

MODEL 8/16 E PROCESSOR

TEST PART 1

Consists of:

Program Description	06-211M95A15
16-Bit Program Listing	06-211M96A13
Bootstrap Object Tape	06-211M17



MODEL 8/16E PROCESSOR TEST PART 1

1. MODEL 8/16E PROCESSOR TEST PART 1 06-211R00
 - 1.1 Related Documents
 - Test Program Listing 06-211R00M96A13
 - Test Program Tape 06-211R00M17
 - 1.2 Test Programs to be Run Prior to Running this Test
 - Model 8/16E Memory Test 06-221
 - 1.3 Other Applicable Test Programs
 - Common Teletype Basic Confidence Test 06-004
 - Common Current Loop Interface 06-184
 - Common Carousel Test 06-183
 - Common CRT Test 06-146
 - Series 16 Floating Point Test 06-205

2. PURPOSE OF TEST

This program exhaustively tests the Model 9/16 Processor. All the logic and arithmetic instructions are tested. The Floating Point instructions are not tested (refer to Test 06-205).

3. MINIMUM HARDWARE REQUIRED

3.1 Processor

Model 8/16E Processor
10KB of Memory

3.2 Console Device

Teletype
CRT
Carousel 15, 30, 35 or 300

3.3 Paper Tape Reader

Teletype, High Speed Paper Tape Reader, or Carousel 35

4. REQUIREMENTS OF MACHINE UNDER TEST

Location IO contains X'02' for the Console address. If the Console address is different, this location must be changed. (See Appendix 1 for appropriate setup.)

5. LOADING PROCEDURES

5.1 Test Tape Format

The test tape 06-211R00A13 is in absolute, non-zoned object type (M17) with a front end bootloader. This test occupies approximately 9KB of Memory.

5.2 Normal Loading Procedure

Manually enter the X'50' sequence as shown below into memory:

	<u>Location</u>	<u>Contents</u>
	X'30'	X'0000'
	X'32'	X'0000'
	X'34'	X'0000'
	X'36'	X'0050'
	X'50'	X'D500'
	X'52'	X'00CF'
	X'54'	X'4300'
	X'56'	X'0080'
For TTY or Carousel 35	X'78'	X'0294'
HSPTR	X'78'	X'0399'
HSPTR/P	X'78'	X'1399'

Place the program tape in the paper tape reader. Execute at address X'30'.

When the Processor halts, observe the Display Panel. If zero is shown loading is complete; otherwise repeat the loading procedure.

5.3 Multi-Media Diagnostic Loading Procedure

To load this program from the INTERDATA Multi-Media Diagnostic System, refer to Publication Number 06-176A15.

5.4 Program Execution

After the requirements of the Machine Under Test are met and the loading of PART 1 is complete, execute at X'100' and observe that the following title is output:

```
Model 8/16E PROCESSOR TEST PART 1 06-211R00
CPU
*
```

6. OPERATING PROCEDURES

6.1 Normal Testing

After loading is complete, and the proper Processor number has been entered (see Appendix 2), the following is printed:

Enter 0 or 1

If the Processor under test has 16KB or less memory, enter a zero. If the Processor has more than 16KB of memory, enter a one. The test then executes the appropriate subtests a total of 10 times or until an error has been encountered. (See Appendix 4 for meaning of errors.)

6.2 Optional Testing

All the printouts can be inhibited by turning the Console OFF or OFF-Line (DU=1). When this is done, a count is made of the total number of times the entire test is repeated. This is stored in memory location TOTAL and is also continuously copied into the Display Panel 2. If an error is detected, a count is made of the total number of errors at memory location TOTERR.

When the Console is turned On-Line, the test is repeated until TOTAL equals NTIMES. The test is terminated and the following characters are printed:

NO ERROR
NNNN RRRR

where

NNNN = Contents of TOTAL,
RRRR = Contents of TOTERR.

If any errors are detected while the Console is turned OFF and no errors detected after it was turned ON, the following is printed:

NNNN RRRR

where

N and R have the same meaning as above.

If any errors are detected after turning the Console ON, the following characters are printed and the test is terminated:

ERROR XXXX
NNNN RRRR

where

XXXX = The last error detected,
NNNN = Contents of TOTAL,
RRRR = Contents of TOTERR.

When the Console is turned OFF, the test is aborted if, (1) a spurious interrupt is detected (e.g., an illegal instruction). In this case, the error, which is LNF1 through LNF9 (N = subtest number in which the error occurred), is copied into the Display Panel and the Processor is halted by loading a PSW of X'8000'. When the EXECUTE switch is depressed and the Console Device is turned ON, the error message is printed; the test is also aborted if TOTERR equals X'FFFF'. In this case, X'FFFF' is copied into the Display Panel and the Processor is halted by loading a PSW of X'8000'. When the EXECUTE switch is depressed and the Console Device is turned ON, characters FFFF ERRORS are printed and the test is terminated.

7. ERROR PROCEDURES

In case of an error, further action depends on the type of error (see Appendix 4 for a description of each error number).

- Case 1 - the program detects an error; the error number in Display 2 is the same as the error number printed on the Console. The error number dictionary in Appendix 4 should be referred to pinpoint the error.
- Case 2 - If a spurious interrupt is detected, the error number is copied into the Display Panel 2 and the Processor is halted by loading a PSW of X'8000'. The error number has the form X'1TFN' where T equals the test number which was executing at the time of the error; N defines the spurious interrupt. See the error numbers in Appendix 4. When the EXECUTE switch is depressed, the error number is printed.
- Case 3 - If an error is detected in a test which checks arithmetic operations, refer to Appendix 4. In Tests 8 and 11 which check the Fixed Point Arithmetic instructions, after printing the error number certain registers are also printed.
- Case 4 - If a SET MAP instruction error occurs, refer to Appendix 4. Error numbers 1C01 to 1C04 refer to the first part of the test. Error numbers 1C05 to 1C08 refer to the second part of the test. Further diagnosis can be performed by observing which part of the test the error occurred in (see the listing). Then executing the section (see the listing) of the test to find the exact PSW bits which caused the SET MAP instruction to fail.

7.1 Examples

ERROR 1604

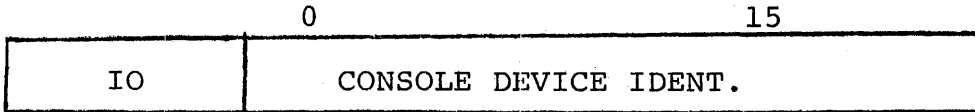
If this message is printed, it indicates that Test 6 detected an error. The error number is 04. Refer to the Error Number Table in Appendix 4. It indicates that instruction SLHA or SRHA failed.

To isolate the problem further, the program can be run in single steps starting at the beginning of the test. The program may also be executed, starting at a location where the test for the failed instruction begins. Thus, Test 6 can be started after it has



APPENDIX 1
USER DEVICE DEFINITION

The halfword labeled IO (see listing) has the default value for Teletype as an Input/Output Console Device. If the console is different, it must be changed as follows:



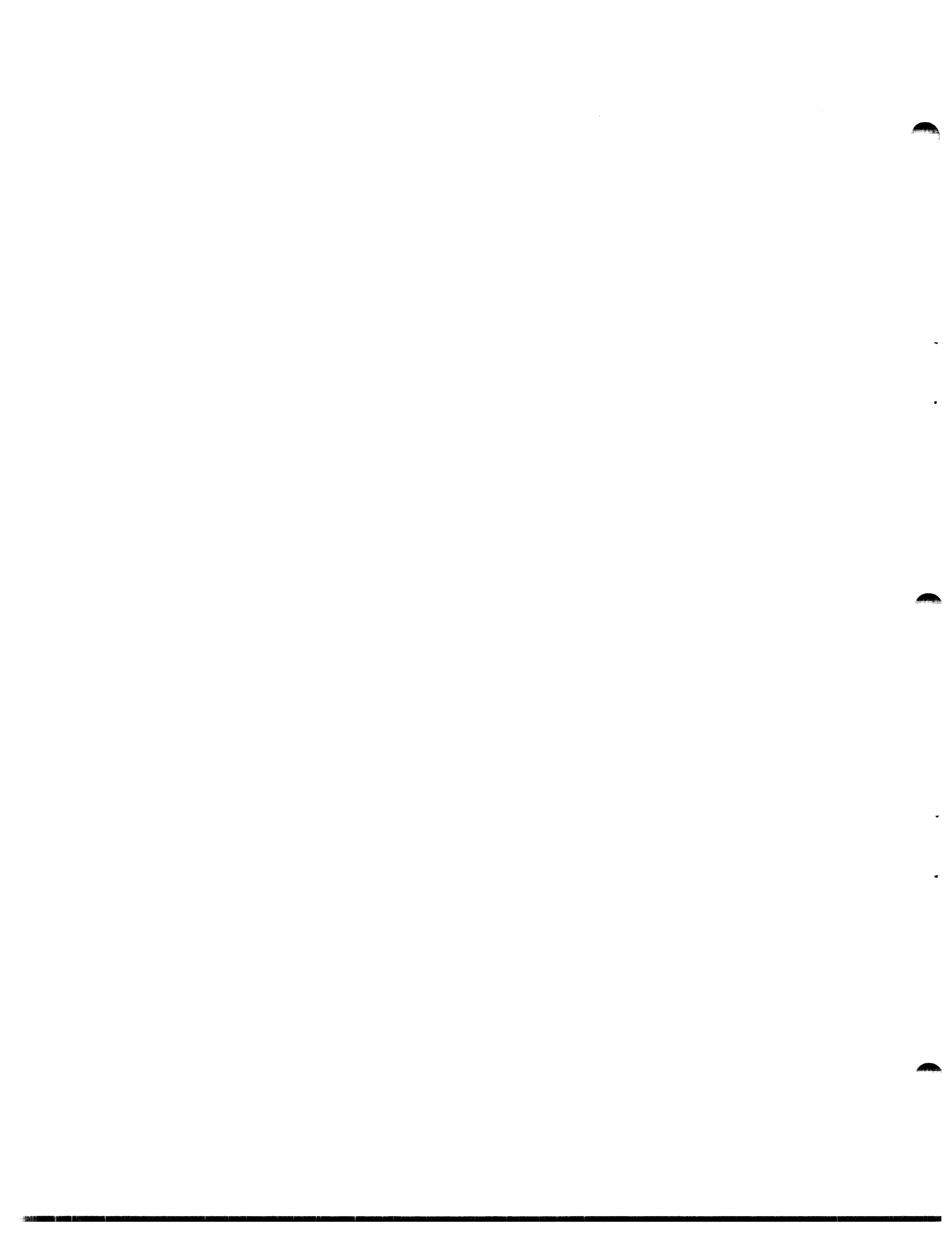
Console Device Identifier	Explanation
X'0101'	CRT on PASLA/PALM Interface strapped for FDX at highest baud.
X'0202'	TTY, Carousel 15,30,35 on TTY Interface or GDT/CRT on Current Loop Interface.
X'0404'	Carousel 300 on PASLA/PALM Interface strapped for FDX at highest baud rate.

Location CONADR should be equal to the address of the Console Device except if connected through a PALM/PASLA Interface. In that case, location PASADR should equal the receive/send addresses.



APPENDIX 2
CPU SELECTION

MODEL UNDER TEST	REQUIRED INPUT (CPU) PART 1
8/16E BASIC	8A
8/16E BASIC with Multiply/Divide	8B
8/16E BASIC Single Precision Floating Point	8C
8/16E BASIC Single/Double Pre- cision Floating Point	8D



APPENDIX 3

The following table indicates the test number where each particular instruction is tested.

Test Number	Instruction
Test 1	LPSW, BTC, BFC, BTFS, BTBS, BFFS
Test 2	LH, CLHR, CLHI, LHI, CLH, LIS, LHR, LCS
Test 3	STH, LM, STM
Test 4	XHR, XHI, XH; OHR, OHI, OH; NHR, NHI, NH
Test 5	BAL, BXLE, BXH, BR, BPCR, BFCR, BALR
Test 6	EPSR, SLLS, SRLS, SLHL, SRHL, SLHA, SRHA, THI
Test 7	LB, STB, CLB, LBR, STBR, EXBR
Test 8	AH, AHR, AHI, AHM, AIS, ACH, ACHI, SH, SHR, SHI, SIS, SCH, SCHI
Test 9	Simulate interrupt and illegal instruction interrupt
Test 10	SLL, SRL, SLA, SRA, RLL, RRL
Test 11	MH, MHR, MHU, MHUR, DH, DHR
Test 12	SETMR, SETM, LPS, LPSR



APPENDIX 4
ERROR MESSAGES

Test No.	Error No.	Type of Failure, Instructions Failed
1	1101	LPSW
	1102	BTC, BFC (COND. CODE = 0000)
	1103	BTC, BFC (COND. CODE = 1111)
	1104	BFFS, BFBS (UNCONDITIONAL)
	1105	BTFS, BFFS, BTBS, BFBS
2	1201	LH, CLHR, CLHI, LHI, CLH, LIS, LHR, LCS
3	1301	STH
	1302	LM
	1303	STM
4	1401	XHR, XHI, XH
	1402	OHR, OHI, OH
	1403	NHR, NHI, NH
5	1501	BAL
	1502	BXLE, BXH
	1503	BTCR, BFCR, BR
6	1601	ESPR
	1602	SLLS, SRLS
	1603	SLHL, SRHL
	1604	SLHA, SRHA
	1605	THI
7	1701	LB, STB, CLB, LBR, STBR, EXBR

For Test 8, after printing the error number, some of the pertinent register values are also printed as shown below:

AAAA	BBBB	CCCC	DDDDMax. 10 halfwords printed
(i)	(ii)	(iii)		

The table below describes the meaning of different operand values.

For error numbers 1801, M and N are 2 arbitrary numbers whose values are between -2^{15} and $2^{15}-1$. C is 1 if there is an input carry to the least significant bit.

APPENDIX 4 (Continued)

If there is no carry, the value of C is 0.

TEST NUMBER	ERROR NUMBER	TYPE OF FAILURE	VALUES PRINTED TO AID IN DIAGNOSIS
8	1801	M+(-M) does not equal zero. AIS,AHM	(i) M (ii) -M (iii) M+(-M) (calculated value)
	1802	M+(R4)-(R4) does not equal M. AHR,SHR	(i) M (ii) M+(R4) (iii) M+(R4)-(R4) (calculated value)
	1803	M+X'789A'-X'789A' does not equal M. AHI, SHI	(i) M (ii) M+X'789A' (iii) M+X'789A'-X'789A' (calculated value)
	1804	(M+M+C)+(M-N-C) is not equal to 2*M. AH, SIS, ACH, SH	(i) M (ii) N (iii) C (iv) M+N+C (v) M-N-C (vi) Calculate value of (M+N+C)+(M-N-C) (vii) expected value of (M+N+C) + (M-N-C)
	1805	(M+N+C)=(M-N-C)-C is not equal to 2N+C	(i) M (ii) N (iii) C (iv) M+N+C (v) M-N-C (vi) calculated value of (M+N+C)-(M-N-C) (vii) expected value of (M+N+C)-(M-N-C)-C

Error numbers from 1806 through 181D refer to improper setting of the condition code as a result of addition or subtraction operation. The actual and expected values of condition codes are printed in each case.

APPENDIX 4 (Continued)

TEST NUMBER	ERROR NUMBER	TYPE OF FAILURE, INSTRUCTIONS FAILED	VALUES PRINTED TO AID IN DIAGNOSIS
8	1806	0 + 0 did not set condition code correctly	(i) Actual Condition Code (ii) Expected condition Code
	1807	0 - 0 SHR	"
	1808	X'7FFE'-X'7FFE' SHI	"
	1809	X'FFFF'-X'FFFF' SH	"
	180A	X'8001'+X'7FFE' AH	"
	180B	X'8002'-X'0001' SIS	"
	180C	X'7FFE'+1 AIS	"
	180D	X'7FFF'-X'7FFE' SHI	"
	180E	X'FFFF'-X'FFFE' SH	"
	180F	X'7FFE'+X'7FFF' AH	"
	1810	X'8001'-X'7FFF' SHI	"
	1811	X'0001'+X'FFFF' AHR	"
	1812	X'7FFF'+X'8001' AHI	"
	1813	X'FFFF'+X'FFFE' AHR	"

APPENDIX 4 (Continued)

TEST NUMBER	ERROR NUMBER	TYPE OF FAILURE, INSTRUCTIONS FAILED	VALUES PRINTED TO AID IN DIAGNOSIS
8	1814	0 - 1 SIS	(i) Actual condition code (ii) Expected condition code
	1815	X'FFFE'-X'FFFF' SHI	"
	1816	X'7FFE'-X'7FFF' SH	"
	1817	X'FFFF'+2 AIS	"
	1818	0-X'FFFF' SHI	"
	1819	X'7FFE'-X'FFFF' SH	"
	181A	X'8002'+X'7FFF'	"
	181B	X'7FFF'-X'FFFE' SH	"
	181C	2-X'8001' SHI	"
	181D	X'8001'+X'FFFE' AHI	"

APPENDIX 4 (Continued)

Error numbers 181E and 181F refer to incorrect operation of instruction ACH, ACHR, SCH, SCHR, when they are used for multi-precision addition and subtraction. Expected value is indicated below and the program prints the actual incorrect value (triple precision) in 3 halfwords:

TEST NUMBER	ERROR NUMBER	TYPE OF FAILURE AND EXPECTED VALUE
8	181E	2221 + 2*1111 + 3*1111 ++ FFFF*1111 does not equal 0888 7777 8000 ACH ACHR
	181F	0888 7777 8000 -1111 -2*1111 -3*1111..... -FFFF*1111 does not equal zero SCH, SCHR

APPENDIX 4 (Continued)

Errors 1820 through 1833 refer to incorrect condition codes set up after the fixed point compare operation. The actual condition code and the expected condition codes are printed as two halfwords.

TEST NUMBER	ERROR NUMBER	TYPE OF FAILURE, INSTRUCTIONS FAILED
8	1820 1821 1822 1823 1824 1825 1826 1827 1828 1829 182A 182B 182C 182D 182E 182F 1830 1831 1832 1833	0:0, CLHR 2:2, CLH X'7FFF':X'7FFF', CLHI X'8002':X'8001', CHR X'FFFE':X'FFFE', CH X'FFFF':X'FFFF', CHI X'8002':2, CLHR X'7FFF':X'7FFF', CLH X'8002':X'8001', CLHI 2:0, CHR X'FFFF':X'FFFE', CH 0:X'8001', CHI X'8001':2, CLH X'FFFE'-X'FFFF', CLHR 0:1, CLHI 0:1, CHI X'8001':X'8002', CH X'FFFF':0, CHR X'7FFE':X'FFFF', CLH X'7FFF':X'FFFE', CLHI
9	1901 1902 1903 1904 1905 1906	External I/O Interrupt Detected. Incorrect Service Pointer used by SINT to generate interrupt. SINT used Immediate Interrupt Service when not specified by PSW. SINT generated no interrupt. PSW swap not OK after SINT. The illegal instruction at location ILLEGL was executed and it did not generate an interrupt. When the illegal instruction interrupt is generated, the locations X'30' through X'34' were not set up correctly.
10	1A01 1A02 1A03 1A04	Zero shift set incorrect condition code SRL or SLL instruction failed SLA or SRA instruction failed RLL or RRL instruction failed

APPENDIX 4 (Continued)

Test 11 prints twelve different error numbers (1B01 to 1B0D). The error numbers 1B01 to 1B0A refer to improper fixed point multiplication. If any of these errors are detected, the following information is printed:

```
ERROR  NNNN
AAAA BBBB A'A'A'A'  B'B'B'B'  RRRR RRRR R'R'R'R'  R'R'R'R'  PPPP P'P'P'P'
```

where

NNNN	Error Number
AAAA	First Operand
BBBB	Second Operand
A'A'A'A'	Negative of the first operand
B'B'B'B'	Negative of the second operand
RRRR RRRR	Double length actual result
R'R'R'R' R'R'R'R'	Double length expected result
PPPP	PSW after multiplication
P'P'P'P'	PSW before multiplication

The error numbers 1B0C and 1B0D refer to incorrect division. If any error in the fixed point divide operation is detected, the following is printed:

```
ERROR  NN
AAAA AAAA BBBB RRRR QQQQ R'R'R'R' Q'Q'Q'Q' PPPP P'P'P'P' FFFF F'F'F'F'
```

where

NNNN	Error Number
AAAA AAAA	First operand (double length dividend)
BBBB	Second operand (Divisor)
RRR	Actual remainder
QQQQ	Actual Quotient
R'R'R'R'	Expected remainder
Q'Q'Q'Q'	Expected quotient
PPPP	PSW after division
P'P'P'P'	PSW before division
FFFF	Actual divide fault flag (non-zero if divide fault interrupt was taken, zero otherwise).
F'F'F'F'	Expected Divide fault flag (non-zero if divide fault interrupt is expected, otherwise zero).

APPENDIX 4 (Continued)

TEST NUMBER	ERROR NUMBER	TYPE OF FAILURE, INSTRUCTION FAILED
11	1B01	$A*B$ does not equal the expected value, MH.
	1B02	$B*A$ is not equal to the expected value of the product, MH.
	1B03	$(-A)*(-B)$ is not equal to the expected product, MHR
	1B04	$(-B)*(-A)$ is not equal to the expected value, MHR.
	1B05	$A*(-B)$ does not equal the expected result, MHR.
	1B06	$(-B)*A$ does not equal the expected result, MH.
	1B07	$B*(-A)$ is not equal to the expected value of the product, MHR.
	1B08	$(-A)*(B)$ is not equal to the expected value of the product.
	1B09	Unsigned product of A and B does not equal the expected value, MHU.
	1B0A	Unsigned product of B and A is not equal to the expected value of the unsigned product, MHUR.
	1B0C	A/B did not product the expected values of the remainder and the quotient, DHR.
	1B0D	A/B did not produce the expected remainder and quotient values.
	12	1C01
1C02		PSW is incorrect (RX format), SETM
1C03		First operand not correct (RR format), SETMR
1C04		PSW is incorrect (RX format), SETM
1C05		First operand not correct (RR format), SETMR

APPENDIX 4 (Continued)

TEST NUMBER	ERROR NUMBER	TYPE OF FAILURE, INSTRUCTION FAILED
	1C06	PSW is incorrect (RX format), SETM
	1C07	First operand not correct (RR format), SETMR
	1C08	PSW is incorrect (RX format), SETM
	1C09	R ₂ field was destroyed during execution of a SET MAP instruction
	1C0A	LPS instruction failed to load correct PSW
	1C0B	LPSR instruction failed to load correct PSW
	1C0C	R ₁ field was destroyed after LPS instruction
	1C0D	R ₁ field was destroyed after LPSR instruction

APPENDIX 4 (Continued)

Other Errors

Error No.	Type of Failure
1NF1	Floating Point Arithmetic Fault Interrupt is detected.
1NF2	Illegal Instruction Interrupt is detected.
1NF3	Machine Malfunction Interrupt is detected.
1NF4	External Interrupt is detected.
1NF5	Fixed Point Divide Fault Interrupt is detected.
1NF6	Channel I/O Termination Interrupt is detected.
1NF7	Termination Queue Overflow Interrupt is detected.
1NF8	SVC is performed from an incorrect location (one of X'9C' through X'13A')
1NF9	Incorrect Service Pointer used (one of X'D0' through X'2CE')

NOTE

N - test number from 1 through X'C'.

