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071302 001057
071304 020714
071306 017110
9854 071310          ESCAPE TST          ; AND ABORT TEST          .WORD 559
071310 104410          ; WRITE ONE TO CLEAR TXI          .WORD ERR013
071312 000716          ; ERROR ?          .WORD MSG003
9855          ; NO
9856 071314 004737 025730 140: JSR PC,CLRTXI          ; YES, REPORT ERROR          TRAP C$ESCAPE
9857          ; YES, REPORT ERROR          .WORD L10051
9858 071320 103006          BCC 150:          ; CHECK TORB OWNERSHIP          .WORD 560
9859 071322          ERRHRD 560.,ERR014,MSG003          ; OWN = PORT DRIVER ?          .WORD ERR014
071322 104456          ; YES          .WORD MSG003
071324 001060          ; NO, REPORT ERROR          TRAP C$ERHRD
071326 020745          ; AND ABORT TEST          .WORD 560
071330 017110          ; YES, REPORT ERROR          .WORD ERR014
9860 071332          ESCAPE TST          ; AND ABORT TEST          .WORD MSG003
071332 104410          ; CHECK FIRST RING ENTRY          TRAP C$ESCAPE
071334 000674          150: MOV #TDRB,R5          ; TORB OWNERSHIP          .WORD L10061
9861          ; OWN = PORT DRIVER ?          .WORD 561
9862 071336 012705 002604          JSR PC,CHKOWN          ; YES          .WORD ERR027
9863 071342 004737 024676          BCC 160:          ; NO, REPORT ERROR          .WORD 0
9864 071346 103006          ERRHRD 561.,ERR027          ; AND ABORT TEST          TRAP C$ESCAPE
9865 071350          ; YES, REPORT ERROR          .WORD L10061
071350 104456          ; AND ABORT TEST          .WORD 561
071352 001061          ; YES, REPORT ERROR          .WORD ERR027
071354 021773          ; AND ABORT TEST          .WORD 0
071356 000000          ; YES, REPORT ERROR          TRAP C$ESCAPE
9866 071360          ESCAPE TST          ; AND ABORT TEST          .WORD L10061
071360 104410          ; CHECK SECOND RING ENTRY          .WORD 562
071362 000646          160: MOV #TDR20A,R5          ; LOAD INTO XTDRB0 TABLE          .WORD ERR033
9867          ; CHECK TORB OWNERSHIP          .WORD MSG005
9868 071364 012705 014564          JSR PC,L0XTDR          ; OWN = PORT DRIVER ?          TRAP C$ERHRD
9869 071370 004737 027252          MOV #TDRB,R5          ; YES          .WORD 562
9870 071374 012705 002604          JSR PC,CHKTDR          ; NO, REPORT ERROR          .WORD ERR033
9871 071400 004737 025316          BCC 162:          ; YES, REPORT ERROR          .WORD MSG005
9872 071404 103006          ERRHRD 562.,ERR033,MSG005          ; AND ABORT TEST          TRAP C$ESCAPE
9873 071406          ; YES, REPORT ERROR          .WORD L10061
071406 104456          ; AND ABORT TEST          .WORD 562
071410 001062          ; YES, REPORT ERROR          .WORD ERR033
071412 022633          ; AND ABORT TEST          .WORD MSG005
071414 017214          ; YES, REPORT ERROR          TRAP C$ESCAPE
9874 071416          ESCAPE TST          ; AND ABORT TEST          .WORD L10061
071416 104410          ; CHECK SECOND RING ENTRY          .WORD 563
071420 000610          162: MOV #TDRB+8.,R5          ; OWN = PORT DRIVER ?          .WORD ERR028
9875          ; YES          .WORD 0
9876 071422 012705 002614          JSR PC,CHKOWN          ; NO, REPORT ERROR          TRAP C$ESCAPE
9877 071426 004737 024676          BCC 164:          ; YES, REPORT ERROR          .WORD L10061
9878 071432 103006          ERRHRD 563.,ERR028          ; AND ABORT TEST          .WORD 563
9879 071434          ; YES, REPORT ERROR          .WORD ERR028
071434 104456          ; AND ABORT TEST          .WORD 0
071436 001063          ; YES, REPORT ERROR          TRAP C$ESCAPE
071440 022100          ; AND ABORT TEST          .WORD L10061
071442 000000          ; YES, REPORT ERROR          .WORD 563
9880 071444          ESCAPE TST          ; AND ABORT TEST          .WORD ERR028
071444 104410          ; YES, REPORT ERROR          .WORD 0
071446 000562          ; YES, REPORT ERROR          TRAP C$ESCAPE
9881          ; YES, REPORT ERROR          .WORD L10061

```

9882	071450	012705	014574	164\$:	MOV	#TDR20B,R5	; POINT TO EXPECTED TDRB		
9883	071454	004737	027252		JSR	PC,L0XTDR	; LOAD INTO XTDRBO TABLE		
9884	071460	012705	002614		MOV	#TDRB+8.,R5	; CHECK TDRB		
9885	071464	004737	025316		JSR	PC,CHKTDR	; ERRORS ?		
9886	071470	103006			BCC	166\$	; NO		
9887	071472				ERRHRD	564.,ERR034,MSG005	; YES, REPORT ERROR		
	071472	104456						TRAP	C\$ERRHRD
	071474	001064						.WORD	564
	071476	022722						.WORD	ERR034
	071500	017214						.WORD	MSG005
9888	071502				ESCAPE	TST	; AND ABORT TEST		
	071502	104410						TRAP	C\$ESCAPE
	071504	000524						.WORD	L10061
9889					;CHECK	THIRD RING ENTRY			
9890	071506	012705	002624	166\$:	MOV	#TDRB+16.,R5	; CHECK TDRB OWNERSHIP		
9891	071512	004737	024676		JSR	PC,CHKOWN	; OWN = PORT DRIVER ?		
9892	071516	103006			BCC	168\$	; YES		
9893	071520				ERRHRD	565.,ERR029	; NO, REPORT ERROR		
	071520	104456						TRAP	C\$ERRHRD
	071522	001065						.WORD	565
	071524	022206						.WORD	ERR029
	071526	000000						.WORD	0
9894	071530				ESCAPE	TST	; AND ABORT TEST		
	071530	104410						TRAP	C\$ESCAPE
	071532	000476						.WORD	L10061
9895									
9896	071534	012705	014604	168\$:	MOV	#TDR20C,R5	; POINT TO EXPECTED TDRB		
9897	071540	004737	027252		JSR	PC,L0XTDR	; LOAD INTO XTDRBO TABLE		
9898	071544	012705	002624		MOV	#TDRB+16.,R5	; CHECK TDRB		
9899	071550	004737	025316		JSR	PC,CHKTDR	; ERRORS ?		
9900	071554	103006			BCC	170\$	; NO		
9901	071556				ERRHRD	566.,ERR035,MSG005	; YES, REPORT ERROR		
	071556	104456						TRAP	C\$ERRHRD
	071560	001066						.WORD	566
	071562	023012						.WORD	ERR035
	071564	017214						.WORD	MSG005
9902	071566				ESCAPE	TST	; AND ABORT TEST		
	071566	104410						TRAP	C\$ESCAPE
	071570	000440						.WORD	L10061
9903									
9904	071572	004737	025132	170\$:	JSR	PC,CHKRXI	; RXI ?		
9905	071576	103006			BCC	180\$	; YES		
9906	071600				ERRHRD	567.,ERR015,MSG003	; NO, REPORT ERROR		
	071600	104456						TRAP	C\$ERRHRD
	071602	001067						.WORD	567
	071604	021013						.WORD	ERR015
	071606	017110						.WORD	MSG003
9907	071610				ESCAPE	TST	; AND ABORT TEST		
	071610	104410						TRAP	C\$ESCAPE
	071612	000416						.WORD	L10061
9908									
9909	071614	004737	025662	180\$:	JSR	PC,CLRRXI	; WRITE ONE TO CLEAR RXI		
9910							; ERROR ?		
9911	071620	103006			BCC	190\$	; NO		
9912	071622				ERRHRD	568.,ERR016,MSG003	; YES, REPORT ERROR		
	071622	104456						TRAP	C\$ERRHRD
	071624	001070						.WORD	568