PROG= PT211 ASSEMBLED BY CAL 03-066R05-00 (32-BIT)

		1	CROSS		PT100010
		2	WIDTH 120		PT100020
		3	TARGET 16		PT100030
		4	PT211 PROG MODEL 8/16E PROCESSOR TEST PART 1 06-211M96R00A13		PT100040
		5	*		PT100050
		6	* COPYRIGHT INTERDATA,INC (MAY 77)		PT100060
		7	*		PT100070
		8	*		PT100080
		9	* THIS PROGRAM IS DESIGNED TO TEST MODEL 8/16E PROCESSORS		PT100090
		10	*		PT100100
		11	*		PT100110
		12	*		PT100120
		13	*		PT100130
	0000 0000	14	R0 EQU 0		PT100140
	0000 0001	15	R1 EQU 1		PT100150
	0000 0002	16	R2 EQU 2		PT100160
	0000 0003	17	R3 EQU 3		PT100170
	0000 0004	18	R4 EQU 4		PT100180
	0000 0005	19	R5 EQU 5		PT100190
	0000 0006	20	R6 EQU 6		PT100200
	0000 0007	21	R7 EQU 7		PT100210
	0000 0008	22	R8 EQU 8		PT100220
	0000 0009	23	R9 EQU 9		PT100230
	0000 000A	24	R10 EQU 10		PT100240
	0000 000B	25	R11 EQU 11		PT100250
	0000 000C	26	R12 EQU 12		PT100260
	0000 000D	27	R13 EQU 13		PT100270
	0000 000E	28	R14 EQU 14		PT100280
	0000 000F	29	R15 EQU 15		PT100290
	0000 5302	30	SETM EQU X'5302'		PT100300
	0000 1308	31	SETMR EQU X'1308'		PT100310
	0000 7302	32	LPS EQU X'7302'		PT100320
	0000 3308	33	LPSR EQU X'3308'		PT100330
		34	*		PT100340
0000R		35	ORG X'80'		PT100350
		36	*		PT100360
0080	2421	37	LIS R2,1		PT100370
0082	2303	38	BS BOOT		PT100380
0084	0110	39	DC Z(PSWAVE)		PT100390
0086	2344	40	DC Z(REGSAV)		PT100400
0088	4020 0022	41	BOOT STH R2,X'22'		PT100410
008C	C810 0100	42	LHI R1,X'100'		PT100420
0090	C830 2344	43	LHI R3,LNZB		PT100430
0094	C860 0000	44	MN LHI R6,0		PT100440
0098	D340 0078	45	LB R4,X'78'		PT100450
009C	DE40 0079	46	OC R4,X'79'		PT100460
00A0	9D45	47	LEADER SSR R4,R5		PT100470
00A2	2091	48	BTBS 9,1		PT100480
00A4	9B45	49	RDR R4,R5		PT100490
00A6	0895	50	LDAR R5,R5		PT100500
00A8	2294	51	BZS LEADER		PT100510
00AA	D251 0000	52	LOAD STB R5,0(R1)		PT100520
00AE	D351 0000	53	LB R5,0(R1)		PT100530

00B2	0765	54	XAR	R6,R5		PT100540
00B4	9481	55	EXBR	R8,R1		PT100550
00B6	9828	56	WHR	R2,R8		PT100560
00B8	9D45	57	SSR	R4,R5		PT100570
00BA	2091	58	BTBS	9,1		PT100580
00BC	9B45	59	RDR	R4,R5		PT100590
00BE	C110 00AA	60	BXLE	R1,LOAD		PT100600
00C2	9486	61	EXBR	R8,R6		PT100610
00C4	9828	62	WHR	R2,R8		PT100620
00C6	2478	63	LDWT LIS	R7,8		PT100630
00C8	917C	64	SLLS	R7,12		PT100640
00CA	9557	65	EPSR	R5,R7		PT100650
00CC	2203	66	BS	LDWT		PT100660
00CE		67	ORG	X'100'		PT100670
0100	4300 0112	68	ORIGIN1 B	ENTRY1		PT100680
		69	*****			PT100690
0104	0202	70	IO	DCX 0202	IO INDICATOR	PT100700
0106	0101	71	CRT	DCX 0101	CRT VALUE	PT100710
0108	0404	72	CAR	DCX 0404	CAROUSEL VALUE	PT100720
010A	0202	73	CONADR	DCX 0202	CONSOLE ADDRESS	PT100730
010C	1011	74	PASADR	DCX 1011	PASLA ADDRESS REC/SND DEFAULT 1011	PT100740
010E	000A	75	NTIMES	DC 10		PT100750
0110	0000	76	PSWAVE	DC 0		PT100760
		77	*			PT100770
		78	*			PT100780
		79	*	SET UP FOR SPURIOUS INTERRUPTS		PT100790
		80	*			PT100800
0112	C800 0000	81	ENTRY1	LHI R0,0		PT100810
0116	4000 002C	82	M5001	STH R0,X'2C'		PT100820
011A	4000 0034	83		STH R0,X'34'		PT100830
011E	4000 003C	84		STH R0,X'3C'		PT100840
0122	4000 0044	85		STH R0,X'44'		PT100850
0126	4000 004C	86		STH R0,X'4C'		PT100860
012A	4000 0086	87		STH R0,X'86'		PT100870
012E	4000 0090	88	M5002	STH R0,X'90'		PT100880
		89	*			PT100890
0132	C800 2346	90		LHI R0,LNZB+2		PT100900
0136	4000 0022	91		STH R0,X'22'		PT100910
013A	C800 212E	92		LHI R0,FLPTNT		PT100920
013E	4000 002E	93		STH R0,X'2E'		PT100930
0142	C800 2132	94		LHI R0,ILGINT		PT100940
0146	4000 0036	95		STH R0,X'36'		PT100950
014A	C800 2136	96		LHI R0,MALFTN		PT100960
014E	4000 003E	97		STH R0,X'3E'		PT100970
0152	C800 213A	98		LHI R0,EXTINT		PT100980
0156	4000 0046	99		STH R0,X'46'		PT100990
015A	C800 2140	100		LHI R0,DVOFLT		PT101000
015E	4000 004E	101		STH R0,X'4E'		PT101010
0162	C800 22CC	102		LHI R0,TABLE		PT101020
0166	4000 0080	103		STH R0,X'80'		PT101030
016A	C800 2144	104		LHI R0,CHANIO		PT101040
016E	4000 0088	105		STH R0,X'88'		PT101050
0172	C800 2148	106		LHI R0,QVRFLO		PT101060
0176	4000 0092	107		STH R0,X'92'		PT101070
		108	*			PT101080

			109	*	SET UP INPUT OUTPUT DEVICES		PT101090
			110	*			PT101100
017A	C800	F800	111		LHI R0,X'F800'		PT101110
017E	4000	22F0	112		STH R0,FIRSTCMD		PT101120
0182	D300	0104	113	IOTEST	LB R0,IO		PT101130
0186	C500	0004	114		CLHI R0,4		PT101140
018A	4200	0196	115		BNE CRTIO		PT101150
018E	C800	F000	116		LHI R0,X'F000'		PT101160
0192	4000	22F0	117		STH R0,FIRSTCMD		PT101170
0196	D300	0104	118	CRTIO	LB R0,IO		PT101180
019A	C500	0002	119		CLHI R0,2		PT101190
019E	4330	01C0	120		BE TTYIO		PT101200
01A2	D310	22E8	121		LB R1,CRTOUT+1		PT101210
01A6	D210	22E7	122		STB R1,INCMND		PT101220
01AA	D310	0100	123		LB R1,PASADR+1		PT101230
01AE	D320	22EA	124		LB R2,CRTOUT		PT101240
01B2	DE10	22F0	125		OC R1,FIRSTCMD		PT101250
01B6	2501		126		LCS R3,1		PT101260
01B8	4030	22EE	127		STH R3,CRTFLG		PT101270
01BC	4300	01D8	128		B IO2		PT101280
			129	TTYIO	EQU *		PT101290
01C0	C810	00A4	130		LHI R1,X'A4'		PT101300
01C4	D240	22E7	131		STB R1,INCMND		PT101310
01C8	C810	0000	132		LHI R1,0		PT101320
01CC	4010	22EE	133		STH R1,CRTFLG		PT101330
01D0	D340	010A	134		LB R1,CONADR		PT101340
01D4	D320	22EC	135		LB R2,CONOUT		PT101350
			136	IO2	EQU *		PT101360
01D8	D210	22E6	137		STB R1,OUTDEV		PT101370
01DC	D220	22E8	138		STB R2,OUTCMD		PT101380
01E0	D320	22E6	139		LB R2,OUTDEV	R2 = OUTDEV = TTYADR.	PT101390
01E4	DE20	22E8	140		OC R2,OUTCMD		PT101400
01E8	9D23		141		SSR R2,R3		PT101410
01EA	4210	02AA	142		BTC 1,ENTRY2		PT101420
01EE	C430	00FC	143		NHI R3,X'FC'		PT101430
01F2	C530	000C	144		CLHI R3,X'0C'		PT101440
01F6	4330	02AA	145		BE ENTRY2		PT101450
01FA	9D23		146	PRTTLE	SSR R2,R3		PT101460
01FC	4240	02AA	147		BTC 4,ENTRY2		PT101470
0200	4280	01FA	148		BTC 8,PRTTLE		PT101480
0204	4840	22E2	149		LH R4,CPUFLAG		PT101490
0208	C540	0001	150		CLHI R4,X'1'		PT101500
020C	4330	0216	151		BE PRTCPU1		PT101510
0210	C840	2306	152		LHI R4,TITLE1		PT101520
0214	2303		153		BS PRTCPU		PT101530
0216	C840	2334	154	PRTCPU1	LHI R4,TITLE2		PT101540
021A	D304	0000	155	PRTCPU	LB R0,0(R4)	PRINT	PT101550
021E	41E0	211A	156		BAL R14,WRITE1	CPU	PT101560
0222	2641		157		AIS R4,1	*	PT101570
0224	C540	2344	158		CLHI R4,TITEND		PT101580
0228	2037		159		BNES PRTCPU		PT101590
022A	2441		160		LIS R4,1		PT101600
022C	4040	22E2	161		STH R4,CPUFLAG		PT101610
			162	PRTCP	EQU *		PT101620
0230	4800	22EE	163		LH R0,CRTFLG		PT101630

0234	2339	164	BZS	RD		PT101640
0236	D320 010C	165	LB	R2,PASADR		PT101650
023A	DE20 22E7	166	OC	R2,INCMND		PT101660
023E	9023	167	SSR	R2,R3		PT101670
0240	2281	168	BFBS	8,1		PT101680
0242	4300 024A	169	B	RDCPU1		PT101690
	0000 0246	170	RD	EQU *		PT101700
0246	DE20 22E7	171	OC	R2,INCMND	TTY IN READ MODE	PT101710
024A	9023	172	RDCPU1	SSR R2,R3		PT101720
024C	2081	173	BTBS	8,1		PT101730
024E	9B20	174	RDR	R2,R0	RO = FIRST KEY READ	PT101740
0250	C400 007F	175	NHI	R0,X'7F'		PT101750
0254	9D23	176	RDCPU2	SSR R2,R3		PT101760
0256	4280 0254	177	BTC	8,RDCPU2		PT101770
025A	9B21	178	RDR	R2,R1	R1 = SECOND KEY READ	PT101780
025C	C410 007F	179	NHI	R1,X'7F'		PT101790
0260	9108	180	SLLS	R0,8		PT101800
0262	0601	181	OHR	R0,R1	RO = 2 KEYS	PT101810
0264	C500 3841	182	CLHI	R0,C'8A'		PT101820
0268	4330 0296	183	BE	MOD5		PT101830
026C	C500 3842	184	CLHI	R0,C'8B'		PT101840
0270	4330 0296	185	BE	MOD5		PT101850
0274	C500 3843	186	CLHI	R0,C'8C'		PT101860
0278	4330 0296	187	BE	MOD5		PT101870
027C	C500 3844	188	CLHI	R0,C'8D'		PT101880
0280	4330 0296	189	BE	MOD5		PT101890
0284	C800 003F	190	CPUERR	LHI R0,C'7'		PT101900
0288	41E0 211A	191	BAL	R14,WRITE1		PT101910
028C	0744	192	XHR	R4,R4		PT101920
028E	4040 22E2	193	STH	R4,CPUFLAG		PT101930
0292	4300 01FA	194	B	PRITL		PT101940
0296	4000 22E0	195	MOD5	STH R0,CPUNO		PT101950
029A	C800 000D	196	MOD	LHI R0,X'D'		PT101960
029E	41E0 211A	197	BAL	R14,WRITE1		PT101970
02A2	C800 000A	198	LHI	R0,X'A'		PT101980
02A6	41E0 211A	199	BAL	R14,WRITE1		PT101990
	0000 02AA	200	*			PT102000
02AA	07EE	201	ENTRY2	EQU *		PT102010
02AC	C840 1F40	202	WMEM	XHR R14,R14	MESSAGE ROUTINE FOR TEST 12 ONLY	PT102020
02B0	C850 1F55	203	LHI	R4,MESMEM1	BEGINNING ADDRESS OF MESSAGE	PT102030
02B4	D320 22E6	204	LHI	R5,MESMEM2	ENDING ADDRESS OF MESSAGE	PT102040
02B8	DE20 22E8	205	LB	R2,OUTDEV		PT102050
02BC	9D23	206	OC	R2,OUTCMD	WRITE COMMAND	PT102060
02BE	2081	207	SSR	R2,R3		PT102070
02C0	9624	208	BTBS	8,1		PT102080
02C2	4800 22EE	209	WBR	R2,R4	WRITE MESSAGE	PT102090
02C6	2328	210	LH	R0,CRTFLG		PT102100
02C8	D320 010C	211	BZS	WMEM1		PT102110
02CC	DE20 22E7	212	LB	R2,PASADR		PT102120
02D0	9D23	213	OC	R2,INCMND		PT102130
02D2	2281	214	SSR	R2,R3		PT102140
02D4	2303	215	BFBS	8,1		PT102150
02D6	DE20 22E7	216	BS	WMEM2		PT102160
02DA	9023	217	WMEM1	OC R2,INCMND		PT102170
		218	WMEM2	SSR R2,R3		PT102180

02DC	2081	219		BTBS	8,1		PT102190
02DE	982E	220		RDR	R2,R14	READ IN 0 OR 1	PT102200
02E0	C4E0 007F	221		NHI	R14,X'7F'		PT102210
02E4	C5E0 0030	222		CLHI	R14,X'30'		PT102220
02E8	2335	223		BES	WMEM3		PT102230
02EA	C5E0 0031	224		CLHI	R14,X'31'		PT102240
02EE	4230 02AA	225		BNE	WMEM		PT102250
02F2	C4E0 000F	226	WMEM3	NHI	R14,X'F'		PT102260
02F6	40E0 1F56	227		STH	R14,MEMSTO	STORE FLAG IN STORAGE AREA	PT102270
		228	*				PT102280
	0000 02FA	229	ENTRY4	EQU	*		PT102290
02FA	C800 0000	230		LHI	R0,0		PT102300
02FE	4000 22DE	231		STH	R0,TTYOFF		PT102310
0302	4000 22DA	232		STH	R0,TOTAL		PT102320
0306	4000 22DC	233		STH	R0,TOTERR		PT102330
	0000 030A	234	ENTRY3	EQU	*		PT102340
030A	C800 0001	235		LHI	R0,X'1'		PT102350
030E	DE00 22E5	236		OC	R0,NORM		PT102360
	0000 0312	237	ENT3A	EQU	*		PT102370
0312	D320 22E6	238		LB	R2,OUTDEV		PT102380
0316	9045	239		SSR	R2,R5		PT102390
0318	4210 032C	240		BTC	1,ENT3B		PT102400
031C	C450 00FC	241		NHI	R5,X'FC'		PT102410
0320	C550 000C	242		CLHI	R5,X'0C'		PT102420
0324	4330 032C	243		BE	ENT3B		PT102430
0328	4300 0334	244		B	TEST1		PT102440
	0000 032C	245	ENT3B	EQU	*		PT102450
032C	C850 0001	246		LHI	R5,X'1'		PT102460
0330	4050 22DE	247		STH	R5,TTYOFF		PT102470
		248	*****				PT102480
		249	*			PT102490	
		250	*	TEST1	CHECKS THE INSTRUCTIONS	PT102500	
		251	*			PT102510	
		252	*	LPSW,	BTC,BFC,BTFS,BTBS,BFFS	PT102520	
		253	*			PT102530	
0334	C800 0508	254	TEST1	LHI	R0,TEST2	PT102540	
0338	4000 22F4	255		STH	R0,NXTST	PT102550	
033C	C800 3131	256		LHI	R0,C'11'	PT102560	
0340	4000 2288	257		STH	R0,TESTNO	PT102570	
0344	C800 0111	258		LHI	R0,X'0111'	PT102580	
0348	4000 22F2	259		STH	R0,ERRIND	PT102590	
	0000 034C	260	LPSW	EQU	*	PT102600	
034C	C200 0350	261		LPSW	T1	PT102610	
0350	0000	262	T1	DC	0,T1A	PT102620	
0352	0358						
0354	4300 2182	263	T1AA	B	ERROR	PT102630	
0358	4300 0364	264	T1A	B	T1B	PT102640	
035C	4300 036C	265	T1A2	B	T1C	PT102650	
0360	4300 2182	266	T1ERR1	B	ERROR	PT102660	
0364	4300 035C	267	T1B	B	T1A2	PT102670	
0368	4300 2182	268		B	ERROR	PT102680	
	0000 036C	269	BTC	EQU	*	PT102690	
036C	4210 0380	270	T1C	BTC	1,T1ERR2	PT102700	
0370	4220 0380	271		BTC	2,T1ERR2	PT102710	
0374	4240 0380	272		BTC	4,T1ERR2	PT102720	

COND. CODE = 0000 , SO
ERR. IF BRANCH ON TRUE

0378	4280 0380	273		BTC	8.T1ERR2				PT102730
	0000 037C	274	BFC	EQU	*				PT102740
037C	4310 038C	275		BFC	1.T1D1			COND. CODE = 0000	PT102750
0380	C800 0211	276	T1ERR2	LHI	RO,X'0211'			ERROR 1102	PT102760
0384	4000 22F2	277		STH	RO,ERRIND				PT102770
0388	4300 2182	278		B	ERROR				PT102780
038C	4320 0394	279	T1D1	BFC	2.T1D2				PT102790
0390	4300 0380	280		B	T1ERR2				PT102800
0394	4340 039C	281	T1D2	BFC	4.T1D3				PT102810
0398	4300 0380	282		B	T1ERR2				PT102820
039C	4340 03A4	283	T1D3	BFC	8.T1D4				PT102830
03A0	4300 0380	284		B	T1ERR2				PT102840
03A4	C240 03A8	285	T1D4	LPSW	T108				PT102850
03A8	000F	286	T1D8	DC	15.T1D9				PT102860
03AA	03AC								
03AC	4310 03D8	287	T1D9	BFC	1.T1ERR3			COND CODE = 1111 , SO	PT102870
03B0	4320 03D8	288		BFC	2.T1ERR3			ERR. IF BRANCH ON ZERO	PT102880
03B4	4340 03D8	289		BFC	4.T1ERR3				PT102890
03B8	4380 03D8	290		BFC	8.T1ERR3				PT102900
03BC	4210 03C4	291		BTC	1.T1E1			COND. CODE = 1111 , SO	PT102910
03C0	4300 03D8	292		B	T1ERR3			ERR. IF BRANCH NOT TAKEN	PT102920
03C4	4220 03CC	293	T1E1	BTC	2.T1E2				PT102930
03C8	4300 03D8	294		B	T1ERR3				PT102940
03CC	4240 03D4	295	T1E2	BTC	4.T1E3				PT102950
03D0	4300 03D8	296		B	T1ERR3				PT102960
03D4	4280 03E4	297	T1E3	BTC	8.T1E4				PT102970
03D8	C800 0311	298	T1ERR3	LHI	RO,X'0311'			ERROR 1103	PT102980
03DC	4000 22F2	299		STH	RO,ERRIND				PT102990
03E0	4300 2182	300		B	ERROR				PT103000
	0000 03E4	301	BFFS	EQU	*				PT103010
03E4	2301	302	T1E4	BFFS	0.1		BS +1		PT103020
03E6	2302	303		BFFS	0.2		BS+2		PT103030
03E8	2302	304		BFFS	0.2				PT103040
03EA	2303	305		BFFS	0.3		BS+3		PT103050
03EC	4300 0486	306		B	T1ERR4				PT103060
03F0	2303	307		BFFS	0.3		BS+3		PT103070
03F2	4300 0486	308		B	T1ERR4				PT103080
03F6	2307	309		BFFS	0.7		BS+7	1	PT103090
03F8	4300 0486	310		B	T1ERR4				PT103100
03FC	2306	311		BFFS	0.6		BS+6	3	PT103110
03FE	4300 0486	312		B	T1ERR4				PT103120
0402	2306	313		BFFS	0.6		BS+6		PT103130
0404	2204	314		BFBS	0.4		BS-4	2	PT103140
0406	2302	315		BFFS	0.2		BS+2		PT103150
0408	2203	316		BFBS	0.3		BS-3	4	PT103160
040A	4300 0486	317		B	T1ERR4				PT103170
		318	*						PT103180
040E	230F	319	T1F	BFFS	0.15		BS+15	1	PT103190
0410	2302	320		BFFS	0.2				PT103200
0412	2303	321		BFFS	0.3		BS+3		PT103210
0414	2302	322		BFFS	0.2				PT103220
0416	230E	323		BFFS	0.14		BS+14	3	PT103230
0418	2302	324		BFFS	0.2				PT103240
041A	230D	325		BFFS	0.13		BS+13	5	PT103250
041C	2302	326		BFFS	0.2				PT103260

041E	230C	327	BFFS	0.12	BS+12	7	PT103270	
0420	2302	328	BFFS	0.2			PT103280	
0422	230B	329	BFFS	0.11	BS+11	9	PT103290	
0424	2302	330	BFFS	0.2			PT103300	
0426	230A	331	BFFS	0.10	BS+10	11	PT103310	
0428	2303	332	BFFS	0.3			PT103320	
042A	2309	333	BFFS	0.9	BS+9	13 TO T1F2	PT103330	
042C	220B	334	BFBS	0.11	BS-11	2	PT103340	
042E	4300 0486	335	B	T1ERR4			PT103350	
0432	220C	336	BFBS	0.12	BS-12	4	PT103360	
0434	220B	337	BFBS	0.11	BS-11	6	PT103370	
0436	220A	338	BFBS	0.10	BS-10	8	PT103380	
0438	2209	339	BFBS	0.9	BS-9	10	PT103390	
043A	220B	340	BFBS	0.8	BS-8	12	PT103400	
		341	*				PT103410	
043C	2308	342	T1F2	BFFS	0.8	BS+8	1	PT103420
043E	2302	343		BFFS	0.2			PT103430
0440	2307	344		BFFS	0.7	BS+7	3	PT103440
0442	2302	345		BFFS	0.2			PT103450
0444	2306	346		BFFS	0.6	BS+6	5	PT103460
0446	2302	347		BFFS	0.2			PT103470
0448	2305	348		BFFS	0.5	BS+5	7	PT103480
044A	2306	349		BFFS	0.6			PT103490
044C	2206	350		BFBS	0.6	BS-6	2	PT103500
044E	2205	351		BFBS	0.5	BS-5	4	PT103510
0450	2204	352		BFBS	0.4	BS-4	6	PT103520
0452	2304	353		BFFS	0.4	BS+4	8	PT103530
0454	2301	354		BFFS	0.1	BS+1		PT103540
0456	4300 0486	355		B	T1ERR4			PT103550
		356	*					PT103560
045A	230F	357		BS	T1F3			PT103570
045C	2302	358		BFFS	0.2			PT103580
045E	2307	359		BFFS	0.7	9 BS+7		PT103590
0460	2302	360		BFFS	0.2			PT103600
0462	230F	361		BFFS	0.15	6 BS+15		PT103610
0464	2302	362		BFFS	0.2			PT103620
0466	2204	363		BFBS	0.4	8 BS-4		PT103630
0468	2304	364		BFBS	0.4			PT103640
046A	2300	365		BFFS	0.13			PT103650
046C	230C	366		BS	T1F4			PT103660
046E	2308	367		BFFS	0.8	4 BS+8		PT103670
0470	2302	368		BFFS	0.2			PT103680
0472	2202	369		BFBS	0.2	3 BS-3		PT103690
0474	2303	370		BFFS	0.3			PT103700
0476	2202	371		BFBS	0.2	2 BS-2		PT103710
0478	2201	372	T1F3	BFBS	0.1	1 BS-1		PT103720
047A	2306	373		BS	T1ERR4			PT103730
047C	2305	374		BS	T1ERR4			PT103740
047E	220E	375		BFBS	0.14	5 BS-14		PT103750
0480	220D	376		BFBS	0.13	7 BS-13		PT103760
0482	2302	377		BS	T1ERR4			PT103770
0484	2309	378	T1F4	BS	T1G2			PT103780
0486	C800 0411	379	T1ERR4	LHI	RO,X'0411'	ERROR	1104	PT103790
048A	4000 22F2	380		STH	RO,ERRIND			PT103800
048E	4300 2182	381		B	ERROR			PT103810

04FC	4000	22F2	436	STH	R0,ERRIND		PT104360	
0500	4300	2182	437	B	ERROR		PT104370	
0504	4300	0508	438	T1END	B	TEST2	PT104380	
			439	*****				PT104390
			440	*			PT104400	
			441	*	TEST 2 CHECKS THE INSTRUCTIONS		PT104410	
			442	*			PT104420	
			443	*	LH, CLHR, CLHI, LHI, CLH, LIS, LHR, LCS		PT104430	
			444	*			PT104440	
			445	*	MEMORY LOCATIONS USED ARE		PT104450	
			446	*			PT104460	
			447	*	ZERO	0	PT104470	
			448	*	ONE	X'FFFF'	PT104480	
			449	*	FIVE	X'5555'	PT104490	
			450	*	TEN	X'AAAA'	PT104500	
			451	*			PT104510	
0508	C800	0622	452	TEST2	LHI	R0,TEST3	PT104520	
050C	4000	22F4	453		STH	R0,NXTST	PT104530	
0510	C800	0112	454		LHI	R0,X'0112'	PT104540	
0514	4000	22F2	455		STH	R0,ERRIND	PT104550	
0518	C800	3132	456		LHI	R0,X'3132'	PT104560	
051C	4000	22B8	457		STH	R0,TESTNO	PT104570	
0520	C200	0524	458		LPSW	T2	PT104580	
0524	7C40		459	T2	DC	X'7C00',T2A	PT104590	
0526	0528							
			460	*			PT104600	
0528	2400		461	T2A	LIS	R0,0	PT104610	
052A	213C		462		BNZS	T2R1	PT104620	
	0000	052C	463	LHR	EQU	*	PT104630	
052C	0810		464		LHR	R1,R0	PT104640	
052E	213A		465		BNZS	T2R1	PT104650	
0530	0821		466		LHR	R2,R1	PT104660	
0532	0832		467		LHR	R3,R2	PT104670	
0534	0843		468		LHR	R4,R3	PT104680	
0536	0504		469		CLHR	R0,R4	PT104690	
0538	2135		470		BNES	T2R1	PT104700	
053A	0853		471		LHR	R5,R3	PT104710	
053C	0865		472		LHR	R6,R5	PT104720	
053E	0536		473		CLHR	R3,R6	PT104730	
0540	2332		474		BES	T2B	PT104740	
0542	230E		475	T2R1	BS	T2R2	PT104750	
	0000	0544	476	LH	EQU	*	PT104760	
0544	4870	22F6	477	T2B	LH	R7,ZERO	PT104770	
0548	C570	0000	478		CLHI	R7,0	PT104780	
054C	2139		479		BNES	T2R2	PT104790	
054E	4530	22F6	480		CLH	R3,ZERO	PT104800	
0552	2136		481		BNES	T2R2	PT104810	
0554	48A0	2302	482		LH	R10,TEN	PT104820	
0558	C5A0	AAAA	483		CLHI	R10,X'AAAA'	PT104830	
055C	2332		484		BES	T2C	PT104840	
055E	230D		485	T2R2	BS	T2R3	PT104850	
0560	C5A0	AAA9	486	T2C	CLHI	R10,X'AAA9'	PT104860	
0564	218A		487		BLS	T2R3	PT104870	
0566	2339		488		BES	T2R3	PT104880	
0568	45A0	22FA	489		CLH	R10,ONE	PT104890	

ERRIND = 0112
PART1 , TEST2

R0 = 0

R1 = R0 = 0

R2 = R1 = 0

R3 = R2 = 0

R4 = R3 = 0

IS R0 = R4 (=0)

R5 = R3 = 0

R6 = R5 = 0

IS R3 = R6 (=0)

R7 = 0

IS R3 = ZERO (=0)

R10 = AAAA

R10 > AAA9

R10 = AAAA , ONE = FFFF

056C	2386		490	BNLS	T2R3				PT104900
056E	2385		491	BNCS	T2R3				PT104910
0570	4850	22FE	492	LH	R5,FIVE		R5 = FIVE = 5555		PT104920
	0000	0574	493	CLHR	EQU *				PT104930
0574	059A		494	CLHR	R5,R10		R5 = 55558 R10 = AAAA		PT104940
0576	2182		495	BLS	T2D				PT104950
0578	230D		496	T2R3	BS	T2R4			PT104960
057A	0593		497	T2D	CLHR	R5,R3	R5 = 5555, R3 = 0		PT104970
057C	218B		498		BLS	T2R4			PT104980
057E	233A		499		BES	T2R4			PT104990
0580	08F0	5555	500		LHI	R15,X'5555'			PT105000
0584	059F		501		CLHR	R5,R15	R5 = R15 = 5555		PT105010
0586	2136		502		BNES	T2R4			PT105020
0588	0505		503		CLHR	R0,R5	R0 = 0, R5 = 5555		PT105030
058A	2384		504		BNLS	T2R4			PT105040
	0000	058C	505	CLH	EQU *				PT105050
058C	4550	22FE	506	CLH	R5,FIVE		R5 = 5555, FIVE = 5555		PT105060
0590	2332		507		BES	T2E			PT105070
0592	230E		508	T2R4	BS	T2R5			PT105080
0594	4540	22FE	509	T2E	CLH	R4,ZERO	R4 = 0000 = ZERO = 0		PT105090
0598	213B		510		BNES	T2R5			PT105100
059A	45A0	22FE	511		CLH	R10,FIVE	R10 = AAAA, FIVE = 5555		PT105110
059E	2188		512		BLS	T2R5			PT105120
05A0	2337		513		BES	T2R5			PT105130
05A2	C5A0	AAAB	514		CLHI	R10,X'AAAB'	R10 = AAAB		PT105140
05A6	2384		515		BNLS	T2R5			PT105150
	0000	05A8	516	CLHI	EQU *				PT105160
05A8	C5A0	0003	517		CLHI	R4,3	R4 = 0 <3		PT105170
05AC	2183		518		BLS	T2F			PT105180
05AE	4300	2182	519	T2R5	B	ERROR			PT105190
05B2	48F0	22FA	520	T2F	LH	R15,ONE	R15 = ONE = FFFF		PT105200
05B6	C5F0	FFFF	521		CLHI	R15,X'FFFF'			PT105210
05BA	213B		522		BNES	T2R6			PT105220
05BC	48A0	22FE	523		LH	R10,FIVE	R10 = 5555		PT105230
05C0	05A5		524		CLHR	R10,R5			PT105240
05C2	2197		525		BNES	T2R6			PT105250
05C4	4850	2302	526		LH	R5,TEN	R5 = AAAA		PT105260
	0000	05C8	527	LHI	EQU *				PT105270
05C8	C8A0	AAAA	528		LHI	R10,X'AAAA'	R10 = AAAA		PT105280
05CC	055A		529		CLHR	R5,R10	IS R5 = R10 (=AAAA)		PT105290
05CE	2392		530		BES	T2G			PT105300
05D0	230D		531	T2R6	BS	T2R7			PT105310
	0000	05D2	532	LIS	EQU *				PT105320
05D2	2477		533	T2G	LIS	R7,7	R7 = 7		PT105330
05D4	C570	0007	534		CLHI	R7,7			PT105340
05D8	2139		535		BNES	T2R7			PT105350
05DA	2488		536		LIS	R8,8	R8 = 8		PT105360
05DC	240D		537		LIS	R13,13	R13=13		PT105370
05DE	C580	0008	538		CLHI	R8,8			PT105380
05E2	2194		539		BNES	T2R7			PT105390
05E4	C500	000D	540		CLHI	R13,13			PT105400
05E8	2333		541		BES	T2H			PT105410
05EA	4300	060C	542	T2R7	B	T2R8			PT105420
	0000	05EE	543	LCS	EQU *				PT105430
05EE	25E1		544	T2H	LCS	R14,1	R14=FFFF		PT105440

05F0	2233	545	BZS	T2R7		PT105450
05F2	2024	546	BPS	T2R7		PT105460
05F4	05EF	547	CLHR	R14,R15	R14 = R15 FFFF ?	PT105470
05F6	2138	548	BNES	T2R8		PT105480
05F8	258B	549	LCS	R11,11	R11 = FFF5	PT105490
05FA	2129	550	BPS	T2R8		PT105500
05FC	25CC	551	LCS	R12,12	R12 = FFF4	PT105510
05FE	2127	552	BPS	T2R8		PT105520
0600	C580 FFF5	553	CLHI	R11,X'FFF5'		PT105530
0604	2134	554	BNES	T2R8		PT105540
0606	C5C0 FFF4	555	CLHI	R12,X'FFF4'		PT105550
060A	2333	556	BES	T2END		PT105560
060C	4300 2182	557	T2R8	B	ERROR	PT105570
0610	4300 0622	558	T2END	B	TEST3	PT105580
0614	0000	559	DC	0	ERROR 1201	PT105590
0616	0000	560	T2WRD0	DC	0	PT105600
0618	0000	561	DC	0		PT105610
061A	0000	562	T2WRD1	DC	0	PT105620
061C	0000	563	DC	0		PT105630
061E	0000	564	T2WRD2	DC	0	PT105640
0620	0000	565	DC	0		PT105650
		566	*****			PT105660
		567	*			PT105670
		568	*	TEST 3 CHECKS THE INSTRUCTIONS		PT105680
		569	*			PT105690
		570	*	STH , LM AND STM		PT105700
		571	*			PT105710
		572	*	T3BUF0 = 16 HW'S OF ZEROS		PT105720
		573	*			PT105730
		574	*	T3BUF2 = 16 HW'S OF DATA 0,1,2,.....,14,15		PT105740
		575	*			PT105750
		576	*	T3BUF1 = T3BUF2 + 14, (STARTS AT HW = 7)		PT105760
		577	*			PT105770
		578	*	T3BUF3 = 16 HW'S OF STORAGE AREA		PT105780
		579	*			PT105790
0622	C800 078C	580	TEST3	LHI	R0,TEST4	PT105800
0626	4000 22F4	581	STH	R0,NXTST		PT105810
062A	C800 0113	582	LHI	R0,X'0113'		PT105820
062E	4000 22F2	583	STH	R0,ERRIND	ERRIND = 0113	PT105830
0632	C800 3133	584	LHI	R0,X'3133'		PT105840
0636	4000 22B8	585	STH	R0,TESTNO		PT105850
		586	*			PT105860
063A	2501	587	LCS	R0,1	R0=FFFF	PT105870
063C	2512	588	LCS	R1,2		PT105880
063E	2523	589	LCS	R2,3		PT105890
	0000 0640	590	STH	EQU	*	PT105900
0640	4000 0616	591	STH	R0,T2WRD0	T2WRD0 = R0 = FFFF	PT105910
0644	4010 061A	592	STH	R1,T2WRD1	T2WRD1 = R1 = FFFE	PT105920
0648	4020 061E	593	STH	R2,T2WRD2	T2WRD2 = R2 = FFFD	PT105930
064C	4310 2182	594	BNM	ERROR		PT105940
0650	4860 0616	595	LH	R6,T2WRD0		PT105950
0654	4870 061A	596	LH	R7,T2WRD1		PT105960
0658	4880 061E	597	LH	R8,T2WRD2		PT105970
065C	0506	598	CLHR	R0,R6		PT105980
065E	4230 2182	599	BNE	ERROR		PT105990

0662	0528		600	CLHR	R2,R8		PT106000
0664	4230	2182	601	BNE	ERROR		PT106010
0668	C800	0213	602	LHI	R0,X'213'		PT106020
066C	4000	22F2	603	STH	R0,ERRIND		PT106030
	0000	0670	604	LM	EQU *		PT106040
0670	D100	0752	605	T3B	LM R0,T3BUF0	ZERO INTO ALL REG, R0 THRU R15	PT106050
0674	0800		606	LHR	R0,R0		PT106060
0676	2135		607	BNZS	T3R1		PT106070
0678	050F		608	CLHR	R0,R15	IS R0 = R15 (=0)	PT106080
067A	2133		609	BNES	T3R1		PT106090
067C	0507		610	CLHR	R0,R7		PT106100
067E	2332		611	BES	T3C		PT106110
0680	230D		612	T3R1	BS T3R2		PT106120
0682	D170	0782	613	T3C	LM R7,T3BUF1	REG7=7.....,REG15=15	PT106130
0686	0800		614	LHR	R0,R0	R0 THRU R6 MUST BE UNCHANGED	PT106140
0688	2139		615	BNZS	T3R2		PT106150
068A	0866		616	LHR	R6,R6		PT106160
068C	2137		617	BNZS	T3R2		PT106170
068E	C570	0007	618	CLHI	R7,7		PT106180
0692	2134		619	BNES	T3R2		PT106190
0694	C580	0008	620	CLHI	R8,8		PT106200
0698	2332		621	BES	T3D		PT106210
069A	230F		622	T3R2	BS T3R3		PT106220
069C	C5F0	000F	623	T3D	CLHI R15,15		PT106230
06A0	213C		624	BNES	T3R3		PT106240
06A2	C5E0	000E	625	CLHI	R14,14		PT106250
06A6	2139		626	BNES	T3R3		PT106260
06A8	2544		627	LCS	R4,4	R4=FFFC	PT106270
06AA	2555		628	LCS	R5,5	R5=FFFB	PT106280
06AC	2565		629	LCS	R6,5	R6=FFFB	PT106290
06AE	D150	0752	630	LM	R5,T3BUF0	ALL REG. R5 THRU R15 = 0	PT106300
06B2	C540	FFFC	631	CLHI	R4,X'FFFC'		PT106310
06B6	2332		632	BES	T3E		PT106320
06B8	2300		633	T3R3	BS T3R4		PT106330
06BA	0800		634	T3E	LHR R0,R0		PT106340
06BC	213B		635	BNZS	T3R4		PT106350
06BE	0505		636	CLHR	R0,R5		PT106360
06C0	2139		637	BNES	T3R4		PT106370
06C2	0506		638	CLHR	R0,R6		PT106380
06C4	2137		639	BNES	T3R4		PT106390
06C6	050F		640	CLHR	R0,R15		PT106400
06C8	2135		641	BNES	T3R4		PT106410
06CA	050E		642	CLHR	R0,R14		PT106420
06CC	2133		643	BNES	T3R4		PT106430
06CE	0509		644	CLHR	R0,R9		PT106440
06D0	2333		645	BES	T3F		PT106450
06D2	4300	2182	646	T3R4	B ERROR	ERROR 1302	PT106460
06D6	C800	0313	647	T3F	LHI R0,X'313'		PT106470
06DA	4000	22F2	648	STH	R0,ERRIND		PT106480
06DE	2466		649	LIS	R6,6	270	PT106490
06E0	D106	076E	650	LM	R0,T3BUF2-6(R6)	REG 0=0 REG 1=1 ETC	PT106500
	0000	06E4	651	STM	EQU *		PT106510
06E4	D008	078E	652	STM	R0,T3BUF3-8(R8)		PT106520
06E8	4800	0796	653	LH	R0,T3BUF3	0	PT106530
06EC	213D		654	BNZS	T3R5		PT106540

06EE	4800	0798	655	LH	R0,T3BUF3+2	1	PT106550	
06F2	0501		656	CLHR	R0,R1		PT106560	
06F4	2139		657	BNES	T3R5		PT106570	
06F6	4800	079A	658	LH	R0,T3BUF3+4	2	PT106580	
06FA	0502		659	CLHR	R0,R2		PT106590	
06FC	2135		660	BNES	T3R5		PT106600	
06FE	4800	07B4	661	LH	R0,T3BUF3+30	15	PT106610	
0702	050F		662	CLHR	R0,R15		PT106620	
0704	2332		663	BES	T3G		PT106630	
0706	230D		664	T3R5	BS	T3R6	PT106640	
0708	4800	07B2	665	T3G	LH	R0,T3BUF3+28	14	PT106650
070C	050E		666		CLHR	R0,R14		PT106660
070E	2139		667		BNES	T3R6		PT106670
0710	4800	07A8	668		LH	R0,T3BUF3+18		PT106680
0714	0590		669		CLHR	R9,R0		PT106690
0716	2135		670		BNES	T3R6		PT106700
0718	4800	07A0	671		LH	R0,T3BUF3+10	5	PT106710
071C	0505		672		CLHR	R0,R5		PT106720
071E	2333		673		BES	T3H		PT106730
0720	4300	2182	674	T3R6	B	ERROR	ERROR 1303	PT106740
0724	D100	0752	675	T3H	LM	R0,T3BUF0	EACH REG. =0	PT106750
0728	D000	0796	676		STM	R0,T3BUF3	T3BUF3 = 0	PT106760
072C	4800	0796	677		LH	R0,T3BUF3	0	PT106770
0730	213E		678		BNZS	T3R7		PT106780
0732	4800	0798	679		LH	R0,T3BUF3+2	1	PT106790
0736	213B		680		BNZS	T3R7		PT106800
0738	4800	07B4	681		LH	R0,T3BUF3+30	15	PT106810
073C	2138		682		BNZS	T3R7		PT106820
073E	4800	07A4	683		LH	R0,T3BUF3+14	7	PT106830
0742	2135		684		BNZS	T3R7		PT106840
0744	4800	07AA	685		LH	R0,T3BUF3+20	10	PT106850
0748	4330	07B8	686		BZ	T3END		PT106860
074C	4300	2182	687	T3R7	B	ERROR	ERROR 1303	PT106870
0750	FFFF		688		DC	X'FFFF'		PT106880
0752	0000		689	T3BUF0	DC	0	0	PT106890
0754	0000		690		DC	0	1	PT106900
0756	0000		691		DC	0	2	PT106910
0758	0000		692		DC	0	3	PT106920
075A	0000		693		DC	0	4	PT106930
075C	0000		694		DC	0	5	PT106940
075E	0000		695		DC	0	6	PT106950
0760	0000		696		DC	0	7	PT106960
0762	0000		697		DC	0	8	PT106970
0764	0000		698		DC	0	9	PT106980
0766	0000		699		DC	0	10	PT106990
0768	0000		700		DC	0	11	PT107000
076A	0000		701		DC	0	12	PT107010
076C	0000		702		DC	0	13	PT107020
076E	0000		703		DC	0	14	PT107030
0770	0000		704		DC	0	15	PT107040
0772	FFFF		705		DC	X'FFFF'		PT107050
0774	0000		706	T3BUF2	DC	0		PT107060
0776	0001		707		DC	1		PT107070
0778	0002		708		DC	2		PT107080
077A	0003		709		DC	3		PT107090

077C	0004		710	DC	4		PT107100
077E	0005		711	DC	5		PT107110
0780	0006		712	DC	6		PT107120
0782	0007		713	T3BUF1	DC	7	PT107130
0784	0008		714	DC	8		PT107140
0786	0009		715	DC	9		PT107150
0788	000A		716	DC	10		PT107160
078A	000B		717	DC	11		PT107170
078C	000C		718	DC	12		PT107180
078E	000D		719	DC	13		PT107190
0790	000E		720	DC	14		PT107200
0792	000F		721	DC	15		PT107210
0794	FFFF		722	DC	X'FFFF'		PT107220
0796	0000		723	T3BUF3	DC	0	PT107230
0798	0000		724	DC	0	0	PT107240
079A	0000		725	DC	0	1	PT107250
079C	0000		726	DC	0	2	PT107260
079E	0000		727	DC	0	3	PT107270
07A0	0000		728	DC	0	4	PT107280
07A2	0000		729	DC	0	5	PT107290
07A4	0000		730	DC	0	6	PT107300
07A6	0000		731	DC	0	7	PT107310
07A8	0000		732	DC	0	8	PT107320
07AA	0000		733	DC	0	9	PT107330
07AC	0000		734	DC	0	10	PT107340
07AE	0000		735	DC	0	11	PT107350
07B0	0000		736	DC	0	12	PT107360
07B2	0000		737	DC	0	13	PT107370
07B4	0000		738	DC	0	14	PT107380
07B6	0000		739	DC	0	15	PT107390
07B8	4300	07BC	740	T3END	B	TEST4	PT107400
			741	*****			PT107410
			742	*			PT107420
			743	* TEST 4 CHECKS THE LOGIC INSTRUCTIONS			PT107430
			744	*			PT107440
			745	* XHR , XHI , XH ; OHR , OHI , OH ; NHR , NHI , NH			PT107450
			746	*			PT107460
07BC	C800	09BA	747	TEST4	LHI	R0,TEST5	PT107470
07C0	4000	22F4	748		STH	R0,NXTST	PT107480
07C4	C800	0114	749		LHI	R0,X'0114'	PT107490
07C8	4000	22F2	750		STH	R0,ERRIND	PT107500
07CC	C800	3134	751		LHI	R0,X'3134'	PT107510
07D0	4000	2288	752		STH	R0,TESTNO	PT107520
			753	*			PT107530
07D4	D100	0752	754		LM	R0,T3BUF0	PT107540
07D8	4850	22FE	755		LH	R5,FIVE	PT107550
07DC	48A0	2302	756		LH	R10,TEN	PT107560
07E0	25F1		757		LCS	R15,1	PT107570
	0000	07E2	758		EQU	*	PT107580
07E2	0705		759	XHR	XHR	R0,R5	PT107590
07E4	235D		760		BZS	T4R1	PT107600
07E6	21CC		761		BTFS	12,12	PT107610
07E8	050F		762		CLHR	R0,R15	PT107620
07EA	238A		763		BNLS	T4R1	PT107630
07EC	070A		764		XHR	R0,R10	PT107640