```

9975 072172          ERRMRD  577.,ERR019,MSG003      ; NO, REPORT ERROR
      072172 104456
      072174 001101
      072176 021312
      072200 017110
9976 072202          ESCAPE  TST                      ; AND ABORT TEST
      072202 104410
      072204 000024
9977
9978 072206 004737 025546      ; 2401: JSR      PC,CLRDN1      ; WRITE ONE TO CLEAR DNI
9979
9980 072212 103006          BCC      2501             ; ERROR ?
9981 072214          ERRMRD  578.,ERR006,MSG003      ; NO
      072214 104456
      072216 001102
      072220 020202
      072222 017110
9982 072224          ESCAPE  TST                      ; AND ABORT TEST
      072224 104410
      072226 000002
9983 072230          ; 2501:
9984 072230          ENDTST
      072230
      072230 104401

```

TRAP C#ERRMRD
 .WORD 577
 .WORD ERR019
 .WORD MSG003
 TRAP C#ESCAPE
 .WORD L10061
 TRAP C#ERRMRD
 .WORD 578
 .WORD ERR006
 .WORD MSG003
 TRAP C#ESCAPE
 .WORD L10061
 L10061: TRAP C#ETST

.SBTTL TEST 28: PRINT 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
:
*****

```

```

10000
10001 072232          BGNTST
      072232
10002 072232 005737 015230          TST      FRSTIM          ; RUN THIS TEST ?
10003 072236 001002          BNE      54          ; YES
10004 072240          EXIT      TST          ; NO, EXIT
      072240 104432          ;
      072242 000710          ; TRAP      C$EXIT
                                   .WORD    L10062-.
10005
10006 072244 004737 027446          ; 54:   JSR      PC,TINIT          ; IS A DEVICE RESET NEEDED?
10007 072250 103025          BCC      304          ; NO
10008 072252 012777 000040 107746  MOV     @RSET,@PCSR0      ; YES, RESET DEUNA
10009 072260 004737 024574          JSR      PC,CHKDNI      ; DNI ?
10010 072264 103006          BCC      204          ; YES
10011 072266          ERRHRD  579.,ERR004,MSG003      ; NO, REPORT ERROR
      072266 104456          ; TRAP      C$ERRRD
      072270 001103          .WORD    579
      072272 020102          .WORD    ERRO04
      072274 017110          .WORD    MSG003
10012 072276          ESCAPE  TST          ; AND ABORT TEST
      072276 104410          ; TRAP      C$ESCAPE
      072300 000652          .WORD    L10062-.
10013
10014 072302 004737 025546          ; 204:  JSR      PC,CLR0NI      ; WRITE ONE TO CLEAR DNI
10015          BCC      304          ; ERROR ?
10016 072306 103006          BCC      304          ; NO
10017 072310          ERRHRD  580.,ERR006,MSG003      ; YES, REPORT ERROR
      072310 104456          ; TRAP      C$ERRRD
      072312 001104          .WORD    580
      072314 020202          .WORD    ERRO06
      072316 017110          .WORD    MSG003
10018 072320          ESCAPE  TST          ; AND ABORT TEST
      072320 104410          ; TRAP      C$ESCAPE
      072322 000630          .WORD    L10062-.
10019
10020 072324 004737 026772 107670  ; 304:  JSR      PC,LDPCSR      ; ADDRESS OF PCBB -> PCSR2!3
10021 072330 012777 000001          MOV     @GETPCB,@PCSR0      ; ISSUE GET_PCBB PORT COMMAND
10022 072336 004737 024574          JSR      PC,CHKDNI      ; DNI?
10023 072342 103006          BCC      404          ; YES
10024 072344          ERRHRD  581.,ERR009,MSG003      ; NO, REPORT ERROR
      072344 104456          ; TRAP      C$ERRRD
      072346 001105          .WORD    581
      072350 020416          .WORD    ERRO09

```


10025	072352	017110			ESCAPE TST	; AND ABORT TEST	.WORD	MSG003
	072354						TRAP	C#ESCAPE
	072354	104410					.WORD	L10062
	072356	000574						
10026								
10027	072360	004737	025546		404: JSR PC,CLRDN1	; WRITE ONE TO CLEAR DNI		
10028						; ERROR ?		
10029	072364	103006			BCC 504	; NO		
10030	072366				ERRHRD 582.,ERR006,MSG003	; YES, REPORT ERROR		
	072366	104456					TRAP	C#ERRHRD
	072370	001106					.WORD	582
	072372	020202					.WORD	ERR006
	072374	017110					.WORD	MSG003
10031	072376				ESCAPE TST	; AND ABORT TEST		
	072376	104410					TRAP	C#ESCAPE
	072400	000552					.WORD	L10062..
10032								
10033					; READ DEFAULT PHYSICAL ADDRESS			
10034	072402	012705	013124		504: MOV #RDDEFA,R5	; READ DEFAULT PHYA FUNCTION		
10035	072406	004737	026742		JSR PC,LDPCCB	; LOAD FUNCTION -> PCBB		
10036	072412	012777	000002	107606	MOV #GETCMD,SPCSR0	; ISSUE GET_CMD PORT COMMAND		
10037	072420	004737	024574		JSR PC,CHKDNI	; DNI ?		
10038	072424	103006			BCC 604	; YES		
10039	072426				ERRHRD 583.,ERR010,MSG003	; NO, REPORT ERROR		
	072426	104456					TRAP	C#ERRHRD
	072430	001107					.WORD	583
	072432	020502					.WORD	ERR010
	072434	017110					.WORD	MSG003
10040	072436				ESCAPE TST	; AND ABORT TEST		
	072436	104410					TRAP	C#ESCAPE
	072440	000512					.WORD	L10062..
10041								
10042	072442	004737	025546		604: JSR PC,CLRDN1	; WRITE ONE TO CLEAR DNI		
10043						; ERROR ?		
10044	072446	103006			BCC 704	; NO		
10045	072450				ERRHRD 584.,ERR006,MSG003	; YES, REPORT ERROR		
	072450	104456					TRAP	C#ERRHRD
	072452	001110					.WORD	584
	072454	020202					.WORD	ERR006
	072456	017110					.WORD	MSG003
10046	072460				ESCAPE TST	; AND ABORT TEST		
	072460	104410					TRAP	C#ESCAPE
	072462	000470					.WORD	L10062..
10047								
10048	072464	013737	002266	073154	; MOVE DEFAULT PHYSICAL ADDRESS FROM PCBB -> DPA			
10049	072472	013737	002270	073156	704: MOV PCBB+2,DPA			
10050	072500	013737	002272	073160	MOV PCBB+4,DPA+2			
10051					MOV PCBB+6,DPA+4			
10052	072506	004737	026432		; LOAD ASCII MESSAGE (DEFADR)			
10053					JSR PC,HEXDPA	; CONVERT TO ASCII HEX		
10054	072512	012705	013264		; READ MICROCODE REVISION			
10055	072516	004737	026742		1004: MOV #RDSTA,R5	; READ PORT STATUS FUNCTION		
10056	072522	012777	000002	107476	JSR PC,LDPCCB	; LOAD FUNCTION -> PCBB		
10057	072530	004737	024574		MOV #GETCMD,SPCSR0	; ISSUE GET_CMD PORT COMMAND		
10058	072534	103006			JSR PC,CHKDNI	; DNI ?		
10059	072536				BCC 1104	; YES		
	072536	104456			ERRHRD 585.,ERR010,MSG003	; NO, REPORT ERROR		
							TRAP	C#ERRHRD

	072540	001111					.WORD	585
	072542	020502					.WORD	ERR010
	072544	017110					.WORD	MSG003
10060	072546			ESCAPE	TST			; AND ABORT TEST
	072546	104410					TRAP	C#ESCAPE
	072550	000402					.WORD	L10062
10061								
10062	072552	004737	025546	1104:	JSR	PC,CLRDN1		; WRITE ONE TO CLEAR DNI
10063								; ERROR ?
10064	072556	103006			BCC	1204		; NO
10065	072560				ERRHRD	586.,ERR006,MSG003		; YES, REPORT ERROR
	072560	104456					TRAP	C#ERRHRD
	072562	001112					.WORD	586
	072564	020202					.WORD	ERR006
	072566	017110					.WORD	MSG003
10066	072570			ESCAPE	TST			; AND ABORT TEST
	072570	104410					TRAP	C#ESCAPE
	072572	000360					.WORD	L10062-
10067								
10068								
10069	072574	013737	002266	073162	1204:	MOV	PCBB+2,RREV	
10070	072602	042737	177700	073162		BIC	0177700,RREV	; MASK RREV
10071								
10072								
10073	072610	012705	013304		1304:	MOV	#DMPMEM,R5	; DEFAULT DUMP INTERNAL MEMORY
10074	072614	004737	026742			JSR	PC,LDPCBB	; LOAD FUNCTION -> PCBB
10075	072620	012705	015126			MOV	#UD828A,R5	; DEFAULT UDBB
10076	072624	012700	000004			MOV	#4,R0	; FOUR WORDS
10077	072630	004737	027142			JSR	PC,LDUDBB	; LOAD INTO UDBB
10078	072634	012737	073164	002276		MOV	#SWPACK,UDBB+2	; LOAD ADDRESS
10079	072642	013737	015136	002302		MOV	SWADDR,UDBB+6	; LOAD INTERNAL ADDRESS
10080	072650	012777	000002	107350		MOV	#GETCMD,BPCSR0	; ISSUE GET COMMAND PORT COMMAND
10081	072656	004737	024574			JSR	PC,CHKDNI	; DNI ?
10082	072662	103006				BCC	1404	; YES
10083	072664					ERRHRD	587,ERR010,MSG003	; NO, REPORT ERROR
	072664	104456					TRAP	C#ERRHRD
	072666	001113					.WORD	587
	072670	020502					.WORD	ERR010
	072672	017110					.WORD	MSG003
10084	072674				ESCAPE	TST		; AND ABORT TEST
	072674	104410					TRAP	C#ESCAPE
	072676	000254					.WORD	L10062-
10085								
10086	072700	004737	025546		1404:	JSR	PC,CLRDN1	; WRITE ONE TO CLEAR DNI
10087								; ERROR ?
10088	072704	103006			BCC	1504		; NO
10089	072706				ERRHRD	588.,ERR006,MSG003		; YES, REPORT ERROR
	072706	104456					TRAP	C#ERRHRD
	072710	001114					.WORD	588
	072712	020202					.WORD	ERR006
	072714	017110					.WORD	MSG003
10090	072716				ESCAPE	TST		; AND ABORT TEST
	072716	104410					TRAP	C#ESCAPE
	072720	000232					.WORD	L10062-
10091								
10092	072722	013704	073164		1504:	MOV	SWPACK,R4	; SWITCH PACK -> R4
10093	072726	042704	167777			BIC	0167777,R4	; MASK BIT 12