ERRIND = 0114

EACH REG. R0 THRU R15=0
R5=5555
R10=AAAA

R0=R5=5555

R0=FFFF

07EE	2338		765	BZS	T4R1		PT107650
07F0	21C7		766	BTFS	12,7		PT107660
07F2	050F		767	CLHR	R0,R15		PT107670
07F4	2135		768	BNES	T4R1		PT107680
07F6	0703		769	XHR	R0,R3	RO=FFFF,R3=0	PT107690
07F8	2303		770	BZS	T4R1		PT107700
07FA	050F		771	CLHR	R0,R15	RO = FFFF	PT107710
07FC	2333		772	BES	T4B		PT107720
07FE	4300	2182	773	B	ERROR	ERROR 1401	PT107730
0802	070A		774	XHR	R0,R10	RO = 5555	PT107740
0804	2233		775	BZS	T4R1		PT107750
0806	20C4		776	BTBS	12,4		PT107760
0808	0505		777	CLHR	R0,R5		PT107770
080A	2036		778	BNES	T4R1		PT107780
080C	0705		779	XHR	R0,R5		PT107790
080E	2038		780	BNZS	T4R1		PT107800
0810	0800		781	LHR	R0,R0	RO = 0	PT107810
0812	203A		782	BNZS	T4R1		PT107820
0814	C700	5555	783	XHI	R0,X'5555'	RO = 5555	PT107830
0818	223D		784	BZS	T4R1		PT107840
081A	20CE		785	BTBS	12,14		PT107850
081C	0505		786	CLHR	R0,R5		PT107860
081E	213D		787	BNES	T4R2		PT107870
	0000	0820	788	EQU	*		PT107880
0820	C700	AAAA	789	XHI	R0,X'AAAA'	RO = FFFF	PT107890
0824	233A		790	BZS	T4R2		PT107900
0826	21C9		791	BTFS	12,9		PT107910
0828	050F		792	CLHR	R0,R15		PT107920
082A	2157		793	BNES	T4R2		PT107930
082C	C700	0000	794	XHI	R0,0	RO = FFFF	PT107940
0830	2334		795	BZS	T4R2		PT107950
0832	21C3		796	BTFS	12,3		PT107960
0834	050F		797	CLHR	R0,R15		PT107970
0836	2333		798	BES	T4D		PT107980
0838	4300	2182	799	B	ERROR	ERROR 1401	PT107990
083C	C700	5555	800	XHI	R0,X'5555'	RO = AAAA	PT108000
0840	2234		801	BZS	T4R2		PT108010
0842	050A		802	CLHR	R0,R10		PT108020
0844	2036		803	BNES	T4R2		PT108030
0846	C700	AAAA	804	XHI	R0,X'AAAA'	RO = 0	PT108040
084A	2039		805	BNZS	T4R2		PT108050
084C	0800		806	LHR	R0,R0		PT108060
084E	203B		807	BNZS	T4R2		PT108070
	0000	0850	808	EQU	*		PT108080
0850	4700	22FE	809	XH	R0,FIVE	RO = 5555	PT108090
0854	223E		810	BZS	T4R2		PT108100
0856	0505		811	CLHR	R0,R5		PT108110
0858	213B		812	BNES	T4R3		PT108120
085A	4700	2302	813	XH	R0,TEN	RO = FFFF	PT108130
085E	2338		814	BZS	T4R3		PT108140
0860	050F		815	CLHR	R0,K15		PT108150
0862	2136		816	BNES	T4R3		PT108160
0864	4700	22F6	817	XH	R0,ZERO	RO = FFFF	PT108170
0868	2333		818	BZS	T4R3		PT108180
086A	050F		819	CLHR	R0,R15		PT108190

086C	2333		820		BES	T4E			PT108200
086E	4300	2182	821	T4R3	B	ERROR		ERROR 1401	PT108210
			822	*					PT108220
0872	C870	0214	823	T4E	LHI	R7,X'214'			PT108230
0876	4070	22F2	824		STH	R7,ERRIND		ERRIND = 0214	PT108240
			825	*					PT108250
087A	4700	2302	826		XH	R0,TEN		R0 = 5555	PT108260
087E	2238		827		BZS	T4R3			PT108270
0880	0505		828		CLHR	R0,R5			PT108280
0882	203A		829		BNES	T4R3			PT108290
0884	4700	22FE	830		XH	R0,FIVE		R0 = 0	PT108300
0888	203D		831		BNZS	T4R3			PT108310
088A	0800		832		LHR	R0,R0			PT108320
088C	203F		833		BNZS	T4R3			PT108330
			834	*					PT108340
			835	*				THE REG. HAVE THE VALUES:	PT108350
			836	*					PT108360
			837	*				R0=0,R5=5555,R10=AAAA,R15=FFFF	PT108370
			838	*					PT108380
			839	*				ALL OTHERS=0	PT108390
			840	*					PT108400
088E	087F		841		LHR	R7,R15		R7=R15=FFFF	PT108410
	0000	0890	842	OHR	EQU	*			PT108420
0890	0640		843		OHR	R4,R0		R4=R0=0	PT108430
0892	213F		844		BNZS	T4R4			PT108440
0894	0540		845		CLHR	R4,RU		R4=R0=0 ?	PT108450
0896	213D		846		BNES	T4R4			PT108460
	G000	0898	847	OHI	EQU	*			PT108470
0898	C640	0000	848		OHI	R4,0		R4=0	PT108480
089C	213A		849		BNZS	T4R4			PT108490
089E	0540		850		CLHR	R4,R0			PT108500
08A0	2138		851		BNES	T4R4			PT108510
	0000	08A2	852	OH	EQU	*			PT108520
08A2	4640	22F6	853		OH	R4,ZERO		R4=ZERO=0	PT108530
08A6	2135		854		BNZS	T4R4			PT108540
08A8	C540	0000	855		CLHI	R4,R0			PT108550
08AC	4330	08B4	856		BE	T4G			PT108560
08B0	4300	2182	857	T4R4	B	ERROR		ERROR 1402	PT108570
08B4	0674		858	T4G	OHR	R7,R4		R7=FFFF,R4=0	PT108580
08B6	2233		859		BZS	T4R4			PT108590
08B8	20C4		860		BTBS	12,4			PT108600
08BA	057F		861		CLHR	R7,R15		R7=R15=FFFF?	PT108610
08BC	2036		862		BNES	T4R4			PT108620
08BE	0540		863		CLHR	R4,RU		R4=R0=0?	PT108630
08C0	2038		864		BNES	T4R4			PT108640
08C2	C670	0000	865		OHI	R7,0		R7=FFFF	PT108650
08C6	223B		866		BZS	T4R4			PT108660
08C8	057F		867		CLHR	R7,R15		R7=R15=FFFF?	PT108670
08CA	203D		868		BNES	T4R4			PT108680
08CC	4670	22F6	869		OH	R7,ZERO		R7=FFFF,ZERO=0	PT108690
08D0	233E		870		BZS	T4R5			PT108700
08D2	21CC		871		BTFS	12,12			PT108710
08D4	057F		872		CLHR	R7,R15		R7=R15=FFFF?	PT108720
08D6	213B		873		BNES	T4R5			PT108730
08D8	0647		874		OHR	R4,R7		R4=R7=FFFF	PT108740

080A	2339		875	BZS	T4R5		PT108750	
080C	21C7		876	BTFS	12,7		PT108760	
080E	054F		877	CLHR	R4,R15	R4=R15=FFFF?	PT108770	
08E0	2136		878	BNES	T4R5		PT108780	
08E2	2135		879	BNES	T4R5		PT108790	
08E4	057F		880	CLHR	R7,R15		PT108800	
08E6	C600	FFFF	881	OHI	R0,X'FFFF'	R0=FFFF	PT108810	
08EA	2133		882	BNZS	T4H		PT108820	
08EC	4300	2182	883	T4R5	B	ERROR 1402	PT108830	
08F0	050F		884	T4H	CLHR	R0,R15	R0=R15=FFFF?	PT108840
08F2	2033		885		BNES	T4R5		PT108850
08F4	4680	22FA	886		OH	R8,ONE		PT108860
08F8	2236		887		BZS	T4R5		PT108870
08FA	20C6		888		BTBS	12,6		PT108880
08FC	058F		889		CLHR	R8,R15	R8=R15=FFFF?	PT108890
08FE	064F		890		OHR	R4,R15	R4=FFFF,R15=FFFF	PT108900
0900	223A		891		BZS	T4R5		PT108910
0902	20C9		892		BTBS	12,9		PT108920
0904	C600	0000	893		OHI	R0,0	R0=FFFF	PT108930
0908	2338		894		BZS	T4R6		PT108940
090A	050F		895		CLHR	R0,R15	R0=R15=FFFF?	PT108950
090C	2136		896		BNES	T4R6		PT108960
090E	4680	22FA	897		OH	R8,ONE	R8=FFFF,ONE=FFFF	PT108970
0912	2333		898		BZS	T4R6		PT108980
0914	058F		899		CLHR	R8,R15		PT108990
0916	2333		900		BES	T4J		PT109000
0918	4300	2182	901	T4R6	B	ERROR	ERROR 1402	PT109010
			902	*				PT109020
			903	*	THE REG. HAVE THE VALUES:			PT109030
			904	*				PT109040
			905	*	R0=R4=R8=FFFF			PT109050
			906	*				PT109060
			907	*	R5=5555,R10=AAAA,R15=FFFF			PT109070
			908	*				PT109080
			909	*	ALL OTHERS=0			PT109090
			910	*				PT109100
091C	C800	0314	911	T4J	LHI	R0,X'314'		PT109110
0920	4000	22F2	912		STH	R0,ERRIND	ERRIND = 0314	PT109120
			913	*				PT109130
0924	2400		914		LIS	R0,0	R0=0	PT109140
0926	2490		915		LIS	R9,0	R9=0	PT109150
	0000	0928	916	NHR	EQU	*		PT109160
0928	0490		917		NHR	R9,R0		PT109170
092A	213F		918		BNZS	T4R7		PT109180
092C	0899		919		LHR	R9,R9		PT109190
092E	213D		920		BNZS	T4R7		PT109200
0930	0590		921		CLHR	R9,R0	R9=R0=0?	PT109210
0932	213B		922		BNZS	T4R7		PT109220
	0000	0934	923	NH	EQU	*		PT109230
0934	4490	22F6	924		NH	R9,ZERO	R9=0,ZERO=0	PT109240
0938	2138		925		BNZS	T4R7		PT109250
093A	0590		926		CLHR	R9,R0	R9=R0=0?	PT109260
093C	2136		927		BNES	T4R7		PT109270
	0000	093E	928	NHI	EQU	*		PT109280
093E	C490	0000	929		NHI	R9,0		PT109290

0942	2133		930	BNZS	T4R7			PT109300	
0944	0590		931	CLHR	R9,RU		R9=0000	PT109310	
0946	2333		932	BES	T4K			PT109320	
0948	4300	2182	933	T4R7	B	ERROR	ERR0= 1403	PT109330	
094C	0478		934	T4K	NHR	R9,R8	R9=0,R8=FFFF	PT109340	
094E	2043		935		BNZS	T4R7		PT109350	
0950	058F		936		CLHR	R8,R15	R8=R15=FFFF?	PT109360	
0952	2035		937		BNES	T4R7		PT109370	
0954	0590		938		CLHR	R9,RU	R9=R0=0?	PT109380	
0956	2037		939		BNES	T4R7		PT109390	
0958	C490	FFFF	940		NHI	R9,X'FFFF'	R9=0	PT109400	
095C	203A		941		BNZS	T4R7		PT109410	
095E	0590		942		CLHR	R9,RU	R9=R0=0?	PT109420	
0960	203C		943		BNES	T4R7		PT109430	
0962	4490	22FA	944		NH	R9,ONE	R9=0,ONE=FFFF	PT109440	
0966	203F		945		BNZS	T4R7		PT109450	
0968	0590		946		CLHR	R9,R0		PT109460	
096A	0448		947		NHR	R4,R8	R4=FFFF,R8=FFFF	PT109470	
096C	233A		948		BZS	T4R8		PT109480	
096E	21C9		949		BTF5	12,9		PT109490	
0970	054F		950		CLHR	R4,R15	R4=R15=FFFF?	PT109500	
0972	2137		951		BNES	T4R8		PT109510	
0974	058F		952		CLHR	R8,R15	R8=R15=FFFF?	PT109520	
0976	C440	FFFF	953		NHI	R4,X'FFFF'		PT109530	
097A	2333		954		BZS	T4R8		PT109540	
097C	054F		955		CLHR	R4,R15	R4=R15=FFFF?	PT109550	
097E	2333		956		BES	T4L		PT109560	
0980	4300	2182	957	T4R8	B	ERROR	ERROR 1403	PT109570	
0984	4440	22FA	958	T4L	NH	R4,ONE		PT109580	
0988	2234		959		BZS	T4R8		PT109590	
098A	20C5		960		BTBS	12,5		PT109600	
098C	054F		961		CLHR	R4,R15	R4=R15=FFFF?	PT109610	
098E	2037		962		BNES	T4R8		PT109620	
0990	0440		963		NHR	R4,R0	R4=FFFF,R0=0 R4=R0=0	PT109630	
0992	2039		964		BNZS	T4R8		PT109640	
0994	0844		965		LHR	R4,R4		PT109650	
0996	203B		966		BNZS	T4R8		PT109660	
0998	0540		967		CLHR	R4,R0		PT109670	
099A	213C		968		BNES	T4R9		PT109680	
099C	C480	0000	969		NHI	R8,0	R8=FFFF R8=0	PT109690	
09A0	2139		970		BNZS	T4R9		PT109700	
09A2	0580		971		CLHR	R8,RU	R8=R0=0?	PT109710	
09A4	2137		972		BNES	T4R9		PT109720	
09A6	087F		973		LHR	R7,R15	R7=R15=FFFF	PT109730	
09A8	4470	22F6	974		NH	R7,ZERO	R7=FFFF,ZERO=0 R7=0	PT109740	
09AC	2133		975		BNZS	T4R9		PT109750	
09AE	0570		976		CLHR	R7,R0		PT109760	
09B0	2333		977		BES	T4END		PT109770	
09B2	4300	2182	978	T4R9	B	ERROR	ERROR 1403	PT109780	
09B6	4300	09BA	979	T4END	B	TEST5		PT109790	
			980		*****				PT109800
			981	*				PT109810	
			982	*	TEST 5 TESTS THE INSTRUCTIONS			PT109820	
			983	*				PT109830	
			984	*				PT109840	

		985	*	BAL	, BXLE , BXH , BR , BTCR, BFCR , BALR		PT109A50
		986	*				PT109A60
		987	*		(ERR1, ERR2,3,4 ERR5,6,7)		PT109A70
		988	*				PT109A80
09BA	C800 0B14	989	TEST5	LHI	R0, TEST6		PT109A90
09BE	4000 22F4	990		STH	R0, NXTST		PT109A00
09C2	C800 0115	991		LHI	R0, X'0115'		PT109910
09C6	4000 22F2	992		STH	R0, ERRIND	ERRIND = 0115	PT109920
09CA	C800 3135	993		LHI	R0, X'3135'		PT109930
09CE	4000 22B8	994		STH	R0, TESTNO		PT109940
		995	*				PT109950
	0000 09D2	996	BAL	EQU	*		PT109960
09D2	4100 09D8	997		BAL	R0, T5A2		PT109970
09D6	230C	998	T5A1	BS	T5ERR1	ERROR 1501	PT109980
09D8	C810 09D6	999	T5A2	LHI	R1, T5A1		PT109990
09DC	0501	1000		CLHR	R0, R1		PT110000
09DE	2138	1001		BNES	T5ERR1		PT110010
09E0	4130 09E6	1002		BAL	R3, T5B2		PT110020
09E4	2305	1003	T5B1	BS	T5ERR1	ERROR 1501	PT110030
09E6	C820 09E4	1004	T5B2	LHI	R2, T5B1		PT110040
09EA	0523	1005		CLHR	R2, R3		PT110050
09EC	2333	1006		BES	T5C		PT110060
09EE	4300 2182	1007	T5ERR1	B	ERROR	ERROR 1501	PT110070
09F2	C800 0A18	1008	T5C	LHI	R0, T5D2	R0 = ADD. OF T5D2 STORED	PT110080
09F6	2440	1009		LIS	R4, 0	R4 = 0, 0	PT110090
09F8	2451	1010		LIS	R5, 1	R5 = INCRE. = 1	PT110100
09FA	2468	1011		LIS	R6, 8	R6 = 8 = FINAL VALUE	PT110110
09FC	C540 0009	1012	T5D	CLHI	R4, 9		PT110120
0A00	233A	1013		BES	T5ERR2		PT110130
	0000 0A02	1014	BXLE	EQU	*		PT110140
0A02	C140 09FC	1015		BXLE	R4, T5D		PT110150
0A06	C540 0009	1016		CLHI	R4, 9		PT110160
0A0A	2135	1017		BNES	T5ERR2		PT110170
0A0C	C560 0008	1018		CLHI	R6, 8		PT110180
0A10	2132	1019		BNES	T5ERR2		PT110190
0A12	230D	1020		BS	T5D3		PT110200
0A14	4300 0A6E	1021	T5ERR2	B	T5ERR4	ERROR	PT110210
0A18	4300 0A7E	1022	T5D2	B	T5E1	(2) TO T5E1	PT110220
0A1C	4300 0A86	1023	T5E2	B	T5F	(4) TO T5F	PT110230
0A20	2411	1024		LIS	R1, 1	DUMMY	PT110240
0A22	2408	1025	T5F2	LIS	R0, 8		PT110250
0A24	4300 0A92	1026		B	T5G	(6) TO T5G	PT110260
0A28	4300 0AFE	1027	T5Q	B	T5Q2		PT110270
0A2C	C870 9684	1028	T5D3	LHI	R7, X'9684'	R7 = INIT. VALUE	PT110280
0A30	2482	1029		LIS	R8, 2		PT110290
0A32	C890 F436	1030		LHI	R9, X'F436'		PT110300
0A36	C570 F437	1031	T5D4	CLHI	R7, X'F437'		PT110310
0A3A	2389	1032		BNLS	T5ERR3		PT110320
0A3C	C170 0A36	1033		BXLE	R7, T5D4		PT110330
0A40	C570 F438	1034		CLHI	R7, X'F438'		PT110340
0A44	2134	1035		BNES	T5ERR3		PT110350
0A46	C590 F436	1036		CLHI	R9, X'F436'		PT110360
0A4A	2333	1037		BES	T5D5		PT110370
0A4C	4300 0A6E	1038	T5ERR3	B	T5ERR4		PT110380
0A50	C840 7328	1039	T5D5	LHI	R4, X'7328'		PT110390

0AE2	0386	1095	T5K3	BFCR	8,R6	ERR. IF BRANCH	PT110950	
		1096	*				PT110960	
0AE4	C890 0AB0	1097		LHI	R9,T5J1		PT110970	
0AE8	0119	1098		BALR	R1,R9	(12) TO T5J1 , R1 = (T5L)	PT110980	
0AEA	2305	1099	T5L	BS	T5ERR6		PT110990	
0AEC	C880 0ABE	1100	T5M	LHI	R8,T5J3		PT111000	
0AF0	0548	1101		CLHR	R4,R8		PT111010	
0AF2	2332	1102		BES	T5P		PT111020	
0AF4	2308	1103	T5ERR6	BS	T5ERR7	ERROR 1503	PT111030	
0AF6	C870 0A28	1104	T5P	LHI	R7,T5Q	R7 = ADD. OF T5Q	PT111040	
	0000 0AFA	1105		BALR	EQU *		PT111050	
0AFA	0177	1106		BALR	R7,R7		PT111060	
0AFC	2304	1107	T5R7	BS	T5ERR7		PT111070	
0AFE	C570 0AFC	1108	T5Q2	CLHI	R7,T5R7	IS R7 = ADD. OF T5R7	PT111080	
0B02	2337	1109		BES	T5END		PT111090	
0B04	C800 0315	1110	T5ERR7	LHI	R0,X'0315'	ERROR 1503	PT111100	
0B08	4000 22F2	1111		STH	R0,ERRIND		PT111110	
0B0C	4340 2182	1112		B	ERROR		PT111120	
0B10	4300 0B14	1113	T5END	B	TEST6		PT111130	
		1114	*****					PT111140
		1115	*				PT111150	
		1116	*	TEST 6 CHECKS THE INSTRUCTIONS			PT111160	
		1117	*				PT111170	
		1118	*	EPSR , SLLS , SRLS , SLHL , SRHL			PT111180	
		1119	*				PT111190	
		1120	*	(T6R1 , T6R2,T6R3,T6R4 , T6R5,T6R6)			PT111200	
		1121	*				PT111210	
		1122	*				PT111220	
		1123	*	SLHA , SRHA , THI			PT111230	
		1124	*				PT111240	
		1125	*	(T6R7,T6R8,T6R9 , T6RA)			PT111250	
		1126	*				PT111260	
0B14	C800 0D5C	1127	TEST6	LHI	R0,TEST7		PT111270	
0B18	4000 22F4	1128		STH	R0,NXTST		PT111280	
0B1C	C800 3136	1129		LHI	R0,C'16'		PT111290	
0B20	4000 2288	1130		STH	R0,TESTNO		PT111300	
0B24	C800 0116	1131		LHI	R0,X'0116'		PT111310	
0B28	4000 22F2	1132		STH	R0,ERRIND	ERRIND = 0116	PT111320	
		1133	*				PT111330	
0B2C	2400	1134		LIS	R0,0		PT111340	
	0000 0B2E	1135	EPSR	EQU *			PT111350	
0B2E	9510	1136		EPSR	R1,R0		PT111360	
0B30	2511	1137		LCS	R1,1		PT111370	
0B32	2400	1138		LIS	R0,0		PT111380	
0B34	9510	1139		EPSR	R1,R0	PSW INTO R1 , R0 INTO PSW	PT111390	
0B36	2138	1140		BNZS	T6R1		PT111400	
0B38	0800	1141		LHR	R0,R0		PT111410	
0B3A	2139	1142		BNZS	T6R1		PT111420	
0B3C	0540	1143		CLHR	R1,R0		PT111430	
0B3E	2137	1144		BNES	T6R1		PT111440	
0B40	2511	1145		LCS	R1,1		PT111450	
0B42	2400	1146		LIS	R0,0	COND. CODE = 0 , R0 = 0	PT111460	
0B44	9511	1147		EPSR	R1,R1	R1 = PSW = 0 ?	PT111470	
0B46	2133	1148		BNZS	T6R1		PT111480	
0B48	0510	1149		CLHR	R1,R0		PT111490	

0B4A	2333		1150	BES	T6A1				PT111500
0B4C	4300	2182	1151	B	ERROR			ERROR 1601	PT111510
0B50	C810	7C0F	1152	LHI	R1,X'7C0F'				PT111520
0B54	9501		1153	EPSR	R0,R1			NEW PSW = R1 = 7C0F	PT111530
0B56	2440		1154	LIS	R4,0				PT111540
0B58	9540		1155	EPSR	R4,R0			R4 = NEW PSW = 7C0F	PT111550
0B5A	C540	7C00	1156	CLHI	R4,X'7C00'	M5004			PT111560
0B5E	2039		1157	BNES	T6R1				PT111570
0B60	9511		1158	EPSR	R1,R1				PT111580
0B62	203B		1159	BNZS	T6R1				PT111590
0B64	0811		1160	LHR	R1,R1				PT111600
0B66	203D		1161	BNZS	T6R1				PT111610
0B68	2402		1162	LIS	R0,2	T6B			PT111620
0B6A	D200	22F2	1163	STB	R0,ERRIND			ERRIND = 0216	PT111630
			1164	*					PT111640
0B6E	C860	D28B	1165	LHI	R6,X'D28B'			R6 = 1101,0010,1011,1011	PT111650
0B72	C870	DD48	1166	LHI	R7,X'DD48'			R7 = 1101,1101,0100,1011	PT111660
	0000	0B76	1167	SLLS	EQU *				PT111670
0B76	9170		1168	SLLS	R7,0			SHIFT LEFT SHORT 0	PT111680
0B78	218C		1169	BCS	T6R2				PT111690
	0000	0B7A	1170	SRLS	EQU *				PT111700
0B7A	9070		1171	SRLS	R7,0			SHIFT RIGHT SHORT 0	PT111710
0B7C	212A		1172	BPS	T6R2				PT111720
	0000	0B7E	1173	SLHL	EQU *				PT111730
0B7E	CD70	0000	1174	SLHL	R7,0			SHIFT LEFT HW 0	PT111740
0B82	2187		1175	BCS	T6R2				PT111750
	0000	0B84	1176	SRHL	EQU *				PT111760
0B84	CC70	0000	1177	SRHL	R7,0			SHIFT RIGHT HW 0	PT111770
0B88	2124		1178	BPS	T6R2				PT111780
0B8A	CF60	0000	1179	SLHA	R6,0				PT111790
0B8E	2383		1180	BNCS	T6B2				PT111800
0B90	4300	2182	1181	B	ERROR	T6R2		ERROR 1602	PT111810
	0000	0B94	1182	SRHA	EQU *				PT111820
0B94	CE60	0000	1183	SRHA	R6,0	T6B2			PT111830
0B98	2024		1184	BPS	T6R2				PT111840
0B9A	C560	D28B	1185	CLHI	R6,X'D28B'				PT111850
0B9E	2037		1186	BNES	T6R2				PT111860
0BA0	C570	DD48	1187	CLHI	R7,X'DD48'				PT111870
0BA4	205A		1188	BNES	T6R2				PT111880
0BA6	9161		1189	SLLS	R6,1			SHIFT LEFT SHORT 1	PT111890
0BA8	228C		1190	BNCS	T6R2				PT111900
0BAA	C560	A576	1191	CLHI	R6,X'A576'	T6B4			PT111910
0BAE	213D		1192	BNES	T6R3				PT111920
0BB0	9162		1193	SLLS	R6,2			SHIFT LEFT SHORT 2	PT111930
0BB2	218B		1194	BCS	T6R3				PT111940
0BB4	C560	9508	1195	CLHI	R6,X'9508'				PT111950
0BB8	2138		1196	BNES	T6R3				PT111960
0BBA	9164		1197	SLLS	R6,4			SHIFT LEFT SHORT 4	PT111970
0BBC	2386		1198	BNCS	T6R3				PT111980
0BBE	C560	5080	1199	CLHI	R6,X'5080'				PT111990
0BC2	2153		1200	BNES	T6R3				PT112000
0BC4	9168		1201	SLLS	R6,8			SHIFT LEFT SHORT 8	PT112010
0BC6	2183		1202	BCS	T6B6				PT112020
0BC8	4300	2182	1203	B	ERROR	T6R3		ERROR 1602	PT112030
0BCC	C560	8000	1204	CLHI	R6,X'8000'	T6B6			PT112040

08D0	2034	1205		BNES	T6R3		PT112050
08D2	C570 DD4B	1206		CLHI	R7,X'DD4B'	R7 MUST BE UNCHANGED	PT112060
08D6	2027	1207		BNES	T6R3		PT112070
08D8	C840 2369	1208	T6C	LHI	R4,X'2369'		PT112080
08DC	9041	1209		SRLS	R4,1	SHIFT RIGHT SHORT 1	PT112090
08DE	228B	1210		BNCS	T6R3		PT112100
08E0	C540 1184	1211		CLHI	R4,X'1184'		PT112110
08E4	2120	1212		BNES	T6R4		PT112120
08E6	9042	1213		SRLS	R4,2	SHIFT RIGHT SHORT 2	PT112130
08E8	218B	1214		BCS	T6R4		PT112140
08EA	C540 046D	1215		CLHI	R4,X'46D'		PT112150
08EE	2138	1216		BNES	T6R4		PT112160
08F0	9044	1217		SRLS	R4,4	SHIFT RIGHT SHORT 4	PT112170
08F2	238E	1218		BNCS	T6R4		PT112180
08F4	C540 0046	1219		CLHI	R4,X'46'		PT112190
08F8	2133	1220		BNES	T6R4		PT112200
08FA	9048	1221		SRLS	R4,8	SHIFT RIGHT SHORT 8	PT112210
08FC	2333	1222		BZS	T6C3		PT112220
08FE	4300 2182	1223	T6R4	B	ERROR	ERROR 1602	PT112230
0C02	0844	1224	T6C3	LHR	R4,R4		PT112240
0C04	2033	1225		BNZS	T6R4		PT112250
0C06	2403	1226	T6D	LIS	R0,3		PT112260
0C08	D200 22F2	1227		STB	R0,ERRIND	ERRIND = 0316	PT112270
0C0C	C840 028B	1228		LHI	R4,X'D28B'		PT112280
0C10	CD40 0001	1229		SLHL	R4,1	SHIFT LEFT HW 1	PT112290
0C14	238E	1230		BNCS	T6R5		PT112300
0C16	C540 A576	1231		CLHI	R4,X'A576'		PT112310
0C1A	213B	1232		BNES	T6R5		PT112320
0C1C	CD40 0002	1233		SLHL	R4,2	SHIFT LEFT HW 2	PT112330
0C20	2188	1234		BCS	T6R5		PT112340
0C22	C540 95D8	1235		CLHI	R4,X'95D8'		PT112350
0C26	2135	1236		BNES	T6R5		PT112360
0C28	2474	1237		LIS	R7,4		PT112370
0C2A	CD47 0000	1238		SLHL	R4,U(R7)		PT112380
0C2E	2183	1239		BCS	T6D2		PT112390
0C30	4300 2182	1240	T6R5	B	ERRUR	ERROR 1603	PT112400
0C34	C540 5D80	1241	T6D2	CLHI	R4,X'5D80'		PT112410
0C38	2034	1242		BNES	T6R5		PT112420
0C3A	CD40 0008	1243		SLHL	R4,8	SHIFT LEFT HW 8	PT112430
0C3E	2287	1244		BNCS	T6R5		PT112440
0C40	C540 8000	1245		CLHI	R4,X'8000'		PT112450
0C44	203A	1246		BNES	T6R5		PT112460
0C46	C860 2369	1247	T6E	LHI	R6,X'2369'		PT112470
0C4A	CC60 0001	1248		SRHL	R6,1	SHIFT RIGHT HW 1	PT112480
0C4E	238D	1249		BNCS	T6R6		PT112490
0C50	C560 1184	1250		CLHI	R6,X'1184'		PT112500
0C54	213A	1251		BNES	T6R6		PT112510
0C56	CC60 0002	1252		SRHL	R6,2	SHIFT RIGHT HW 2	PT112520
0C5A	2187	1253		BCS	T6R6		PT112530
0C5C	C560 046D	1254		CLHI	R6,X'46D'		PT112540
0C60	2124	1255		BNES	T6R6		PT112550
0C62	CC60 0004	1256		SRHL	R6,4	SHIFT RIGHT HW 4	PT112560
0C66	2183	1257		BCS	T6E2		PT112570
0C68	4300 2182	1258	T6R6	B	ERROR	ERROR 1603	PT112580
0C6C	C560 0046	1259	T6E2	CLHI	R6,X'46'		PT112590

0C70	2034	1260		BNES	T6R6		PT112600
0C72	2478	1261		LIS	R7,8		PT112610
0C74	CC67 0000	1262		SRHL	R6,0(R7)		PT112620
0C78	2038	1263		BNZS	T6R6		PT112630
0C7A	0866	1264		LHR	R6,R6		PT112640
0C7C	203A	1265		BNZS	T6R6		PT112650
0C7E	2404	1266	T6F	LIS	R0,4		PT112660
0C80	D240 22F2	1267		STB	R0,ERRIND	ERRIND = 0416	PT112670
0C84	C860 496C	1268		LHI	R6,X'496C'		PT112680
0C88	CF60 0001	1269		SLHA	R6,1	SHIFT LEFT HW ARITH. 1	PT112690
0C8C	238E	1270		BNCS	T6R7		PT112700
0C8E	C560 1208	1271		CLHI	R6,X'1208'		PT112710
0C92	2198	1272		BNES	T6R7		PT112720
0C94	CF60 0002	1273		SLHA	R6,2	SHIFT LEFT HW ARITH. 2	PT112730
0C98	2188	1274		BCS	T6R7		PT112740
0C9A	C560 4860	1275		CLHI	R6,X'4860'		PT112750
0C9E	2135	1276		BNES	T6R7		PT112760
0CA0	9161	1277		SLLS	R6,1	R6 = 96C0 = -VE NO.	PT112770
0CA2	CF60 0004	1278		SLHA	R6,4	SHIFT LEFT HW ARITH. 4	PT112780
0CA6	2383	1279		BNCS	T6F3		PT112790
0CA8	4300 2182	1280	T6R7	B	ERROR	ERROR 1604	PT112800
0CAC	C560 EC00	1281	T6F3	CLHI	R6,X'EC00'		PT112810
0CB0	2034	1282		BNES	T6R7		PT112820
0CB2	C860 ECAA	1283		LHI	R6,X'ECAA'		PT112830
0CB6	CF60 0008	1284		SLHA	R6,8	SHIFT LEFT HW ARITH. 8	PT112840
0CBA	2289	1285		BNCS	T6R7		PT112850
0CBC	C560 AA00	1286		CLHI	R6,X'AA00'		PT112860
0CC0	203C	1287		BNES	T6R7		PT112870
0CC2	C870 6729	1288	T6G	LHI	R7,X'6729'		PT112880
0CC6	CE70 0001	1289		SRHA	R7,1	SHIFT RIGHT HW ARITH. 1	PT112890
0CCA	238C	1290		BNCS	T6R8		PT112900
0CCC	232B	1291		BNPS	T6R8		PT112910
0CCE	C570 3394	1292		CLHI	R7,X'3394'		PT112920
0CD2	2138	1293		BNES	T6R8		PT112930
0CD4	CE70 0002	1294		SRHA	R7,2	SHIFT RIGHT HW ARITH. 2	PT112940
0CD8	2185	1295		BCS	T6R8		PT112950
0CDA	2324	1296		BNPS	T6R8		PT112960
0CDC	C570 0CE5	1297		CLHI	R7,X'CE5'		PT112970
0CE0	2333	1298		BES	T6G4		PT112980
0CE2	4300 2182	1299	T6R8	B	ERROR	ERROR 1604	PT112990
0CE6	C860 948A	1300	T6G4	LHI	R6,X'948A'	R6 = -VE NO.	PT113000
0CEA	CE60 0004	1301		SRHA	R6,4	SHIFT RIGHT HW ARITH. 4	PT113010
0CEE	2286	1302		BNCS	T6R8		PT113020
0CF0	2027	1303		BPS	T6R8		PT113030
0CF2	C560 F948	1304		CLHI	R6,X'F948'		PT113040
0CF6	203A	1305		BNES	T6R8		PT113050
0CF8	CE60 0008	1306		SRHA	R6,8	SHIFT RIGHT HW ARITH. 8	PT113060
0CFC	2185	1307		BCS	T6R9		PT113070
0CFE	2144	1308	T6G8	BPS	T6R9		PT113080
0D00	C560 FFF9	1309		CLHI	R6,X'FFF9'		PT113090
0D04	2333	1310		BES	T6H		PT113100
0D06	4300 2182	1311	T6R9	B	ERROR	ERROR 1604	PT113110
0D0A	2405	1312	T6H	LIS	R0,5		PT113120
0D0C	D240 22F2	1313		STB	R0,ERRIND	ERRIND = 0516	PT113130
0D10	2440	1314		LIS	R0,0		PT113140

0D12	C300 0000	1315	THI	R0,0		PT113150
0D16	2139	1316	BNZS	T6RA		PT113160
0D18	0800	1317	LHR	R0,R0		PT113170
0D1A	2137	1318	BNZS	T6RA		PT113180
0D1C	2437	1319	LIS	R3,7		PT113190
0D1E	C330 5555	1320	THI	R3,X'5555'		PT113200
0D22	2323	1321	BNPS	T6RA		PT113210
0D24	4310 0D2C	1322	BFC	1,T6H3		PT113220
0D28	4300 2182	1323	T6RA	B	ERROR 1605	PT113230
0D2C	C530 0007	1324	T6H3	CLHI	R3,7	PT113240
0D30	2034	1325		BNES	T6RA	PT113250
0D32	2035	1326		BNES	T6RA	PT113260
0D34	C880 8000	1327		LHI	R8,X'8000'	PT113270
	0000 0D38	1328	THI	EQU	*	PT113280
0D38	C380 AAAA	1329		THI	R8,X'AAAA'	PT113290
0D3C	4330 0D54	1330		BFC	3,T6GA	PT113300
0D40	9101	1331		SLLS	R8,1	PT113310
0D42	2139	1332		BNZS	T6GA	PT113320
0D44	C8A0 AAAA	1333		LHI	R10,X'AAAA'	PT113330
0D48	C3A0 0000	1334		THI	R10,0	PT113340
0D4C	2134	1335		BNZS	T6GA	PT113350
0D4E	45A0 2302	1336		CLH	R10,TEN	PT113360
0D52	2331	1337		BES	T6GA	PT113370
	0000 0D54	1338	T6GA	EQU	*	PT113380
0D54	4300 0D58	1339		B	T6END	PT113390
0D58	4300 0D5C	1340	T6END	B	TEST7	PT113400
		1341	*****			PT113410
		1342	*			PT113420
		1343	*	TEST 7 CHECKS THE BYTE HANDLING INSTRUCTIONS		PT113430
		1344	*			PT113440
		1345	*	LB, STB, CLB, LBR, STBR, EXBR		PT113450
		1346	*			PT113460
0D5C	C800 0E8A	1347	TEST7	LHI	R0,TEST8	PT113470
0D60	4000 22F4	1348		STH	R0,NXTST	PT113480
0D64	C800 0117	1349		LHI	R0,X'0117'	PT113490
0D68	4000 22F2	1350		STH	R0,ERRIND	PT113500
0D6C	C800 3137	1351		LHI	R0,X'3137'	PT113510
0D70	4000 2288	1352		STH	R0,TESTNO	PT113520
		1353	*			PT113530
0D74	2501	1354		LCS	R0,1	PT113540
0D76	4000 0616	1355		STH	R0,T2WRD0	PT113550
0D7A	4000 061A	1356		STH	R0,T2WRD1	PT113560
0D7E	4000 061E	1357		STH	R0,T2WRD2	PT113570
0D82	0810	1358		LHR	R1,R0	PT113580
0D84	0800	1359		LHR	R5,R0	PT113590
0D86	08A0	1360		LHR	R10,R0	PT113600
	0000 0D88	1361	LB	EQU	*	PT113610
0D88	D310 22FA	1362		LB	R1,ONE	PT113620
0D8C	D350 22FE	1363		LB	R5,FIVE	PT113630
0D90	D3A0 2302	1364		LB	R10,TEN	PT113640
0D94	C510 00FF	1365		CLHI	R1,X'FF'	PT113650
0D98	2100	1366		BNES	T7R1	PT113660
0D9A	C500 0055	1367		CLHI	R5,X'55'	PT113670
0D9E	213A	1368		BNES	T7R1	PT113680
0DA0	C5A0 00AA	1369		CLHI	R10,X'AA'	PT113690

ERRIND = 0117

T2WRD0 = FFFF
T2WRD1 = FFFF
T2WRD2 = FFFF
R1 = R0 = FFFF
R5 = R0 = FFFF
R10 = R0 = FFFF

R1=00FF
R5 = 0055
R10 = 00AA
CHECK BYTES LOADED INTO
R1
R5

ODA4	2137	1370		BNES	T7R1	R10	PT113700
ODA6	D410 22FB	1371		CLB	R1,ONE+1	TEST CLB INSTRUCTION USING	PT113710
ODAA	2134	1372		BNES	T7R1	R1	PT113720
	0000 ODAC	1373	CLB	EQU	*		PT113730
ODAC	D450 22FF	1374		CLB	R5,FIVE+1		PT113740
ODB0	2333	1375		BES	T7B	R5	PT113750
ODB2	4300 2182	1376	T7R1	B	ERROR	ERROR 1701	PT113760
ODB6	D4A0 2302	1377	T7B	CLB	R10,TEN	R10	PT113770
ODBA	2034	1378		BNES	T7R1		PT113780
ODBC	C870 0123	1379		LHI	R7,X'0123'	R7 = 0123	PT113790
ODC0	C880 4567	1380		LHI	R8,X'4567'	R8 = 4567	PT113800
ODC4	C890 89AB	1381		LHI	R9,X'89AB'	R9 = 89AB	PT113810
	0000 ODC8	1382	STB	EQU	*		PT113820
ODC8	D270 0617	1383		STB	R7,T2WRD0+1	T2WRD0 = FF23	PT113830
ODCC	D280 061B	1384		STB	R8,T2WRD1+1	T2WRD1 = FF67	PT113840
ODD0	D290 061E	1385		STB	R9,T2WRD2	T2WRD2 = 89FF	PT113850
ODD4	4310 0E02	1386		BNM	T7R2		PT113860
ODD8	4800 0616	1387		LH	R0,T2WRD0	R0 = FF23	PT113870
ODDC	4810 061A	1388		LH	R1,T2WRD1	R1 = FF67	PT113880
ODE0	4820 061E	1389		LH	R2,T2WRD2	R2 = ABFF	PT113890
ODE4	C500 FF23	1390		CLHI	R0,X'FF23'		PT113900
ODE8	2130	1391		BNES	T7R2		PT113910
ODEA	C510 FF67	1392		CLHI	R1,X'FF67'		PT113920
ODEE	213A	1393		BNES	T7R2		PT113930
ODF0	C520 ABFF	1394		CLHI	R2,X'ABFF'		PT113940
ODF4	2137	1395		BNES	T7R2		PT113950
ODF6	D470 0617	1396		CLB	R7,T2WRD0+1	R7 = 0123, T2WRD0 = FF23	PT113960
ODFA	2134	1397		BNES	T7R2		PT113970
ODFC	D480 061B	1398		CLB	R8,T2WRD1+1	R8=4567, T2WRD1=FF67	PT113980
OE00	2333	1399		BES	T7C		PT113990
OE02	4300 2182	1400	T7R2	B	ERROR	ERROR 1701	PT114000
OE06	D490 061E	1401	T7C	CLB	R9,T2WRD2	R9=89AB, T2WRD2=ABFF	PT114010
OE0A	2034	1402		BNES	T7R2		PT114020
OE0C	D400 061A	1403		CLB	R0,T2WRD1	R0=FF238T2WRD1=FF67	PT114030
OE10	2237	1404		BES	T7R2		PT114040
OE12	D470 22F8	1405		CLB	R7,ZERO+2	R7=0123, ZERO=0000	PT114050
OE16	223A	1406		BES	T7R2		PT114060
OE18	24B0	1407		LIS	R11,0		PT114070
OE1A	D4B0 22FA	1408		CLB	R11,ONE		PT114080
OE1E	223E	1409		BES	T7R2		PT114090
		1410	*				PT114100
OE20	25B1	1411		LCS	R11,1	R11 = FFFF	PT114110
OE22	25C2	1412		LCS	R12,2	R12 = FFFE	PT114120
OE24	25D3	1413		LCS	R13,3	R13=FFFF	PT114130
	0000 OE26	1414	STBR	EQU	*		PT114140
OE26	927B	1415		STBR	R7,R11		PT114150
OE28	928C	1416		STBR	R8,R12		PT114160
OE2A	929D	1417		STBR	R9,R13		PT114170
OE2C	C5B0 FF23	1418		CLHI	R11,X'FF23'		PT114180
OE30	213E	1419		BNES	T7R3		PT114190
OE32	C5C0 FF67	1420		CLHI	R12,X'FF67'		PT114200
OE36	213B	1421		BNES	T7R3		PT114210
OE38	C5D0 FFAB	1422		CLHI	R13,X'FFAB'		PT114220
OE3C	2138	1423		BNES	T7R3		PT114230
	0000 OE3E	1424	LBR	EQU	*		PT114240