10094 072732 012700 000013
10095 072736 006204
10096 072740 005300
10097 072742 001375
10098 072744 062704 073304
10099 072750 011437 073166
10100 072754 013704 073164
10101 072760 042704 171777
10102 072764 012700 000011
10103 072770 006204
10104 072772 005300
10105 072774 001375
10106 072776 062704 073310
10107 073002 011437 073170
10108
10109
10110
10111 073006 012746 073174
073012 012746 016551
073016 012746 000002
073022 010600
073024 104414
073026 062706 000006
10112 073032 013746 073162
073036 012746 016556
073042 012746 000002
073046 010600
073050 104414
073052 062706 000006
10113 073056 012746 073320
073062 012746 016551
073066 012746 000002
073072 010600
073074 104414
073076 062706 000006
10114 073102 013746 073166
073106 012746 016551
073112 012746 000002
073116 010600
073120 104414
073122 062706 000006
10115 073126 013746 073170
073132 012746 016551
073136 012746 000002
073142 010600
073144 104414
073146 062706 000006
10116
10117 073152
10118 073152
073152
073152 104401

1601: MOV #11.,R0
ASR R4
DEC R0
BNE 1601
ADD #LPTBL,R4
MOV (R4),LPMSG
1701: MOV SWPACK,R4
BIC #171777,R4
MOV #9.,R0
1801: ASR R4
DEC R0
BNE 1801
ADD #BTBL,R4
MOV (R4),BTMSG

; PRINT
;

PRINTB #FRM015,#DEFHDR

PRINTB #FRM016,RREV

PRINTB #FRM015,#SWHDR

PRINTB #FRM015,LPMSG

PRINTB #FRM015,BTMSG

2501:

ENDTST

; SHIFT BIT FOR INDEX

; INDEX INTO LOOP TABLE
; LOAD INTO LOOP MESSAGE
; SWITCH PACK -> R4
; MASK BITS 10 AND 11
; SHIFT BITS FOR INDEX

; INDEX INTO BOOT TABLE
; LOAD INTO BOOT MESSAGE

; PRINT DEFAULT PHYSICAL ADDRESS

MOV #DEFHDR,-(SP)
MOV #FRM015,-(SP)
MOV #2,-(SP)
MOV SP,R0
TRAP C#PNTB
ADD #6,SP

; PRINT MICROCODE REV

MOV RREV,-(SP)
MOV #FRM016,-(SP)
MOV #2,-(SP)
MOV SP,R0
TRAP C#PNTB
ADD #6,SP

; PRINT SWITCH PACK HEADER

MOV #SWHDR,-(SP)
MOV #FRM015,-(SP)
MOV #2,-(SP)
MOV SP,R0
TRAP C#PNTB
ADD #6,SP

; PRINT LOOPBACK MESSAGE

MOV LPMSG,-(SP)
MOV #FRM015,-(SP)
MOV #2,-(SP)
MOV SP,R0
TRAP C#PNTB
ADD #6,SP

; PRINT BOOT MESSAGE

MOV BTMSG,-(SP)
MOV #FRM015,-(SP)
MOV #2,-(SP)
MOV SP,R0
TRAP C#PNTB
ADD #6,SP

L10062:

TRAP C#ETST

10120						LOCAL STORAGE FOR TEST 28		
10121	073154	000000				DPA::	.WORD 0	: DEFAULT PHYSICAL ADDRESS (15:00)
10122	073156	000000					.WORD 0	: DEFAULT PHYSICAL ADDRESS (31:16)
10123	073160	000000					.WORD 0	: DEFAULT PHYSICAL ADDRESS (47:32)
10124								
10125	073162	000000				RREV::	.WORD 0	: MICROCODE REVISION
10126								
10127	073164	000000				SWPACK::	.WORD 0	: SWITCH PACK CONTENTS
10128	073166	000000				LPMMSG::	.WORD 0	: LOOPBACK MESSAGE ADDRESS
10129	073170	000000				BTMSG::	.WORD 0	: BOOT MESSAGE ADDRESS
10130								
10131	073172	000				HEXDAT::	.BYTE 0	: HEX DATA FOR CONVERSION
10132	073173	000				HEXVAL::	.BYTE 0	: ASCII HEX VALUE
10133								
10134	073174	015	012	105		DEFHDR::	.ASCII <15><12>/ETHERNET DEFAULT ADDRESS (HEX):	/
	073177	124	110	105				
	073202	122	116	105				
	073205	124	040	104				
	073210	105	106	101				
	073213	125	114	124				
	073216	040	101	104				
	073221	104	122	105				
	073224	123	123	040				
	073227	050	110	105				
	073232	130	051	072				
	073235	040	040					
10135	073237	040	040			DEFADR::	.ASCII / /	
10136	073241	055					.ASCII /- /	
10137	073242	040	040				.ASCII / /	
10138	073244	055					.ASCII /- /	
10139	073245	040	040				.ASCII / /	
10140	073247	055					.ASCII /- /	
10141	073250	040	040				.ASCII / /	
10142	073252	055					.ASCII /- /	
10143	073253	040	040				.ASCII / /	
10144	073255	055					.ASCII /- /	
10145	073256	040	040				.ASCII / /	
10146	073260	015	012	000			.ASCII <15><12>	
10147								
10148	073263	060				HEXTBL::	.ASCII /0/	
10149	073264	061					.ASCII /1/	
10150	073265	062					.ASCII /2/	
10151	073266	063					.ASCII /3/	
10152	073267	064					.ASCII /4/	
10153	073270	065					.ASCII /5/	
10154	073271	066					.ASCII /6/	
10155	073272	067					.ASCII /7/	
10156	073273	070					.ASCII /8/	
10157	073274	071					.ASCII /9/	
10158	073275	101					.ASCII /A/	
10159	073276	102					.ASCII /B/	
10160	073277	103					.ASCII /C/	
10161	073300	104					.ASCII /D/	
10162	073301	105					.ASCII /E/	
10163	073302	106					.ASCII /F/	
10164							.EVEN	
10165								

10166					;LOOP MESSAGE TABLE		
10167	073304	073352			LPTBL::	.WORD	LPMSG0
10168	073306	073411				.WORD	LPMSG1
10169					;BOOT MESSAGE TABLE		
10170	073310	073447			BTBTL::	.WORD	BTMSG0
10171	073312	073505				.WORD	BTMSG1
10172	073314	073540				.WORD	BTMSG2
10173	073316	073604				.WORD	BTMSG3
10174					;ASCII MESSAGES		
10175	073320	015	012	123	SWDR::	.ASCII	<15><12>/SWITCH PACK SET FOR :/
	073323	127	111	124			
	073326	103	110	040			
	073331	120	101	103			
	073334	113	040	123			
	073337	105	124	040			
	073342	106	117	122			
	073345	040	072				
10176	073347	015	012	000		.ASCIZ	<15><12>
10177	073352	040	040	040	LPMSG0::	.ASCII	/ SELF TEST LOOP DISABLED/
	073355	040	040	123			
	073360	105	114	106			
	073363	040	124	105			
	073366	123	124	040			
	073371	114	117	117			
	073374	120	040	104			
	073377	111	123	101			
	073402	102	114	105			
	073405	104					
10178	073406	015	012	000		.ASCIZ	<15><12>
10179	073411	040	040	040	LPMSG1::	.ASCII	/ SELF TEST LOOP ENABLED/
	073414	040	040	123			
	073417	105	114	106			
	073422	040	124	105			
	073425	123	124	040			
	073430	114	117	117			
	073433	120	040	105			
	073436	116	101	102			
	073441	114	105	104			
10180	073444	015	012	000		.ASCIZ	<15><12>
10181	073447	040	040	040	BTMSG0::	.ASCII	/ NO REMOTE BOOT ENABLED/
	073452	040	040	116			
	073455	117	040	122			
	073460	105	115	117			
	073463	124	105	040			
	073466	102	117	117			
	073471	124	040	105			
	073474	116	101	102			
	073477	114	105	104			
10182	073502	015	012	000		.ASCIZ	<15><12>
10183	073505	040	040	040	BTMSG1 :	.ASCII	/ REMOTE BOOT ENABLED/
	073510	040	040	122			
	073513	105	115	117			
	073516	124	105	040			
	073521	102	117	117			
	073524	124	040	105			
	073527	116	101	102			
	073532	114	105	104			

10184	073535	015	012	000		.ASCIZ <15><12>
10185	073540	040	040	040	BTMSG2::	.ASCII / REMOTE BOOT ENABLED WITH ROM/
	073543	040	040	122		
	073546	105	115	117		
	073551	124	105	040		
	073554	102	117	117		
	073557	124	040	105		
	073562	116	101	102		
	073565	114	105	104		
	073570	040	127	111		
	073573	124	110	040		
	073576	122	117	115		
10186	073601	015	012	000		.ASCIZ <15><12>
10187	073604	040	040	040	BTMSG3::	.ASCII / REMOTE BOOT AND POWER UP BOOT BOTH ENABLED/
	073607	040	040	122		
	073612	105	115	117		
	073615	124	105	040		
	073620	102	117	117		
	073623	124	040	101		
	073626	116	104	040		
	073631	120	117	127		
	073634	105	122	040		
	073637	125	120	040		
	073642	102	117	117		
	073645	124	040	102		
	073650	117	124	110		
	073653	040	105	116		
	073656	101	102	114		
10188	073661	105	104			
10189	073663	015	012	000		.ASCIZ <15><12>
						.EVEN

L8

.TITLE PARAMETER CODING

.SBTTL HARDWARE PARAMETER CODING SECTION

;;
; THE HARDWARE PARAMETER CODING SECTION CONTAINS MACROS
; THAT ARE USED BY THE SUPERVISOR TO BUILD P-TABLES. THE
; MACROS ARE NOT EXECUTED AS MACHINE INSTRUCTIONS BUT ARE
; INTERPRETED BY THE SUPERVISOR AS DATA STRUCTURES. THE
; MACROS ALLOW THE SUPERVISOR TO ESTABLISH COMMUNICATIONS
; WITH THE OPERATOR.
;

BGNHRD

.WORD L10063-L#HARD/2

L#HARD::

GPRMA ASKCSR,0,0,160000,177776,NO

;FIRST P-TABLE QUESTION

.WORD T#CODE
.WORD ASKCSR
.WORD T#LOLIM
.WORD T#HILIM

GPRMA ASKVEC,2,0,0,776,NO

;SECOND P-TABLE QUESTION

.WORD T#CODE
.WORD ASK'EC
.WORD T#LOLIM
.WORD T#HILIM

ENDHRD

.EVEN

L10063:

ASKCSR: .ASCIZ /WHAT IS THE PCSRO ADDRESS?/

ASKVEC: .ASCIZ /WHAT IS THE VECTOR ADDRESS?/

.EVEN

.SBTTL SOFTWARE PARAMETER CODING SECTION

```

10269
10270
10271
10272
10273
10274
10275
10276
10277
10278
10279
10280 074000
      074000 000003
      074002
10281
10290 074002
      074002 000130
      074004 074010
      074006 000001
10291
10292
10293 074010
      074010
10294
10295
10302
10303 074010      122      125      116  ASKEXT: .ASCIZ  /RUN TEST 20 IN EXTERNAL LOOPBACK MODE ?/
      074013      040      124      105
      074016      123      124      040
      074021      062      060      040
      074024      111      116      040
      074027      105      130      124
      074032      105      122      116
      074035      101      114      040
      074040      114      117      117
      074043      120      102      101
      074046      103      113      040
      074051      115      117      104
      074054      105      040      077
      074057      000
10304
10305
10306 074060
10307 074060
10308
10315
10316 074100
      074100 000000
      074102 000000
      074104
10317 074104
10318      000001

```

BGNSFT
 L\$SOFT:: .WORD L10064 L\$SOFT/2
 GPRML ASKEXT,0,1,YES
 .WORD T\$CODE
 .WORD ASKEXT
 .WORD 1
 .EVEN
 ENDSFT
 .EVEN
 L10064:
 ASKEXT: .ASCIZ /RUN TEST 20 IN EXTERNAL LOOPBACK MODE ?/
 .EVEN
 \$PATCH:: .BLKW 10
 LASTAD
 .EVEN
 .WORD 0
 .WORD 0
 L\$LAST:: ENDMOD
 .END