0E3E	9381	1425	LBR	R11,R1	R1=FF678 R11=FF23	PT114250	
0E40	93C0	1426	LBR	R12,R0	R0=FF23, R12=FF67	PT114260	
0E42	9302	1427	LBR	R13,R2	R2=ABFF, R13=FFAB	PT114270	
0E44	2134	1428	BNZS	T7R3		PT114280	
0E46	C5B0 0067	1429	CLHI	R11,X'0067'		PT114290	
0E4A	2333	1430	BES	T7E		PT114300	
0E4C	4340 2182	1431	T7R3	B	ERROR	PT114310	
0E50	C5C0 0023	1432	T7E	CLHI	R12,X'0023'	PT114320	
0E54	2034	1433	BNES	T7R3		PT114330	
0E56	C5D0 00FF	1434	CLHI	R13,X'00FF'		PT114340	
0E5A	2037	1435	BNES	T7R3		PT114350	
		1436	*			PT114360	
	0000 0E5C	1437	EXBR	EQU	*	PT114370	
0E5C	9478	1438	EXBR	R7,R8	R7=0123, R8=4567	PT114380	
		1439	*		R7 = 6745 , R8 = 4567	PT114390	
0E5E	C510 6745	1440	CLHI	R7,X'6745'		PT114400	
0E62	203B	1441	BNES	T7R3		PT114410	
0E64	C580 4567	1442	CLHI	R8,X'4567'		PT114420	
0E68	203E	1443	BNES	T7R3		PT114430	
0E6A	9489	1444	EXBR	R8,R9	R8 = AB89 , R9 = 89AB	PT114440	
0E6C	213B	1445	BNES	T7R4		PT114450	
0E6E	C580 AB89	1446	CLHI	R8,X'AB89'		PT114460	
0E72	9499	1447	EXBR	R9,R9	R9 = AB89	PT114470	
0E74	9488	1448	EXBR	R8,R8	R8 = 89AB	PT114480	
0E76	C580 89AB	1449	CLHI	R8,X'89AB'		PT114490	
0E7A	2134	1450	BNES	T7R4		PT114500	
0E7C	C590 AB89	1451	CLHI	R9,X'AB89'		PT114510	
0E80	2333	1452	BES	T7END		PT114520	
0E82	4300 2182	1453	T7R4	B	ERROR	PT114530	
0E86	4300 0E8A	1454	T7END	B	TEST8	PT114540	
		1455	*****				PT114550
		1456	*			PT114560	
		1457	*	TEST8 CHECKS THE INSTRUCTIONS		PT114570	
		1458	*			PT114580	
		1459	*	AH , AHR , AHI , AHM , AIS , ACH , ACHI		PT114590	
		1460	*			PT114600	
		1461	*	SH , SHR , SHI , SIS , SCH , SCHI		PT114610	
		1462	*			PT114620	
		1463	*			PT114630	
		1464	*	TEST8 CHECKS THE FIXED POINT		PT114640	
		1465	*	ADD,SUBTRACT,AND COMPARE INSTRUCTIONS		PT114650	
		1466	*			PT114660	
	0000 000F	1467	TOT	EQU	15	PT114670	
		1468	*			PT114680	
0E8A	C800 12C4	1469	TEST8	LHI	R0,TEST9	PT114690	
0E8E	4000 22F4	1470		STH	R0,NXTST	PT114700	
0E92	C800 0118	1471		LHI	R0,X'0118'	PT114710	
0E96	4000 22F2	1472		STH	R0,ERRIND	PT114720	
0E9A	C800 3138	1473		LHI	R0,C'18'	PT114730	
0E9E	4000 22B8	1474		STH	R0,TESTNO	PT114740	
0EA2	24F1	1475		LIS	TOT,1	PT114750	
0EA4	2445	1476		LIS	R4,5	PT114760	
0EA6	0700	1477		XHR	R0,R0	PT114770	
0EA8	0711	1478		XHR	R1,R1	PT114780	
0EAA	0722	1479		XHR	R2,R2	PT114790	

0F46	24C2	1535		LIS	R12,2	EXPECTED CC=2	PT115350
0F48	4830 12A6	1536		LH	R3,CD3	(R3)='7FFE'	PT115360
0F4C	4840 12A8	1537		LH	R4,CD4	(R4)='7FFF'	PT115370
0F50	4880 12B0	1538		LH	R8,CD8	(R8)='FFFF'	PT115380
0F54	2631	1539		AIS	R3,1	'7FFE'+1='7FFF'	PT115390
0F56	4190 11A6	1540		BAL	R9,TESTCC		PT115400
	0000 0F5A	1541	SHI	EQU	*		PT115410
0F5A	CB40 7FFE	1542		SHI	R4,X'7FFE'	'7FFF'-'7FFE'	PT115420
0F5E	4190 11A6	1543		BAL	R9,TESTCC		PT115430
		1544	*	ERROR	NUMBER=X'E'		PT115440
	0000 0F62	1545	SH	EQU	*		PT115450
0F62	4880 12AE	1546		SH	R8,CD7	'FFFF'-'FFFF'	PT115460
0F66	4190 11A6	1547		BAL	R9,TESTCC		PT115470
0F6A	C8C0 0005	1548		LHI	R12,5	EXPECTED CC=5	PT115480
0F6E	4840 12A8	1549		LH	R4,CD4	(R4)='7FFF'	PT115490
0F72	4A40 12A6	1550		AH	R4,CD3	'7FFE'+7FFF'	PT115500
0F76	4190 11A6	1551		BAL	R9,TESTCC		PT115510
		1552	*	ERROR	NUMBER=X'10'		PT115520
0F7A	24C6	1553		LIS	R12,6	EXPECTED CC=6	PT115530
0F7C	4850 12AA	1554		LH	R5,CD5	(R5)='8001'	PT115540
0F80	CB50 7FFF	1555		SHI	R5,X'7FFF'	'8001'-'7FFF'	PT115550
0F84	4190 11A6	1556		BAL	R9,TESTCC		PT115560
0F88	24C8	1557		LIS	R12,8	EXPECTED CC=8	PT115570
0F8A	4810 12A2	1558		LH	R1,CD1	(R1)=1	PT115580
0F8E	4840 12A8	1559		LH	R4,CD4	(R4)=X'7FFF'	PT115590
0F92	4880 12B0	1560		LH	R8,CD8	(R8)='FFFF'	PT115600
	0000 0F96	1561	AHI	EQU	*		PT115610
0F96	CA40 8001	1562		AHI	R4,X'8001'		PT115620
0F9A	4190 11A6	1563		BAL	R9,TESTCC		PT115630
	0000 0F9E	1564	AHR	EQU	*		PT115640
0F9E	0A18	1565		AHR	R1,R8	X'0001' + X'FFFF'	PT115650
0FA0	4190 11A6	1566		BAL	R9,TESTCC		PT115660
0FA4	24C9	1567		LIS	R12,9	EXPECTED CC=9	PT115670
0FA6	4850 12A6	1568		LH	R3,CD3	(R3)= X'7FFE'	PT115680
0FAA	4870 12AE	1569		LH	R7,CD7	(R7)=X'FFFF'	PT115690
0FAE	4880 12B0	1570		LH	R8,CD8	(R8)=X'FFFF'	PT115700
0FB2	0A87	1571		AHR	R8,R7	'FFFF'+ 'FFFE'	PT115710
0FB4	4190 11A6	1572		BAL	R9,TESTCC		PT115720
		1573	*	ERROR	NUMBER=X'14'		PT115730
	0000 0FB8	1574	SIS	EQU	*		PT115740
0FB8	2701	1575		SIS	R0,1	0-1	PT115750
0FBA	4190 11A6	1576		BAL	R9,TESTCC		PT115760
0FBE	CB70 FFFF	1577		SHI	R7,X'FFFF'	'FFFE'-'FFFF'	PT115770
0FC2	4190 11A6	1578		BAL	R9,TESTCC		PT115780
0FC6	4830 12A8	1579		SH	R3,CD4	'7FFE'-'7FFF'	PT115790
0FCA	4190 11A6	1580		BAL	R9,TESTCC		PT115800
0FCE	24CA	1581		LIS	R12,X'A'	EXPECTED CC= 'A'	PT115810
0F00	0700	1582		XHR	R0,R0	(R0)=0	PT115820
0FD2	4830 12A6	1583		LH	R3,CD3	(R3)=X'7FFE'	PT115830
0FD6	4860 12AC	1584		LH	R6,CD6	(R6)='8002'	PT115840
0FDA	4880 12B0	1585		LH	R8,CD8	(R8)= 'FFFF'	PT115850
	0000 0FDE	1586	AIS	EQU	*		PT115860
0FDE	2682	1587		AIS	R8,2	'FFFF'+2	PT115870
0FE0	4190 11A6	1588		BAL	R9,TESTCC		PT115880
		1589	*	ERROR	NUMBER=X'18'		PT115890

107C	4F00 22F6	1645	SCH	R0,ZERO		PT116450
1080	4B40 12B4	1646	SH	R4,ININC2	DECR. THE DECREMENT BY '00001111'	PT116460
1084	4F30 12B2	1647	SCH	R3,ININC1		PT116470
1088	0844	1648	LHR	R4,R4		PT116480
108A	4230 1078	1649	BNZ	LOOP2		PT116490
108E	0833	1650	LHR	R3,R3		PT116500
1090	4290 1078	1651	BNZ	LOOP2		PT116510
1094	0822	1652	LHR	R2,R2		PT116520
1096	4230 127C	1653	BNZ	ERR13		PT116530
109A	0811	1654	LHR	R1,R1		PT116540
109C	4230 127C	1655	BNZ	ERR13		PT116550
10A0	0800	1656	LHR	R0,R0		PT116560
10A2	4230 127C	1657	BNZ	ERR13		PT116570
		1658	FIXED POINT COMPARE CHECK			PT116580
10A6	26F1	1659	AIS	TOT,1	ERROR NUMBER=X*20'	PT116590
10A8	2475	1660	LIS	R7,5	SET INDEX OFFSET=5	PT116600
10AA	4800 22F6	1661	LH	R0,ZERO	(R0) = 0	PT116610
10AE	4810 12A2	1662	LH	R1,CD1	(R1) = 1	PT116620
10B2	4820 12A8	1663	LH	R2,CD4	(R2) = '7FFF'	PT116630
10B6	4830 12AA	1664	LH	R3,CD5	(R3) = '8001'	PT116640
10BA	4840 12AE	1665	LH	R4,CD7	(R4) = 'FFFF'	PT116650
10BE	4850 12B0	1666	LH	R5,CD8	(R5) = 'FFFF'	PT116660
10C2	08C0	1667	LHR	R12,R0	EXPECTED CC = 0	PT116670
10C4	0500	1668	CLHR	R0,R0		PT116680
10C6	4190 11A6	1669	BAL	R9,TESTCC		PT116690
10CA	4517 129D	1670	CLH	R1,CD1-5(R7)		PT116700
10CE	4190 11A6	1671	BAL	R9,TESTCC		PT116710
		1672	ERROR NUMBER=X*22'			PT116720
10D2	C520 7FFF	1673	CLHI	R2,X*7FFF'		PT116730
10D6	4190 11A6	1674	BAL	R9,TESTCC		PT116740
10DA	0933	1675	CHR	R3,R3		PT116750
10DC	4190 11A6	1676	BAL	R9,TESTCC		PT116760
		1677	ERROR NUMBER=X*24'			PT116770
10E0	4940 12AE	1678	CH	R4,CD7		PT116780
10E4	4190 11A6	1679	BAL	R9,TESTCC		PT116790
10E8	C950 FFFF	1680	CHI	R5,X*FFFF'		PT116800
10EC	4190 11A6	1681	BAL	R9,TESTCC		PT116810
		1682	ERROR NUMBER=X*26'			PT116820
10F0	24C1	1683	LIS	R12,1	EXPECTED CC=1	PT116830
10F2	4810 12AC	1684	LH	R1,CD6	(R1) = '8002'	PT116840
10F6	4820 12A2	1685	LH	R2,CD1	(R2) = '0001'	PT116850
10FA	0512	1686	CLHR	R1,R2		PT116860
10FC	4190 11A6	1687	BAL	R9,TESTCC		PT116870
1100	C8C0 0002	1688	LHI	R12,2	EXPECTED CC=2	PT116880
1104	4810 12A8	1689	LH	R1,CD4	(R1)='7FFF'	PT116890
1108	4510 12A6	1690	CLH	R1,CD3	COMPARE WITH '7FFE'	PT116900
110C	4190 11A6	1691	BAL	R9,TESTCC	CHECK CC	PT116910
		1692	ERROR NUMBER X*28'			PT116920
1110	4810 12AC	1693	LH	R1,CD6	(R1)='8002'	PT116930
1114	C510 8001	1694	CLHI	R1,X*8001'		PT116940
1118	4190 11A6	1695	BAL	R9,TESTCC		PT116950
111C	4820 12B0	1696	LH	R2,CD8	(R2)= X*FFFF'	PT116960
1120	4800 22F6	1697	LH	R0,ZERO	(R0) = 0	PT116970
1124	4810 12A2	1698	LH	R1,CD1	(R1)=1	PT116980
1128	0940	1699	CHR	R1,R0		PT116990

112A	4190 11A6	1700	BAL	R9,TESTCC		PT117000
		1701	*	ERROR NUMBER=X'2A'		PT117010
112E	4927 12A9	1702	CH	R2,CD7-5(R7)	COMPARE 'FFFF' AND 'FFFE'	PT117020
1132	4190 11A6	1703	BAL	R9,TESTCC		PT117030
1136	C900 8001	1704	CHI	R0,X'8001'	COMPARE 0 AND '8001'	PT117040
113A	4190 11A6	1705	BAL	R9,TESTCC		PT117050
		1706	*	ERROR NUMBER=X'2C'		PT117060
113E	24C6	1707	LIS	R12,6	EXPECTED CC=6	PT117070
1140	4810 12AA	1708	LH	R1,CD5	(R1)='8001'	PT117080
1144	4510 12A4	1709	CLH	R1,CD2	COMPARE '8001' AND '0002'	PT117090
1148	4190 11A6	1710	BAL	R9,TESTCC		PT117100
114C	24C9	1711	LIS	R12,9	EXPECTED CC=9	PT117110
114E	4800 22F6	1712	LH	R0,ZERO	(R0)=0	PT117120
1152	4810 12AE	1713	LH	R1,CD7	(R1)='FFFE'	PT117130
1156	4820 12B0	1714	LH	R2,CD8	(R2)='FFFF'	PT117140
115A	4830 12AA	1715	LH	R3,CD5	(R3)='8001'	PT117150
115E	0512	1716	CLHR	R1,R2		PT117160
1160	4190 11A6	1717	BAL	R9,TESTCC		PT117170
		1718	*	ERROR NUMBER=X'2E'		PT117180
1164	C500 0001	1719	CLHI	R0,1	COMPARE 0 AND 1	PT117190
1168	4190 11A6	1720	BAL	R9,TESTCC		PT117200
116C	C900 0001	1721	CHI	R0,1		PT117210
1170	4190 11A6	1722	BAL	R9,TESTCC		PT117220
		1723	*	ERROR NUMBER=X'30'		PT117230
1174	4930 12AC	1724	CH	R3,CD6	COMPARE '8001' AND '8002'	PT117240
1178	4190 11A6	1725	BAL	R9,TESTCC		PT117250
117C	0920	1726	CHR	R2,R0	COMPARE 'FFFF' AND 0	PT117260
117E	4190 11A6	1727	BAL	R9,TESTCC		PT117270
		1728	*	ERROR NUMBER=X'32'		PT117280
1182	C8C0 000A	1729	LHI	R12,X'A'	EXPECTED CC=X'A'	PT117290
1186	4810 12A6	1730	LH	R1,CD3	(R1)='7FFE'	PT117300
118A	4820 12A8	1731	LH	R2,CD4	(R2)='7FFF'	PT117310
118E	4510 12B0	1732	CLH	R1,CD8	COMPARE '7FFE' AND 'FFFF'	PT117320
1192	4190 11A6	1733	BAL	R9,TESTCC		PT117330
1196	C8C0 000D	1734	LHI	R12,X'D'	EXPECTED CC=X'D'	PT117340
119A	C520 FFFE	1735	CLHI	R2,X'FFFE'	COMPARE '7FFF' AND 'FFFE'	PT117350
119E	4190 11A6	1736	BAL	R9,TESTCC		PT117360
		1737	*	ERROR NUMBER=X'34'		PT117370
11A2	4300 12C4	1738	T8END	B TEST9		PT117380
		1739	*	SUBROUTINES USED IN TEST8		PT117390
11A6	95EE	1740	TESTCC	EPSR R14,R14	OBTAIN CC FROM CURRENT PSW	PT117400
11A8	C4E0 000F	1741	NHI	R14,X'F'		PT117410
11AC	05EC	1742	CLHR	R14,R12		PT117420
11AE	4230 1288	1743	BNE	ERR14		PT117430
11B2	26F1	1744	AIS	TOT,1		PT117440
11B4	4309 0000	1745	B	0(R9)	RETURN	PT117450
		1746	*	R0 CONTAINS 1 IF CARRY-IN IS 1		PT117460
		1747	*	R0 CONTAINS 0 IF CARRY-IN IS ZERO		PT117470
		1748	*	R1 AND R2 CONTAINS VALUES OF M AND N		PT117480
		1749	AHM	EQU *		PT117490
11B8	24F1	1750	TEST83	LIS TOT,1	SET ERROR NUMBER=1	PT117500
11BA	4010 1288	1751	STH	R1,PLUSM	STORE M	PT117510
11BE	4020 12BA	1752	STH	R2,PLUSN	STORE N	PT117520
11C2	0831	1753	LHR	R3,R1	M	PT117530
11C4	C730 FFFF	1754	XHI	R3,X'FFFF'		PT117540

11C8	2631	1755	AIS	R3,1	GET - M	PT117550	
11CA	4030 1286	1756	STH	R3,MINUSM	STORE-M	PT117560	
11CE	6114 12B1	1757	AHM	R1,MINUSM-5(R4)	M+(-M)=0	PT117570	
11D2	4200 0000	1758	NOP			PT117580	
11D6	4850 1286	1759	LH	R5,MINUSM	GET M+(-M)	PT117590	
11DA	4230 1258	1760	BNZ	ERR11		PT117600	
11DE	24F2	1761	LIS	TOT+2	SET ERROR NUMBER=2	PT117610	
11E0	0831	1762	LHR	R3,R1	M	PT117620	
11E2	0A34	1763	AHR	R3,R4	M+(R4)=M+5	PT117630	
11E4	0853	1764	LHR	R5,R3		PT117640	
11E6	0854	1765	SHR	R5,R4	M+(R4)-(R4)=M?	PT117650	
11E8	0551	1766	CLHR	R5,R1		PT117660	
11EA	4230 1258	1767	BNE	ERR11		PT117670	
11EE	24F3	1768	LIS	TOT+3	SET ERROR NUMBER =3	PT117680	
11F0	0831	1769	LHR	R3,R1	M	PT117690	
11F2	CA30 789A	1770	AHI	R3,X'789A'	M+X'789A'	PT117700	
11F6	0853	1771	LHR	R5,R3		PT117710	
11F8	C850 789A	1772	SHI	R5,X'789A'		PT117720	
11FC	0551	1773	CLHR	R5,R1		PT117730	
11FE	4230 1258	1774	BNE	ERR11		PT117740	
1202	24F4	1775	LIS	TOT+4	SET ERROR NUMBER=4	PT117750	
1204	0851	1776	LHR	R5,R1	M	PT117760	
1206	95D0	1777	EPSR	R13,R0	SET CARRY FLAG IF CARRY IN	PT117770	
1208	4E54 1285	1778	ACH	R5,PLUSN-5(R4)	M+N+C	PT117780	
120C	4050 128C	1779	STH	R5,MPNPC	STORE M+N+C	PT117790	
1210	4850 1288	1780	LH	R5,PLUSM	M	PT117800	
1214	0800	1781	LHR	R0,R0	EXAMINE CARRY IN	PT117810	
1216	4330 121C	1782	BZ	NCRY1	IF NO CARRY IN GOTO NCRY1	PT117820	
121A	2751	1783	SIS	R5,1		PT117830	
121C	4B54 1285	1784	NCRY1	SH	R5,PLUSN-5(R4)	M-N-C	PT117840
1220	4020 128E	1785	STH	R5,MMNMC	STORE M-N-C	PT117850	
1224	4A54 1287	1786	AH	R5,MPNPC-5(R4)	GET (M+N+C)+(M-N-C)=2M	PT117860	
1228	0871	1787	LHR	R7,R1	M	PT117870	
122A	CD70 0001	1788	SLHL	R7,1	GET 2*M	PT117880	
122E	0527	1789	CLHR	R5,R7	IF(M+N+C)+(M-N-C) IS NOT=2*M	PT117890	
1230	4230 1264	1790	BNE	ERR12	BRANCH TO ERR1	PT117900	
1234	24F5	1791	LIS	TOT+5	SET ERROR NUMBER=5	PT117910	
1236	4850 128C	1792	LH	R5,MPNPC	M+N+C	PT117920	
123A	95D0	1793	EPSR	R13,R0		PT117930	
123C	4F54 1289	1794	SCH	R5,MMNMC-5(R4)	(M+N+C)-(M-N-C)-C =2N+C	PT117940	
1240	4870 128A	1795	LH	R7,PLUSN	N	PT117950	
1244	CD70 0001	1796	SLHL	R7,1	2*N	PT117960	
1248	0800	1797	LHR	R0,R0	EXAMINE IF CARRY IN HAS	PT117970	
124A	4330 1250	1798	BZ	NOCRY	BEEN SPECIFIED	PT117980	
124E	2671	1799	AIS	R7,1	2*N+C	PT117990	
1250	0557	1800	NOCRY	CLHR	R5,R7	IF (M+N+C)-(M-N-C)-C	PT118000
1252	4230 1264	1801	BNE	ERR12	IS NOT=2*N+C, BRANCH TO ERR1	PT118010	
1256	0309	1802	BR	R9	RETURN	PT118020	
1258	2443	1803	ERR11	LIS	R4,3	THREE VALUES FOR PRINT OUT	PT118030
125A	0875	1804	LHR	R7,R5	ACTUAL RESULT	PT118040	
125C	0823	1805	LHR	R6,R3	-M OR M+(R4)OR M+X'789A'	PT118050	
125E	0851	1806	LHR	R5,R1	VALUE OF M	PT118060	
1260	4340 1292	1807	B	ERR1		PT118070	
1264	2447	1808	ERR12	LIS	R4,7	SEVEN VALUES ARE TO BE PRINTED	PT118080
1266	08A5	1809	LHR	R10,R5	ACTUAL RESULT	PT118090	

1268	0887	1810	LHR	R11,R7	EXPECTED RESULT	PT118100
126A	0851	1811	LHR	R5,R1	M	PT118110
126C	0862	1812	LHR	R6,R2	N	PT118120
126E	0870	1813	LHR	R7,R0	CARRY IN	PT118130
1270	4880 12BC	1814	LH	R8,MPNPC	M+N+C	PT118140
1274	4890 12BE	1815	LH	R9,MMNMC	M-N-C	PT118150
1278	4300 1292	1816	B	ERR1		PT118160
127C	2443	1817	ERR13	LIS R4,3	THREE VALUES TO BE PRINTED	PT118170
127E	0850	1818	LHR	R5,R0	ACTUAL	PT118180
1280	0861	1819	LHR	R6,R1	TRIPAL PRECISION	PT118190
1282	0872	1820	LHR	R7,R2	RESULT	PT118200
1284	4300 1292	1821	B	ERR1		PT118210
1288	2442	1822	ERR14	LIS R4,2	TWO VALUES TO BE PRINTED	PT118220
128A	085E	1823	LHR	R5,R14	ACTUAL CONDITION CODE	PT118230
128C	086C	1824	LHR	R6,R12	EXPECTED CONDITION CODE	PT118240
128E	4300 1292	1825	B	ERR1		PT118250
1292	C800 0018	1826	ERR1	LHI R0,X'0018'		PT118260
1296	91F8	1827	SLLS	TOT,8		PT118270
1298	060F	1828	OHR	R0,TOT		PT118280
129A	4000 22F2	1829	STH	R0,ERRIND		PT118290
129E	4300 2182	1830	B	ERROR		PT118300
		1831	*	DATA OF TEST 8		PT118310
12A2	00U1	1832	CD1	DC 1		PT118320
12A4	0002	1833	CD2	DC 2		PT118330
12A6	7FFE	1834	CD3	DC X'7FFE'		PT118340
12A8	7FFF	1835	CD4	DC X'7FFF'		PT118350
12AA	8001	1836	CD5	DC X'8001'		PT118360
12AC	8002	1837	CD6	DC X'8002'		PT118370
12AE	FFFF	1838	CD7	DC X'FFFF'		PT118380
12B0	FFFF	1839	CD8	DC X'FFFF'		PT118390
12B2	0000	1840	ININC1	DC 0		PT118400
12B4	1111	1841	ININC2	DC X'1111'		PT118410
12B6		1842	MINUSM	DS 2		PT118420
12B8		1843	PLUSM	DS 2		PT118430
12BA		1844	PLUSN	DS 2		PT118440
12BC		1845	MPNPC	DS 2		PT118450
12BE		1846	MMNMC	DS 2		PT118460
12C0		1847	MMNMC	DS 2		PT118470
12C2		1848	INITM	DS 2		PT118480
		1849	*			PT118490
		1850	*	*****		PT118500
		1851	*			PT118510
		1852	*	TEST 9 CHECKS THE INSTRUCTIONS		PT118520
		1853	*			PT118530
		1854	*	SINT AND ILLG. INSTR. INTRPR.		PT118540
		1855	*			PT118550
		1856	*	T90INT=ADD. FOR INTERRUPT		PT118560
		1857	*			PT118570
		1858	*	T90SNT=ADD. SIMULATE INTERRUPT		PT118580
		1859	*			PT118590
		1860	*	OLOPSW=ADD. OF INSTR. AFTER T90SNT		PT118600
		1861	*			PT118610
		1862	*	T90DEV=DEV. NO. 0 THRU 255 OF THE INTRPT. DEV.		PT118620
		1863	*			PT118630
12C4	C800 14D2	1864	TEST9	LHI R0,TEST10		PT118640