PARAMETER CODING
SYMBOL TABLE

MACRO M1200 13-SF0-84 10:27 PAGE 93 1

SEQ 311

ADR = 000020 G
 ADR21 = 014320 G
 ADR21C = 014326 G
 ASKCSR = 073710
 ASKEXT = 074010
 ASKVEC = 073743
 ASSEMB = 000010
 BIT0 = 000001 G
 BIT00 = 000001 G
 BIT01 = 000002 G
 BIT02 = 000004 G
 BIT03 = 000010 G
 BIT04 = 000020 G
 BIT05 = 000040 G
 BIT06 = 000100 G
 BIT07 = 000200 G
 BIT08 = 000400 G
 BIT09 = 001000 G
 BIT1 = 000002 G
 BIT10 = 002000 G
 BIT11 = 004000 G
 BIT12 = 010000 G
 BIT13 = 020000 G
 BIT14 = 040000 G
 BIT15 = 100000 G
 BIT2 = 000004 G
 BIT3 = 000010 G
 BIT4 = 000020 G
 BIT5 = 000040 G
 BIT6 = 000100 G
 BIT7 = 000200 G
 BIT8 = 000400 G
 BIT9 = 001000 G
 BOE = 000400 G
 BTHSG = 073170 G
 BTHSG0 = 073447 G
 BTHSG1 = 073505 G
 BTHSG2 = 073540 G
 BTHSG3 = 073604 G
 BTTBL = 073310 G
 BUFL = 100000 G
 CHKDNI = 024574 G
 CHKOWN = 024676 G
 CHKRC = 024730 G
 CHKRD = 025032 G
 CHKRXI = 025132 G
 CHKSER = 025506 G
 CHKSTR = 025234 G
 CHKTDR = 025316 G
 CHKTXI = 025404 G
 CLKBR = 002250 G
 CLKCSR = 002246 G
 CLKFRE = 002254 G
 CLKSrv = 030240 G
 CLKTAB = 002246 G
 CLKVEC = 002252 G
 CLRCNT = 013224 G

CLRDNI = 025546 G
 CLRRCE = 025614 G
 CLRRXI = 025662 G
 CLRSE = 025776 G
 CLRSTA = 013274 G
 CLRTXI = 025730 G
 CMODE1 = 175015 G
 CMPCRC = 026124 G
 CMPDAT = 026044 G
 CMPMEM = 026174 G
 CMPRNT = 026254 G
 CRCBLK = 026334 G
 CRCH = 014214 G
 CRC14A = 014724 G
 CRC15H = 014730 G
 CRC15L = 014732 G
 CRC16H = 014734 G
 CRC16L = 014736 G
 CRC20A = 014740 G
 CRC21A = 014744 G
 CRC21B = 014750 G
 CRC22A = 014754 G
 CRC22B = 015024 G
 CRC23B = 015074 G
 CRC25B = 015104 G
 CRC27A = 015104 G
 C#AU = 000052
 C#AUTO = 000061
 C#BRK = 000022
 C#BSEG = 000004
 C#BSUB = 000002
 C#CEFG = 000045
 C#CLK = 000062
 C#CLEA = 000012
 C#CLOS = 000035
 C#CLP1 = 000006
 C#CVEC = 000036
 C#DCLN = 000044
 C#DODU = 000051
 C#DRPT = 000024
 C#DU = 000053
 C#EDIT = 000003
 C#ERDF = 000055
 C#ERHR = 000056
 C#ERRO = 000060
 C#ERSF = 000054
 C#ERSO = 000057
 C#ESCA = 000010
 C#ESEG = 000005
 C#ESUB = 000003
 C#ETST = 000001
 C#EXIT = 000032
 C#GETB = 000026
 C#GETW = 000027
 C#GMAN = 000043
 C#GPHR = 000042
 C#GPLO = 000030

C#GPRI = 000040
 C#INIT = 000011
 C#INLP = 000020
 C#MANI = 000050
 C#MEM = 000031
 C#MSG = 000023
 C#OPEN = 000034
 C#PNTB = 000014
 C#PNTF = 000017
 C#PNTS = 000016
 C#PNTX = 000015
 C#QIO = 000377
 C#RDBU = 000007
 C#REFG = 000047
 C#RESE = 000033
 C#REVI = 000003
 C#RFLA = 000021
 C#RPT = 000025
 C#SEFG = 000046
 C#SPRI = 000041
 C#SVEC = 000037
 C#TPRI = 000013
 DEFADR = 073237 G
 DEFHDR = 073174 G
 DEST = 002256 G
 DFPTBL = 002216 G
 DIAGMC = 000000
 DMPMEM = 013304 G
 DNI = 004000 G
 DNIB = 000010 G
 DNIFLG = 015226 G
 DPA = 073154 G
 DTYPE = 002540 G
 ECODE = 015220 G
 ECRC = 015210 G
 ECRCB = 015212 G
 EDAT = 015204 G
 EF.CON = 000036 G
 EF.NEW = 000035 G
 EF.PWR = 000034 G
 EF.RES = 000037 G
 EF.STA = 000040 G
 ENP = 000400 G
 EPCSR0 = 015140 G
 EPCSR1 = 015142 G
 ERDRB0 = 015144 G
 ERDRB2 = 015146 G
 ERDRB4 = 015150 G
 ERDRB6 = 015152 G
 ERBLK = 015250 G
 ERRMSG = 015246 G
 ERRNBR = 015244 G
 ERRS = 040000 G
 ERRTP = 015242 G
 ERR001 = 017756 G
 ERR002 = 020006 G
 ERR003 = 020044 G

ERR004 = 020102 G
 ERR005 = 020156 G
 ERR006 = 020202 G
 ERR007 = 020250 G
 ERR008 = 020357 G
 ERR009 = 020416 G
 ERR010 = 020502 G
 ERR011 = 020565 G
 ERR012 = 020633 G
 ERR013 = 020714 G
 ERR014 = 020745 G
 ERR015 = 021013 G
 ERR016 = 021044 G
 ERR017 = 021112 G
 ERR018 = 021212 G
 ERR019 = 021312 G
 ERR020 = 021372 G
 ERR021 = 021453 G
 ERR022 = 021534 G
 ERR023 = 021603 G
 ERR024 = 021630 G
 ERR025 = 021672 G
 ERR026 = 021724 G
 ERR027 = 021773 G
 ERR028 = 022100 G
 ERR029 = 022206 G
 ERR030 = 022313 G
 ERR031 = 022420 G
 ERR032 = 022526 G
 ERR033 = 022633 G
 ERR034 = 022722 G
 ERR035 = 023012 G
 ERR036 = 023101 G
 ERR037 = 023167 G
 ERR038 = 023256 G
 ERR039 = 023344 G
 ERR040 = 023445 G
 ERR041 = 023550 G
 ERR042 = 023603 G
 ERR043 = 023644 G
 ERR044 = 023706 G
 ERR045 = 023777 G
 ERR046 = 024064 G
 ERR047 = 024156 G
 ERR048 = 024252 G
 ERR049 = 024304 G
 ERR050 = 024353 G
 ERR051 = 024443 G
 ETDRB0 = 015164 G
 ETDRB2 = 015166 G
 ETDRB4 = 015170 G
 ETDRB6 = 015172 G
 EVL = 000004 G
 EXLOOP = 002224
 E#END = 002100
 E#LOAD = 000035
 FATI = 000400 G