13F8	C840 1488	1974		LHI	R4,T90000		PT119740
13FC	2302	1975		BS	T90JJ		PT119750
13FE	2641	1976	T90J	AIS	R4,1		PT119760
1400	4300 1426	1977	T90JJ	B	T90L		PT119770
1404	0888	1978	T90K	LHR	R11,R11		PT119780
1406	2338	1979		BZS	T90KK		PT119790
1408	2480	1980		LIS	R11,0		PT119800
140A	2641	1981		AIS	R4,1		PT119810
140C	C540 14BE	1982		CLHI	R4,T90LST+1		PT119820
1410	4330 14BE	1983		BE	T90Z		PT119830
1414	2460	1984		LIS	R6,0		PT119840
1416	D314 0000	1985	T90KK	LB	R1,0(R4)	R11 = 0	PT119850
141A	0A16	1986	T90P1	AHR	R1,R6		PT119860
141C	2661	1987		AIS	R6,1		PT119870
141E	C560 0010	1988		CLHI	R6,16		PT119880
1422	2132	1989		BNES	T90L		PT119890
1424	2481	1990		LIS	R11,1		PT119900
		1991	*				PT119910
		1992	*		R1 = ILLEGAL INSTRUCTION		PT119920
		1993	*				PT119930
1426	D210 1446	1994	T90L	STB	R1,ILLEGL		PT119940
142A	4800 1446	1995		LH	R0,ILLEGL		PT119950
142E	C500 1300	1996		CLHI	R0,X'1300'		PT119960
1432	4330 1300	1997		BE	T90H		PT119970
1436	C500 5300	1998		CLHI	R0,X'5300'		PT119980
143A	4330 1300	1999		BE	T90H		PT119990
143E	C200 1442	2000		LPSW	T90M		PT120000
1442	7C05	2001	T90M	DC	X'7C05',ILLEGL		PT120010
1444	1446						
1446	0000	2002	ILLEGL	DC	0	ILLEGAL INSTRUCTION	PT120020
1448	C800 0519	2003	T90R7	LHI	R0,X'0519'	ERRIND = 0519	PT120030
144C	4300 1470	2004		B	T90R78	ERROR 1905	PT120040
		2005	*				PT120050
1450	4800 0030	2006	T90ILG	LH	R0,X'30'		PT120060
1454	C500 7C05	2007	M5006	CLHI	R0,X'7C05'	IS LOC-30 = OLD PSW	PT120070
1458	4230 146C	2008		BNE	T90R8		PT120080
145C	C830 1446	2009		LHI	R3,ILLEGL		PT120090
1460	4530 0032	2010		CLH	R3,X'32'	IS LOC-32 = ADD. OF ILLEGL	PT120100
1464	2134	2011		BNES	T90R8		PT120110
1466	9533	2012		EPSR	R3,R3		PT120120
1468	4330 1300	2013		BZ	T90H		PT120130
146C	C800 0619	2014	T90R8	LHI	R0,X'0619'	ERRIND = 0619	PT120140
1470	4000 22F2	2015	T90R78	STH	R0,ERRIND		PT120150
1474	4300 2182	2016		B	ERROR	ERROR 1905 OR 1906	PT120160
		2017	*				PT120170
1478	0C	2018	T908A	DB	X'0C'	MHR	PT120180
1479	0D	2019		DB	X'0D'	DHR	PT120190
147A	4C	2020		DB	X'4C'	MH	PT120200
147B	4D	2021		DB	X'4D'	DH	PT120210
147C	9C	2022		DB	X'9C'	MHUR	PT120220
147D	DC	2023		DB	X'DC'	MHU	PT120230
		2024	*				PT120240
147E	28	2025	T908B	DB	X'28'	LER	PT120250
147F	29	2026		DB	X'29'	CER	PT120260
1480	2A	2027		DB	X'2A'	AER	PT120270

1481	2B	2028	DB	X'2B'	SER	PT120280
1482	2C	2029	DB	X'2C'	MER	PT120290
1483	2D	2030	DB	X'2D'	DER	PT120300
1484	60	2031	DB	X'60'	STE	PT120310
1485	68	2032	DB	X'68'	LE	PT120320
1486	69	2033	DB	X'69'	CE	PT120330
1487	6A	2034	DB	X'6A'	AE	PT120340
1488	6B	2035	DB	X'6B'	SE	PT120350
1489	6C	2036	DB	X'6C'	ME	PT120360
148A	6D	2037	DB	X'6D'	DE	PT120370
148B	2E	2038	DB	X'2E'	FXR	PT120380
148C	2F	2039	DB	X'2F'	FLR	PT120390
148D	71	2040	DB	X'71'	STME	PT120400
148E	72	2041	DB	X'72'	LME	PT120410
148F	38	2042	DB	X'38'	LDR	PT120420
1490	39	2043	DB	X'39'	CDR	PT120430
1491	3A	2044	DB	X'3A'	ADR	PT120440
1492	3B	2045	DB	X'3B'	SOR	PT120450
1493	3C	2046	DB	X'3C'	MDR	PT120460
1494	3D	2047	DB	X'3D'	DDR	PT120470
1495	3E	2048	DB	X'3E'	FXDR	PT120480
1496	3F	2049	DB	X'3F'	FLDR	PT120490
1497	70	2050	DB	X'70'	STD	PT120500
1498	78	2051	DB	X'78'	LO	PT120510
1499	79	2052	DB	X'79'	CO	PT120520
149A	7A	2053	DB	X'7A'	AD	PT120530
149B	7B	2054	DB	X'7B'	SD	PT120540
149C	7C	2055	DB	X'7C'	MD	PT120550
149D	7D	2056	DB	X'7D'	DD	PT120560
149E	7E	2057	DB	X'7E'	STMD	PT120570
149F	7F	2058	DB	X'7F'	LMQ	PT120580
	0000 14A0	2059	EQU	*		PT120590
14A0	30	2060	DB	X'30'		PT120600
14A1	31	2061	DB	X'31'		PT120610
14A2	32	2062	DB	X'32'		PT120620
14A3	34	2063	DB	X'34'		PT120630
14A4	35	2064	DB	X'35'		PT120640
14A5	36	2065	DB	X'36'		PT120650
14A6	37	2066	DB	X'37'		PT120660
14A7	74	2067	DB	X'74'		PT120670
14A8	75	2068	DB	X'75'		PT120680
14A9	76	2069	DB	X'76'		PT120690
14AA	77	2070	DB	X'77'		PT120700
14AB	62	2071	DB	X'62'		PT120710
14AC	63	2072	DB	X'63'		PT120720
14AD	6E	2073	DB	X'6E'		PT120730
14AE	6F	2074	DB	X'6F'		PT120740
14AF	E0	2075	DB	X'E0'		PT120750
14B0	E3	2076	DB	X'E3'		PT120760
14B1	E4	2077	DB	X'E4'		PT120770
14B2	E5	2078	DB	X'E5'		PT120780
14B3	E6	2079	DB	X'E6'		PT120790
14B4	E7	2080	DB	X'E7'		PT120800
14B5	E8	2081	DB	X'E8'		PT120810
14B6	E9	2082	DB	X'E9'		PT120820

14B7	00		2083	DB	X'00'		PT120830
14B8	10		2084	T900DD	DB	X'10'	PT120840
14B9	50		2085	DB	X'50'		PT120850
14BA	80		2086	DB	X'80'		PT120860
14BB	A0		2087	DB	X'A0'		PT120870
14BC	B0		2088	DB	X'B0'		PT120880
14BD	F0		2089	T90LST	DB	X'F0'	PT120890
14BE			2090	DB	*		PT120900
			2091	*			PT120910
14BE	C800	213A	2092	T90Z	LHI	R0,EXTINT	PT120920
14C2	4000	0046	2093		STH	R0,X'46'	PT120930
14C6	C800	2132	2094		LHI	R0,ILGINT	PT120940
14CA	4000	0036	2095		STH	R0,X'36'	PT120950
14CE	4300	14D2	2096	T9END	B	TEST10	PT120960
			2097	*****			PT120970
			2098	*			PT120980
			2099	*	TEST 10 CHECKS THE INSTRUCTIONS		PT120990
			2100	*			PT121000
			2101	*	SLL , SRL , SLA , SRA , RLL , RRL		PT121010
			2102	*			PT121020
14D2	C200	14D6	2103	TEST10	LPSW	T10	PT121030
14D6	7C00		2104	T10	DC	X'7C00',T10A	PT121040
14D8	14DA						
14DA	C800	17F0	2105	T10A	LHI	R0,TEST11	PT121050
14DE	4000	22F4	2106		STH	R0,NXTST	PT121060
14E2	C800	011A	2107		LHI	R0,X'011A'	PT121070
14E6	4000	22F2	2108		STH	R0,ERRIND	PT121080
14EA	C800	3142	2109		LHI	R0,X'3142'	PT121090
14EE	4000	22B8	2110		STH	R0,TESTNO	PT121100
			2111	*			PT121110
14F2	2440		2112		LIS	R4,0	PT121120
14F4	2450		2113		LIS	R5,0	PT121130
	0000	14F6	2114	SLL	EQU	*	PT121140
14F6	ED40	0000	2115		SLL	R4,0	PT121150
14FA	213A		2116		BNZS	T10R1	PT121160
	0000	14FC	2117	SRL	EQU	*	PT121170
14FC	EC40	0000	2118		SRL	R4,0	PT121180
1500	2137		2119		BNZS	T10R1	PT121190
	0000	1502	2120	SLA	EQU	*	PT121200
1502	EF40	0000	2121		SLA	R4,0	PT121210
1506	2134		2122		BNZS	T10R1	PT121220
	0000	1508	2123	SRA	EQU	*	PT121230
1508	EE40	0000	2124		SRA	R4,0	PT121240
150C	2333		2125		BZS	T10B1	PT121250
150E	4300	2182	2126	T10R1	B	ERROR	PT121260
1512	C840	0101	2127	T10B1	LHI	R4,X'0101'	PT121270
1516	2450		2128		LIS	R5,0	PT121280
1518	ED40	0000	2129		SLL	R4,0	PT121290
151C	2227		2130		BFBS	2,T10R1	PT121300
151E	EC40	0000	2131		SRL	R4,0	PT121310
1522	222A		2132		BFBS	2,T10R1	PT121320
1524	EF40	0000	2133		SLA	R4,0	PT121330
1528	2324		2134		BFFS	2,T10R2A	PT121340
152A	EE40	0000	2135		SRA	R4,0	PT121350
152E	2123		2136		BTFS	2,T10B	PT121360

RESTORE EXTINT ERROR ADRS.

RESTORE ILGINT ERROR ADRS.

ERRIND = 011A

R4 = 0,0,0,0

R5 = 0,0,0,0

THIS SECTION CHECKS THE SL,SRL,
SRA,SLA INSTRUCTIONS FOR ZERO SHIFT
COND. CODE = 0 ?

ERROR 1A01

CHECK G FLAG FOR SLL

CHECK G FLAG FOR SLA

CHECK G FLAG FOR SLA

CHECK G FLAG FOR SRA

1530	4300	2182	2137	T10R2A	B	ERROR		PT121370
1534	C840	02BB	2138	T10B	LHI	R4,X'D2BB'		PT121380
1538	C850	2D55	2139		LHI	R5,X'2D55'	R4=1101,0011,1111,1111	PT121390
153C	ED40	0000	2140		SLL	R4,0	R5=0010,1101,0101,0101	PT121400
1540	2088		2141		BCS	T10R2A	ZERO SHIFT	PT121410
1542	2219		2142		BNMS	T10R2A	CHECK C FLAG FOR SLL	PT121420
1544	EC40	0000	2143		SRL	R4,0	CHECK L FLAG FOR SLL	PT121430
1548	208C		2144		BCS	T10R2A	CHECK C FLAG FOR SRL	PT121440
154A	231F		2145		BNMS	T10R2	CHECK L FLAG FOR SRL	PT121450
154C	EF40	0000	2146		SLA	R4,0		PT121460
1550	218C		2147		BCS	T10R2	CHECK C FLAG FOR SLA	PT121470
1552	231B		2148		BNMS	T10R2	CHECK L FLAG FOR SLA	PT121480
1554	EE'0	0000	2149		SRA	R4,0		PT121490
1558	2188		2150		BCS	T10R2	CHECK C FLAG FOR SRA	PT121500
155A	2317		2151		BNMS	T10R2	CHECK L FLAG FOR SRA	PT121510
			2152	*				PT121520
155C	C540	02BB	2153		CLHI	R4,X'D2BB'	CHECK FOR SHIFTS OF ZERO ONLY	PT121530
1560	2134		2154		BNES	T10R2		PT121540
1562	C550	2D55	2155		CLHI	R5,X'2D55'		PT121550
1566	2327		2156		BES	T10D		PT121560
1568	4300	2182	2157	T10R2	B	ERROR	ERROR 1A01	PT121570
156C	C800	021A	2158		LHI	R0,X'021A'		PT121580
1570	4000	22F2	2159	T10R2B	STH	R0,ERRIND	ERRIND 021A	PT121590
			2160	*				PT121600
	0000	1574	2161	T10D	EQU	*		PT121610
1574	ED40	0001	2162		SLL	R4,1	SHIFT LEFT 1	PT121620
1578	2284		2163		BNCS	T10R2B		PT121630
157A	C540	A576	2164		CLHI	R4,X'A576'		PT121640
157E	2037		2165		BNES	T10R2B		PT121650
1580	C550	5AAA	2166		CLHI	R5,X'5AAA'		PT121660
1584	213D		2167		BNES	T10R3		PT121670
1586	ED40	0002	2168		SLL	R4,2	SHIFT LEFT 2	PT121680
158A	218A		2169		BCS	T10R3		PT121690
158C	C540	95D9	2170		CLHI	R4,X'95D9'		PT121700
1590	2137		2171		BNES	T10R3		PT121710
1592	C550	6AA8	2172		CLHI	R5,X'6AA8'		PT121720
1596	2134		2173		BNES	T10R3		PT121730
1598	ED40	0004	2174		SLL	R4,4	SHIFT LEFT 4	PT121740
159C	2183		2175		BCS	T10E		PT121750
159E	4300	2182	2176	T10R3	B	ERROR	ERROR 1A02	PT121760
15A2	C540	5D96	2177	T10E	CLHI	R4,X'5D96'		PT121770
15A6	2034		2178		BNES	T10R3		PT121780
15A8	C550	AA80	2179		CLHI	R5,X'AA80'		PT121790
15AC	2037		2180		BNES	T10R3		PT121800
15AE	ED40	0008	2181		SLL	R4,8	SHIFT LEFT 8	PT121810
15B2	228A		2182		BNCS	T10R3		PT121820
15B4	C540	96AA	2183		CLHI	R4,X'96AA'		PT121830
15B8	203D		2184		BNES	T10R3		PT121840
15BA	C550	8000	2185		CLHI	R5,X'8000'		PT121850
15BE	213B		2186		BNES	T10R4		PT121860
15C0	C850	67A5	2187		LHI	R5,X'67A5'		PT121870
15C4	ED40	0010	2188		SLL	R4,16	SHIFT LEFT 16	PT121880
15C8	2186		2189		BCS	T10R4		PT121890
15CA	C540	67A5	2190		CLHI	R4,X'67A5'		PT121900
15CE	2133		2191		BNES	T10R4		PT121910

1500	0855	2192	LHR	R5,R5		PT121920	
1502	2333	2193	BZS	T10F		PT121930	
1504	4300 2182	2194	T10R4	B	ERROR	PT121940	
1508	C840 AAB4	2195	T10F	LHI	R4,X'AAB4'	PT121950	
150C	C850 2D55	2196		LHI	R5,X'2D55'	PT121960	
15E0	EC40 0001	2197		SRL	R4,1	SHIFT RIGHT 1	PT121970
15E4	238A	2198		BNCS	T10R5	PT121980	
15E6	C540 555A	2199		CLHI	R4,X'555A'	PT121990	
15EA	2137	2200		BNES	T10R5	PT122000	
15EC	C550 16AA	2201		CLHI	R5,X'16AA'	PT122010	
15F0	2134	2202		BNES	T10R5	PT122020	
15F2	EC40 0002	2203		SRL	R4,2	SHIFT RIGHT 2	PT122030
15F6	2183	2204		BCS	T10G	PT122040	
15F8	4300 2182	2205	T10R5	B	ERROR	PT122050	
15FC	C540 1556	2206	T10G	CLHI	R4,X'1556'	PT122060	
1600	2034	2207		BNES	T10R5	PT122070	
1602	C550 85AA	2208		CLHI	R5,X'85AA'	PT122080	
1606	2037	2209		BNES	T10R5	PT122090	
1608	EC40 0004	2210		SRL	R4,4	SHIFT RIGHT 4	PT122100
160C	228A	2211		BNCS	T10R5	PT122110	
160E	C540 0155	2212	T10H	CLHI	R4,X'0155'	PT122120	
1612	213D	2213		BNES	T10R6	PT122130	
1614	C550 685A	2214		CLHI	R5,X'685A'	PT122140	
1618	213A	2215		BNES	T10R6	PT122150	
161A	EC40 0008	2216		SRL	R4,8	SHIFT RIGHT 8	PT122160
161E	2187	2217		BCS	T10R6	PT122170	
1620	C540 0001	2218		CLHI	R4,1	PT122180	
1624	2134	2219		BNES	T10R6	PT122190	
1626	C550 5568	2220		CLHI	R5,X'5568'	PT122200	
162A	2333	2221		BES	T10H2	PT122210	
162C	4300 2182	2222	T10R6	B	ERROR	ERROR 1A02	PT122220
1630	C840 AA95	2223	T10H2	LHI	R4,X'AA95'	PT122230	
1634	EC40 0010	2224		SRL	R4,16	SHIFT RIGHT 16	PT122240
1638	2086	2225		BCS	T10R6	PT122250	
163A	C550 AA95	2226		CLHI	R5,X'AA95'	PT122260	
163E	2039	2227		BNES	T10R6	PT122270	
1640	0844	2228		LHR	R4,R4	PT122280	
1642	2038	2229		BNZS	T10R6	PT122290	
1644	C840 031A	2230	T10J	LHI	R0,X'31A'	PT122300	
1648	4000 22F2	2231		STH	R0,ERRIND	ERRIND = 031A	PT122310
164C	C860 496C	2232		LHI	R6,X'496C'	R6 = 0100,1001,0110,1100	PT122320
1650	C870 B5E3	2233		LHI	R7,X'B5E3'	R7 = 1011,0101,1110,0011	PT122330
1654	EF60 0001	2234		SLA	R6,1	SHIFT LEFT ARITH. 1	PT122340
1658	238D	2235		BNCS	T10R7	PT122350	
165A	C560 12D9	2236		CLHI	R6,X'12D9'	PT122360	
165E	213A	2237		BNES	T10R7	PT122370	
1660	C570 6BC6	2238		CLHI	R7,X'6BC6'	PT122380	
1664	2137	2239		BNES	T10R7	PT122390	
1666	EF60 0002	2240		SLA	R6,2	SHIFT LEFT ARITH. 2	PT122400
166A	2184	2241		BCS	T10R7	PT122410	
166C	C560 4B65	2242		CLHI	R6,X'4B65'	PT122420	
1670	2333	2243		BES	T10K	PT122430	
1672	4300 2182	2244	T10R7	B	ERROR	ERROR 1A03	PT122440
1676	C570 AF18	2245	T10K	CLHI	R7,X'AF18'	PT122450	
167A	2034	2246		BNES	T10R7	PT122460	

167C	9161	2247	SLLS	R6,1	R6 =96CA	PT122470	
167E	EF60 0004	2248	SLA	R6,4	SHIFT LEFT ARITH. 4	PT122480	
1682	2088	2249	BCS	T10R7		PT122490	
1684	C560 ECAA	2250	CLHI	R6,X'ECAA'		PT122500	
1688	203B	2251	BNES	T10R7		PT122510	
168A	C570 F180	2252	CLHI	R7,X'F180'		PT122520	
168E	209E	2253	BNES	T10R7		PT122530	
1690	2488	2254	LIS	R8,8		PT122540	
1692	EF68 0000	2255	SLA	R6,0(R8)		PT122550	
1696	238C	2256	BNCS	T10R8		PT122560	
1698	C560 AAF1	2257	CLHI	R6,X'AAF1'		PT122570	
169C	2139	2258	BNES	T10R8		PT122580	
169E	C570 8000	2259	CLHI	R7,X'8000'		PT122590	
16A2	2136	2260	BNES	T10R8		PT122600	
16A4	C870 550E	2261	LHI	R7,X'550E'		PT122610	
16A8	EF60 0010	2262	SLA	R6,16	SHIFT LEFT ARITH. 16	PT122620	
16AC	2383	2263	BNCS	T10K2		PT122630	
16AE	4300 2182	2264	T10R8	B	ERROR 1A03	PT122640	
16B2	C560 050E	2265	T10K2	CLHI	R6,X'050E'	PT122650	
16B6	2034	2266		BNES	T10R8	PT122660	
16B8	0877	2267		LHR	R7,R7	PT122670	
16BA	2036	2268		BNZS	T10R8	PT122680	
		2269	*			PT122690	
		2270	*	SRA		PT122700	
		2271	*			PT122710	
16BC	C860 4576	2272	T10L	LHI	R6,X'4576'	PT122720	
16C0	C870 6729	2273		LHI	R7,X'6729'	PT122730	
16C4	EE60 0001	2274		SRA	R6,1	SHIFT RIGHT ARITH 1	PT122740
16C8	228D	2275		BNCS	T10R8	PT122750	
16CA	222E	2276		BNPS	T10R8	PT122760	
16CC	C560 228E	2277		CLHI	R6,X'228E'	PT122770	
16D0	213F	2278		BNES	T10R9	PT122780	
16D2	C570 3394	2279		CLHI	R7,X'3394'	PT122790	
16D6	213C	2280		BNES	T10R9	PT122800	
16D8	2482	2281		LIS	R8,2	PT122810	
16DA	EE68 0000	2282		SRA	R6,0(R8)	PT122820	
16DE	2188	2283		BCS	T10R9	PT122830	
16E0	2327	2284		BNPS	T10R9	PT122840	
16E2	C560 08AE	2285		CLHI	R6,X'08AE'	PT122850	
16E6	2134	2286		BNES	T10R9	PT122860	
16E8	C570 CCE5	2287		CLHI	R7,X'CCE5'	PT122870	
16EC	2333	2288		BES	T10L3	PT122880	
16EE	4300 2182	2289	T10R9	B	ERROR 1A03	PT122890	
16F2	C860 AB0F	2290	T10L3	LHI	R6,X'AB0F'	PT122900	
16F6	C870 148A	2291		LHI	R7,X'148A'	PT122910	
16FA	EE60 0004	2292		SRA	R6,4	SHIFT RIGHT ARITH. 4	PT122920
16FE	2288	2293		BNCS	T10R9	PT122930	
1700	2029	2294		BPS	T10R9	PT122940	
1702	C560 FAB0	2295		CLHI	R6,X'FAB0'	PT122950	
1706	209C	2296		BNES	T10R9	PT122960	
1708	C570 F148	2297		CLHI	R7,X'F148'	PT122970	
170C	2138	2298		BNES	T10R95	PT122980	
170E	EE60 0008	2299		SRA	R6,8	SHIFT RIGHT ARITH. 8	PT122990
1712	2198	2300		BCS	T10R95	PT123000	
1714	2127	2301		BPS	T10R95	PT123010	