FATIB = 000001 G
 FRM001 = 015324 G
 FRM002 = 015361 G
 FRM003 = 015442 G
 FRM004 = 015503 G
 FRM005 = 015543 G
 FRM006 = 015630 G
 FRM007 = 015715 G
 FRM008 = 016002 G
 FRM009 = 016067 G
 FRM010 = 016154 G
 FRM011 = 016241 G
 FRM012 = 016326 G
 FRM013 = 016413 G
 FRM014 = 016472 G
 FRM015 = 016551 G
 FRM016 = 016556 G
 FRM017 = 016627 G
 FRM018 = 016655 G
 FRM019 = 016711 G
 FRM020 = 016745 G
 FRM021 = 017001 G
 FRSTIM = 015230 G
 F#AU = 000015
 F#AUTO = 000020
 F#BGN = 000040
 F#CLEA = 000007
 F#DU = 000016
 F#END = 000041
 F#HARD = 000004
 F#HW = 000013
 F#INIT = 000006
 F#JMP = 000050
 F#MOD = 000000
 F#MSG = 000011
 F#PROT = 000021
 F#PWR = 000017
 F#RPT = 000012
 F#SEG = 000003
 F#SOFT = 000005
 F#SRV = 000010
 F#SUB = 000002
 F#SW = 000014
 F#TEST = 000001
 GETCMD = 000002 G
 GETPCB = 000001 G
 GOODST = 000000 G
 G#CNT0 = 000200
 G#DELM = 000372
 G#DISP = 000003
 G#EXCP = 000400
 G#HILI = 000002
 G#LOLI = 000001
 G#NO = 000000
 G#OFFS = 000400
 G#OFST = 000376
 G#PRMA = 000001

PARAMETER CODING
SYMBOL TABLE

MACRO M1200 13-SEP-84 10:27 PAGE 93 2

SEQ 312

GIPRMD= 000002
 GIPRML= 000000
 GIRADA= 000140
 GIRADB= 000000
 GIRADD= 000040
 GIRADL= 000120
 GIRADO= 000020
 GIXFER= 000004
 GYES= 000010
 HELP= 000000
 HEXDAT 073172 G
 HEXDPA 026432 G
 HEXH 026514 G
 HEXL 026552 G
 HEXTBL 073263 G
 HEXVAL 073173 G
 HOE= 100000 G
 IBE= 010000 G
 ICAB= 040000 G
 IDU= 000040 G
 IE= 000100 G
 IER= 020000 G
 INITH= 000000 G
 INTE= 000100 G
 INTR= 000200 G
 INTVEC 002240 G
 ISR= 000100 G
 ISRDNI 030212 G
 ISRDNI 030202 G
 IXE= 004000 G
 IIAJ= 000041
 IIAUTO= 000041
 IILN= 000041
 IIAU= 000041
 IIRD= 000041
 IIRIT= 000041
 IIMOD= 000041
 IMSG= 000041
 IIPROT= 000040
 IPTAB= 000041
 IIPWR= 000041
 IIRPT= 000041
 IISEG= 000041
 ISETU= 000041
 ISFT= 000041
 ISRV= 000041
 ISUB= 000041
 ITST= 000041
 JIJP= 000167
 LDBUF 026600 G
 LDBUFC 026642 G
 LDEEST 026714 G
 LDNEH 013314 G
 LDPCBR 026742 G
 LDPCSR 026772 G
 LDRDRB 027010 G
 LDTDRB 027046 G

LDTDRX 027101 G
 LDUDBB 027142 G
 LDXCRC 027176 G
 LDXRDR 027222 G
 LDXTDR 027252 G
 LOE= 040000 G
 LOT= 000010 G
 LPMSC 073166 G
 LPMSCG 073352 G
 LPMSCG1 073411 G
 LPTBL 073304 G
 LSMA 013114 G
 LIACP 002110 G
 LIAPT 002036 G
 LAU 030174 G
 LAUT 002070 G
 LAUTO 030156 G
 LICCP 002106 G
 LICLEA 030160 G
 LICD 002032 G
 LIDEPD 002011 G
 LIDESC 015260 G
 LIDESP 002076 G
 LIDVP 002060 G
 LIDISP 002124 G
 LDLY 002116 G
 LDTP 002040 G
 LDTP 002034 G
 LIDU 030166 G
 LDUT 002072 G
 LDVTY 015252 G
 LEF 002052 G
 LENVI 002044 G
 LEERT 015242 G
 LETP 002102 G
 LEXP1 002046 G
 LEXP4 002064 G
 LEXP5 002066 G
 LHARD 073670 G
 LHIME 002120 G
 LHPCP 002016 G
 LHPTP 002022 G
 LHM 002216 G
 LICP 002104 G
 LINIT 027552 G
 LLAOP 002026 G
 LLAST 074104 G
 LLOAD 002100 G
 LLUN 002074 G
 LPREV 002050 G
 LNAME 002000 G
 LPRI0 002042 G
 LPROT 027544 G
 LPRT 002112 G
 LREPP 002062 G
 LREV 002010 G
 LRPT 027536 G

LISOF 074002 G
 LISPC 002056 G
 LISPCP 002020 G
 LISPTP 002024 G
 LISTA 002030 G
 LISW 002224 G
 LITEST 002114 G
 LITML 002014 G
 LUNIT 002012 G
 L10000 002222
 L10001 002226
 L10002 017060
 L10003 017106
 L10004 017140
 L10005 017212
 L10006 017354
 L10007 017516
 L10010 017550
 L10011 017632
 L10012 017754
 L10013 027542
 L10015 030112
 L10016 030156
 L10017 030164
 L10020 030172
 L10021 030200
 L10022 030210
 L10023 030236
 L10024 030252
 L10025 030350
 L10026 030450
 L10027 030550
 L10030 030650
 L10031 030724
 L10032 031000
 L10033 031242
 L10034 035274
 L10035 035602
 L10036 036132
 L10037 037106
 L10040 037652
 L10041 041060
 L10042 043034
 L10043 042210
 L10044 043032
 L10045 044146
 L10046 045260
 L10047 046366
 L10050 047364
 L10051 050256
 L10052 052052
 L10053 054734
 L10054 060010
 L10055 063410
 L10056 065446
 L10057 067166
 L10060 070500

L10061 072230
 L10062 073152
 L10063 073710
 L10064 074010
 MEM10A 014226 G
 MEM11A 014256 G
 MEM13A 014260 G
 METER 015222 G
 MODE15 015110 G
 MODE17 015112 G
 MODE20 015114 G
 MODE21 015116 G
 MODE24 015120 G
 MODE25 015122 G
 MODE26 015124 G
 MSG001 017036 G
 MSG002 017062 G
 MSG003 017110 G
 MSG004 017142 G
 MSG005 017214 G
 MSG006 017356 G
 MSG007 017520 G
 MSG008 017552 G
 MSG009 017634 G
 MULT 014334 G
 MULTC 014430 G
 NEXMEM 015224 G
 NIHLT= 000006 G
 NIUNI= 000007 G
 NOCLK 030114 G
 NOPF 013104 G
 NORXI 027302 G
 ONEFIL= 000001
 ONES= 177777 G
 OWN= 100000 G
 OIAPTS= 000000
 OIAU= 000001
 OIBGNR= 000001
 OIBGNS= 000001
 OIDU= 000001
 OIERT= 000001
 OIGNSW= 000001
 OIPOIN= 000001
 OISETU= 000000
 PATRN1 015232 G
 PCBB 002264 G
 PCEI= 040000 G
 PCEIB= 000100 G
 PCSR0 002226 G
 PCSR0U 002236 G
 PCSR1 002230 G
 PCSR2 002232 G
 PCSR3 002234 G
 PCTO= 000200 G
 PDMD= 000010 G
 PNOP= 000006 G
 PNT= 001000 G

POLYM= 120001 G
 PRI= 002000 G
 PRIID= 000001 G
 PRI00= 000000 G
 PRI01= 000040 G
 PRI02= 000100 G
 PRI03= 000140 G
 PRI04= 000200 G
 PRI05= 000240 G
 PRI06= 000300 G
 PRI07= 000340 G
 RBUF 007104 G
 RBUF2 007504 G
 RBUF3 010104 G
 RBUF4 010504 G
 RBUF5 011104 G
 RBUF6 011504 G
 RBUF7 012104 G
 RBUF8 012504 G
 RCBI= 002000 G
 RCBI8= 000004 G
 RDCNT 013214 G
 RDCFA 013124 G
 RDMODE 013234 G
 RDMULA 013154 G
 RDPHYA 013134 G
 RDRB 002644 G
 RDRB1A 013354 G
 RDRB1B 013414 G
 RDRB2A 013454 G
 RDRB3A 013514 G
 RDRNGS 013174 G
 RDR14A 014634 G
 RDR15A 014644 G
 RDR17A 014654 G
 RDR17B 014664 G
 RDR20A 014674 G
 RDR20B 014704 G
 RDR20C 014714 G
 ROSTA 013264 G
 READY= 000002 G
 RESET= 000000 G
 RFRMT 013324 G
 RFRMTX 013340 G
 RHTC= 000010 G
 RREV 073162 G
 RSET= 000040 G
 RUN= 000003 G
 RXI= 020000 G
 RXIB= 000040 G
 SECOND= 000077 G
 SERI= 100000 G
 SERIB= 000200 G
 SETBUF 027342 G
 SFPTBL 002224 G
 SIZ4K= 020000 G
 SIZ8K= 040000 G

PARAMETER CODING
SYMBOL TABLE

MACRO M1200 13 SEP-84 10:27 PAGE 93 3

SEQ 313

SLFT	=	000003	G
SMASK	=	177770	G
SMMSG00		031446	G
SMMSG01		031472	G
SMMSG02		031521	G
SMMSG03		031534	G
SMMSG04		031573	G
SMMSG05		031636	G
SMMSG06		031671	G
SMMSG07		031742	G
SMMSG10		032014	G
SMMSG11		032070	G
SMMSG12		032117	G
SMMSG13		032134	G
SMMSG14		032170	G
SMMSG15		032204	G
SMMSG16		032220	G
SMMSG17		032234	G
SMMSG20		032250	G
SMMSG21		032273	G
SMMSG22		032307	G
SMMSG23		032323	G
SMMSG24		032337	G
SMMSG25		032353	G
SMMSG26		032367	G
SMMSG27		032403	G
SMMSG30		032417	G
SMMSG31		032474	G
SMMSG32		032546	G
SMMSG33		032621	G
SMMSG34		032665	G
SMMSG35		032736	G
SMMSG36		033001	G
SMMSG37		033052	G
SMMSG40		033115	G
SMMSG41		033205	G
SMMSG42		033272	G
SMMSG43		033360	G
SMMSG44		033437	G
SMMSG45		033523	G
SMMSG46		033601	G
SMMSG47		033615	G
SMMSG50		033631	G
SMMSG51		033717	G
SMMSG52		034002	G
SMMSG53		034066	G
SMMSG54		034143	G
SMMSG55		034225	G
SMMSG56		034301	G
SMMSG57		034315	G
SMMSG60		034331	G
SMMSG61		034354	G
SMMSG62		034407	G
SMMSG63		034442	G
SMMSG64		034471	G
SMMSG65		034504	G
SMMSG66		034525	G
SMMSG67		034546	G
SMMSG70		034571	G
SMMSG71		034612	G
SMMSG72		034645	G
SMMSG73		034671	G
SMMSG74		034705	G
SMMSG75		034721	G
SMMSG76		034735	G
SMMSG77		034751	G
START	=	000004	G
STMASK	=	140377	G
STMSG	=	031244	G
STOP	=	000017	G
STP	=	001000	G
STTBL	=	031246	G
SVCTBL	=	000000	
SVCINS	=	000001	
SVCSUB	=	000001	
SVCTAG	=	000001	
SVCTST	=	000001	
SWADDR	=	015136	G
SWADR	=	073320	G
SWPACK	=	073164	G
SLSYM	=	010000	
TBUF	=	003104	G
TBUF2	=	003504	G
TBUF3	=	004104	G
TBUF4	=	004504	G
TBUF5	=	005104	G
TBUF6	=	005504	G
TBUF7	=	006104	G
TBUF8	=	006504	G
TDRB	=	002604	G
TDRBXX	=	014014	G
TDRB1A	=	013554	G
TDRB1B	=	013614	G
TDRB1C	=	013654	G
TDRB2A	=	013714	G
TDRB3A	=	013754	G
TDRMSK	=	007777	G
TDRX	=	002704	G
TDR14A	=	014524	G
TDR15A	=	014534	G
TDR18A	=	014544	G
TDR18B	=	014554	G
TDR20A	=	014564	G
TDR20B	=	014574	G
TDR20C	=	014604	G
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DYNAMIC MEMORY: 20060 WORDS (77 PAGES)
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