1716	C560	FFFA	2302	CLHI	R6,X'FFFA'		PT123020
171A	2134		2303	BNES	T10R95		PT123030
171C	C570	80F1	2304	CLHI	R7,X'80F1'		PT123040
1720	2333		2305	BES	T10L5		PT123050
1722	4300	2182	2306	T10R95	B	ERROR	PT123060
1726	C860	730E	2307	T10L5	LHI	R6,X'730E'	PT123070
172A	EE60	0010	2308	SRA	R6,16	SHIFT RIGHT ARITH. 16	PT123080
172E	2286		2309	BNCS	T10R95		PT123090
1730	2227		2310	BNPS	T10R95		PT123100
1732	C570	730E	2311	CLHI	R7,X'730E'		PT123110
1736	203A		2312	BNES	T10R95		PT123120
1738	0866		2313	LHR	R6,R6		PT123130
173A	203C		2314	BNZS	T10R95		PT123140
173C	C800	041A	2315	T10P	LHI	R0,X'41A'	PT123150
1740	4040	22F2	2316	STH	R0,ERRIND	ERRIND = 041A	PT123160
1744	C840	8F70	2317	LHI	R4,X'8F70'		PT123170
1748	0864		2318	LHR	R6,R4	R4 = R6 = 8F70	PT123180
174A	C850	E6A0	2319	LHI	R5,X'E6A0'		PT123190
174E	0875		2320	LHR	R7,R5	R5 = R7 = E680	PT123200
	0000	1750	2321	RLL	EQU *		PT123210
1750	EB60	0000	2322	RLL	R6,0		PT123220
1754	212E		2323	BPS	T10RA	RESULT IS -VE	PT123230
	0000	1756	2324	RRL	EQU *		PT123240
1756	EA90	0000	2325	RRL	R6,0		PT123250
175A	214B		2326	BPS	T10RA		PT123260
175C	0546		2327	CLHR	R4,R6		PT123270
175E	2139		2328	BNES	T10RA		PT123280
1760	0557		2329	CLHR	R5,R7		PT123290
1762	2137		2330	BNES	T10RA		PT123300
1764	EB60	0001	2331	RLL	R6,1	ROTATE LEFT 1	PT123310
1768	2324		2332	BNPS	T10RA		PT123320
176A	C560	1EE1	2333	CLHI	R6,X'1EE1'		PT123330
176E	2333		2334	BES	T10P2		PT123340
1770	4300	2182	2335	T10RA	B	ERROR	PT123350
1774	C570	CD41	2336	T10P2	CLHI	R7,X'CD41'	PT123360
1778	2034		2337	BNES	T10RA		PT123370
177A	EA60	0001	2338	RRL	R6,1	ROTATE RIGHT 1	PT123380
177E	2027		2339	BPS	T10RA		PT123390
1780	0546		2340	CLHR	R4,R6		PT123400
1782	2039		2341	BNES	T10RA		PT123410
1784	0557		2342	CLHR	R5,R7		PT123420
1786	203B		2343	BNES	T10RA		PT123430
1788	EB60	0002	2344	RLL	R6,2	ROTATE LEFT 2	PT123440
178C	232E		2345	BNPS	T10RB		PT123450
178E	C560	30C3	2346	CLHI	R6,X'30C3'		PT123460
1792	213B		2347	BNES	T10RB		PT123470
1794	C570	9A82	2348	CLHI	R7,X'9A82'		PT123480
1798	2138		2349	BNES	T10RB		PT123490
179A	EA60	0002	2350	RRL	R6,2	ROTATE RIGHT 2	PT123500
179E	2125		2351	BPS	T10RB		PT123510
17A0	0546		2352	CLHR	R4,R6		PT123520
17A2	2133		2353	BNES	T10RB		PT123530
17A4	0557		2354	CLHR	R5,R7		PT123540
17A6	2333		2355	BES	T10P4		PT123550
17A8	4300	2182	2356	T10RB	B	ERROR	PT123560

17AC	EB60 0004	2357	T10P4	RLI	R6,4	ROTATE LEFT 4	PT123570	
17B0	2024	2358		BPS	T10RB		PT123580	
17B2	EB60 0008	2359		RLI	R6,8	ROTATE LEFT 8	PT123590	
17B6	2227	2360		BNPS	T10RB		PT123600	
17B8	EA60 0004	2361		RRL	R6,4	ROTATE RIGHT 4	PT123610	
17BC	222A	2362		BNPS	T10RB		PT123620	
17BE	EA60 0008	2363		RRL	R6,8	ROTATE RIGHT 8	PT123630	
17C2	202D	2364		BPS	T10RB		PT123640	
17C4	0546	2365		CLHR	R4,R6		PT123650	
17C6	213E	2366		BNES	T10RC		PT123660	
17C8	0557	2367		CLHR	R5,R7		PT123670	
17CA	213C	2368		BNES	T10RC		PT123680	
17CC	EB60 0010	2369		RLI	R6,16	ROTATE LEFT 16	PT123690	
17D0	2129	2370		BPS	T10RC		PT123700	
17D2	2188	2371		BCS	T10RC		PT123710	
17D4	0547	2372		CLHR	R4,R7		PT123720	
17D6	2136	2373		BNES	T10RC		PT123730	
17D8	0556	2374		CLHR	R5,R6		PT123740	
17DA	2134	2375		BNES	T10RC		PT123750	
17DC	EA60 0010	2376		RRL	R6,16	ROTATE RIGHT 16	PT123760	
17E0	2323	2377		BNPS	T10P8		PT123770	
17E2	4300 2182	2378	T10RC	B	ERROR	ERROR 1A04	PT123780	
17E6	0546	2379	T10P8	CLHR	R4,R6		PT123790	
17E8	2033	2380		BNES	T10RC		PT123800	
17EA	0557	2381		CLHR	R5,R7		PT123810	
17EC	2035	2382		BNES	T10RC		PT123820	
		2383	*				PT123830	
17EE	2301	2384	T10END	BS	TEST11		PT123840	
		2385	*****					PT123850
		2386	*				PT123860	
		2387	*	TEST11 CHECKS THE INSTRUCTIONS			PT123870	
		2388	*				PT123880	
		2389	*	MH , MHR , MHU , MHUR			PT123890	
		2390	*				PT123900	
		2391	*	DH , DHR			PT123910	
		2392	*				PT123920	
		2393	*	TEST11 TESTS THE MULTIPLY AND DIVIDE INSTRUCTIONS			PT123930	
		2394	*				PT123940	
	0000 0000	2395	POINT	EQU	13		PT123950	
		2396	*				PT123960	
17F0	C800 1866	2397	TEST11	LHI	R0,TEST12		PT123970	
17F4	4000 22F4	2398		STH	R0,NXTST		PT123980	
17F8	C800 0118	2399		LHI	R0,X'011B'		PT123990	
17FC	4000 22F2	2400		STH	R0,ERRIND		PT124000	
1800	C800 3142	2401		LHI	R0,C'18'		PT124010	
1804	4000 2288	2402		STH	R0,TESTNO		PT124020	
1808	4800 22E0	2403		LH	R0,CPUNO		PT124030	
180C	C500 3841	2404		CLHI	R0,C'8A'		PT124040	
1810	4330 1866	2405		BE	TEST12		PT124050	
		2406	*				PT124060	
1814	24F1	2407		LIS	TOT,1	SET ERROR NUMBER=1	PT124070	
1816	C800 1A3C	2408	MCHK2	LHI	POINT,MUD1		PT124080	
181A	2478	2409		LIS	R7,8		PT124090	
181C	483D 0000	2410	MLOOP1	LH	R3,0(PPOINT)	FETCH A	PT124100	
1820	484D 0002	2411		LH	R4,2(PPOINT)	FETCH B	PT124110	

1824	4850	22F6	2412	LH	R5,ZERO		PT124120
1828	4860	22F6	2413	LH	R6,ZERO		PT124130
182C	0853		2414	SHR	R5,R3	GET -A	PT124140
182E	0864		2415	SHR	R6,R4	GET -B	PT124150
1830	488D	0004	2416	LH	R8,4(POINT)	FETCH EXPECTED DOUBLE	PT124160
1834	489D	0006	2417	LH	R9,6(POINT)	LENGTH VALUE OF (A*B)	PT124170
1838	0813		2418	LHR	R1,R3	A	PT124180
183A	954C		2419	EPSR	R12,R12	SAVE CC	PT124190
	0000	183C	2420	MH	EQU *		PT124200
183C	4C0D	0002	2421	MH	R0,2(POINT)	A*B	PT124210
1840	41A0	1980	2422	BAL	R10,TESTC4		PT124220
1844	24F2		2423	LIS	TOT,2	SET ERROR NUMBER=2	PT124230
1846	0814		2424	LHR	R1,R4	B	PT124240
1848	95CC		2425	EPSR	R12,R12	SAVE CC	PT124250
184A	4C0D	0000	2426	MH	R0,0(POINT)	B*A	PT124260
184E	41A0	1980	2427	BAL	R10,TESTC4		PT124270
1852	24F3		2428	LIS	TOT,3	SET ERROR NUMBER=3	PT124280
1854	0722		2429	XHR	R2,R2		PT124290
1856	4020	185E	2430	STH	R2,SFLAG	RESET SFLAG	PT124300
185A	C550	8000	2431	CLHI	R5,X'8000'		PT124310
185E	4230	1872	2432	BNE	SCONT1		PT124320
1862	C560	8000	2433	CLHI	R6,X'8000'		PT124330
1866	4330	1872	2434	BE	SCONT1		PT124340
186A	C820	7777	2435	LHI	R2,X'7777'		PT124350
186E	4020	185E	2436	STH	R2,SFLAG	SET SFLAG	PT124360
1872	0815		2437	LHR	R1,R5	-A	PT124370
1874	95CC		2438	EPSR	R12,R12	SAVE CC	PT124380
1876	0C06		2439	MHR	R0,R6	-A*(-B)	PT124390
1878	41A0	1A12	2440	BAL	R10,SCHECK		PT124400
187C	41A0	1980	2441	BAL	R10,TESTC4		PT124410
1880	24F4		2442	LIS	TOT,4	SET ERROR NUMBER=4	PT124420
1882	0816		2443	LHR	R1,R6		PT124430
1884	95CC		2444	EPSR	R12,R12		PT124440
1886	0C05		2445	MHR	R0,R5	-B*(-A)	PT124450
1888	41A0	1A12	2446	BAL	R10,SCHECK		PT124460
188C	41A0	1980	2447	BAL	R10,TESTC4		PT124470
1890	24F5		2448	LIS	TOT,5	SET ERROR NUMBER=5	PT124480
1892	0788		2449	XHR	R8,R8		PT124490
1894	0799		2450	XHR	R9,R9		PT124500
1896	489D	0006	2451	SH	R9,6(POINT)	DOUBLE LENGTH	PT124510
189A	4F8D	0004	2452	SCH	R8,4(POINT)	EXPECTED -(A*B)	PT124520
189E	0722		2453	XHR	R2,R2		PT124530
18A0	4020	185E	2454	STH	R2,SFLAG	RESET SFLAG	PT124540
18A4	C560	8000	2455	CLHI	R6,X'8000'		PT124550
18A8	4230	1884	2456	BNE	SCONT2		PT124560
18AC	C820	7777	2457	LHI	R2,X'7777'		PT124570
18B0	4020	185E	2458	STH	R2,SFLAG	SET SFLAG	PT124580
18B4	0813		2459	LHR	R1,R3		PT124590
18B6	95CC		2460	EPSR	R12,R12		PT124600
18B8	0C06		2461	MHR	R0,R6	A*(-B)	PT124610
18BA	41A0	1A12	2462	BAL	R10,SCHECK		PT124620
18BE	41A0	1980	2463	BAL	R10,TESTC4		PT124630
18C2	24F6		2464	LIS	TOT,6	SET ERROR NUMBER=6	PT124640
18C4	0816		2465	LHR	R1,R6	-B	PT124650
18C6	95CC		2466	EPSR	R12,R12		PT124660

18C8	4C0D 0000	2467	MH	R0,0(POINT)	(-B)*A	PT124670
18CC	41A0 1A12	2468	BAL	R10,SCHECK		PT124680
18D0	41A0 1980	2469	BAL	R10,TESTC4		PT124690
18D4	24F7	2470	LIS	TOT,7	SET ERROR NUMBER=7	PT124700
18D6	0722	2471	XHR	R2,R2		PT124710
18D8	4020 185E	2472	STH	R2,SFLAG	RESET SFLAG	PT124720
18DC	C550 8000	2473	CLHI	R5,X'8000'		PT124730
18E0	4230 18EC	2474	BNE	SCONT3		PT124740
18E4	C840 7777	2475	LHI	R2,X'7777'		PT124750
18E8	4020 185E	2476	STH	R2,SFLAG	SET SFLAG	PT124760
18EC	0814	2477	LHR	R1,R4	B	PT124770
18EE	95CC	2478	EPSR	R12,R12		PT124780
	0000 18F0	2479	MHR	EQU *		PT124790
18F0	UC05	2480	MHR	R0,R5	B*(-A)	PT124800
18F2	41A0 1A12	2481	BAL	R10,SCHECK		PT124810
18F6	41A0 1980	2482	BAL	R10,TESTC4		PT124820
18FA	24F8	2483	LIS	TOT,8	SET ERROR NUMBER=8	PT124830
18FC	0815	2484	LHR	R1,R5	-A	PT124840
18FE	95CC	2485	EPSR	R12,R12		PT124850
1900	4C0D 0002	2486	MH	R0,2(POINT)	(-A)*B	PT124860
1904	41A0 1A12	2487	BAL	R10,SCHECK		PT124870
1908	41A0 1980	2488	BAL	R10,TESTC4		PT124880
190C	24F9	2489	LIS	TOT,9	SET ERROR NUMBER=9	PT124890
190E	488D 0008	2490	LH	R8,8(POINT)	EXPECTED DOUBLE LENGTH VALUE	PT124900
1912	489D 000A	2491	LH	R9,10(POINT)	OF UNSIGNED PRODUCT OF A AND B	PT124910
1916	0813	2492	LHR	R1,R3	A	PT124920
1918	95CC	2493	EPSR	R12,R12		PT124930
	0000 191A	2494	MHU	EQU *		PT124940
191A	DC0D 0002	2495	MHU	R0,2(POINT)	A*B UNSIGNED	PT124950
191E	41A0 1980	2496	BAL	R10,TESTC4		PT124960
1922	24FA	2497	LIS	TOT,10	SET ERROR NUMBER=X'A'	PT124970
1924	0814	2498	LHR	R1,R4	B	PT124980
1926	95CC	2499	EPSR	R12,R12		PT124990
	0000 1928	2500	MHUR	EQU *		PT125000
1928	9C03	2501	MHUR	R0,R3	B*A UNSIGNED	PT125010
192A	41A0 1980	2502	BAL	R10,TESTC4		PT125020
192E	24F1	2503	LIS	TOT,1		PT125030
1930	26DC	2504	AIS	POINT,12		PT125040
1932	2771	2505	SIS	R7,1		PT125050
1934	4230 181C	2506	BNZ	ML00P1		PT125060
		2507	*			PT125070
	0000 0007	2508	POINTR	EQU 7		PT125080
		2509	*			PT125090
1938	0722	2510	DVDCHK	XHR R2,R2		PT125100
193A	4020 004C	2511	STH	R2,X'4C'		PT125110
193E	C830 19FE	2512	LHI	R3,DFault		PT125120
1942	4030 004E	2513	STH	R3,X'4E'		PT125130
1946	C820 1000	2514	LHI	R2,X'1000'	ENABLE DIVIDE FAULT INTERRUPT	PT125140
194A	9532	2515	EPSR	R3,R2		PT125150
194C	C870 1A9C	2516	LHI	POINTR, DIVD2		PT125160
1950	242F	2517	LIS	R2,15		PT125170
1952	D1A7 0000	2518	DL00P2	LM R10,0(POINTR)		PT125180
1956	243C	2519	LIS	R3,12	SET ERROR NUMBER=X'C'	PT125190
1958	080A	2520	LHR	R0,R10	DOUBLE LENGTH	PT125200
195A	081B	2521	LHR	R1,R11	DIVIDEND	PT125210

195C	9588		2522	EPSR	R8,R8	SAVE PSW	PT125220
	0000	195E	2523	EQU	*		PT125230
195E	0D0C		2524	DHR	R0,R12	DIVIDEND/DIVISOR	PT125240
1960	4190	1996	2525	BAL	R9,TESTC5		PT125250
1964	2430		2526	LIS	R3,13	SET ERROR NUMBER=X'D'	PT125260
1966	080A		2527	LHR	R0,R10	DOUBLE LENGTH	PT125270
1968	081B		2528	LHR	R1,R11	DIVIDEND	PT125280
196A	9588		2529	EPSR	R8,R8	SAVE PSW	PT125290
	0000	196C	2530	EQU	*		PT125300
196C	4D07	0004	2531	DH	R0,4(POINTR)	DIVIDEND/DIVISOR	PT125310
1970	4190	1996	2532	BAL	R9,TESTC5		PT125320
1974	267C		2533	AIS	POINTR,12	INCREMENT POINTER BY 12	PT125330
1976	2721		2534	SIS	R2,1	DECREMENT COUNT	PT125340
1978	4310	1952	2535	BNM	DL00P2		PT125350
197C	4300	1866	2536	T11END	B TEST12		PT125360
			2537	*	SUBROUTINES OF T11		PT125370
1980	95LE		2538	TESTC4	EPSR R14,R14	GET PSW	PT125380
1982	05CE		2539	CLHR	R12,R14		PT125390
1984	4230	19BA	2540	BNE	ERR21		PT125400
1988	0580		2541	CLHR	R8,R0		PT125410
198A	4230	19BA	2542	BNE	ERR21		PT125420
198E	0591		2543	CLHR	R9,R1		PT125430
1990	4230	19BA	2544	BNE	ERR21		PT125440
1994	030A		2545	BR	R10		PT125450
1996	9566		2546	TESTC5	EPSR R6,R6	GET PSW	PT125460
1998	0568		2547	CLHR	R6,R8		PT125470
199A	4230	19D6	2548	BNE	ERROR1		PT125480
199E	050D		2549	CLHR	R0,R13		PT125490
19A0	4230	19D6	2550	BNE	ERROR1		PT125500
19A4	051E		2551	CLHR	R1,R14		PT125510
19A6	4230	19D6	2552	BNE	ERROR1		PT125520
19AA	45F0	185C	2553	CLH	R15,IDFLAG		PT125530
19AE	4230	19D6	2554	BNE	ERROR1		PT125540
19B2	0766		2555	XHR	R6,R6		PT125550
19B4	4060	185C	2556	STH	R6,IDFLAG		PT125560
19B8	0309		2557	BR	R9		PT125570
19BA	080E		2558	ERR21	LHR R13,R14	PSW AFTER MULTIPLICATION	PT125580
19BC	08EC		2559	LHR	R14,R12	PSW BEFORE MULTIPLICATION	PT125590
19BE	0888		2560	LHR	R11,R8	CALCULATED	PT125600
19C0	08C9		2561	LHR	R12,R9	RESULT	PT125610
19C2	0890		2562	LHR	R9,R0	EXPECTED	PT125620
19C4	08A1		2563	LHR	R10,R1	RESULT	PT125630
19C6	0875		2564	LHR	R7,R5	NEGATIVE OF THE FIRST OPERAND	PT125640
19C8	0886		2565	LHR	R8,R6	NEGATIVE OF THE SECOND OPERAND	PT125650
19CA	0853		2566	LHR	R5,R3	THE FIRST OPERAND	PT125660
19CC	0864		2567	LHR	R6,R4	THE SECOND OPERAND	PT125670
19CE	244A		2568	LIS	R4,10	TEN VALUES ARE TO BE PRINTED	PT125680
19D0	083F		2569	LHR	R3,TOT		PT125690
19D2	4300	19EE	2570	B	ERR2		PT125700
19D6	244B		2571	ERROR1	LIS R4,11	ELEVEN HALF WORDS ARE TO BE PRINTED	PT125710
19D8	085A		2572	LHR	R5,R10	MSB OF THE DIVIDEND	PT125720
19DA	087C		2573	LHR	R7,R12	DIVISOR	PT125730
19DC	0891		2574	LHR	R9,R1	ACTUAL VALUE OF QUOTIENT	PT125740
19DE	08AD		2575	LHR	R10,R13	EXPECTED VALUE OF REMAINDER	PT125750
19E0	08C6		2576	LHR	R12,R6	PSW AFTER DIVISION	PT125760

19E2	08D8	2577	LHR	R13,R8	PSW BEFORE DIVISION	PT125770	
19E4	0880	2578	LHR	R8,R0	ACTUAL VALUE OF THE REMAINDER	PT125780	
19E6	086B	2579	LHR	R6,R11	LSB OF THE DIVIDEND	PT125790	
19E8	08BE	2580	LHR	R11,R14	EXPECTED QUOTIENT VALUE	PT125A00	
19EA	48E0 1B5C	2581	LH	R14,IDFLAG	ACTUAL DIVIDE FAULT FLAG	PT125A10	
19EE	C800 001B	2582	LHI	R0,X'001B'		PT125A20	
19F2	9198	2583	SLLS	R3,8		PT125A30	
19F4	0603	2584	OHR	R0,R3		PT125A40	
19F6	4000 22F2	2585	STH	R0,ERRIND		PT125A50	
19FA	4300 2182	2586	B	ERROR		PT125A60	
19FE	4060 1B60	2587	DFAULT	STH	R6,TEMPF	PT125A70	
1A02	C860 7777	2588	LHI	R6,X'7777'		PT125A80	
1A06	4060 1B5C	2589	STH	R6,IDFLAG	SET DIVIDE FAULT INT. FLAG	PT125A90	
1A0A	4860 1B60	2590	LH	R6,TEMPF	RESTORE R6	PT125900	
1A0E	C200 0048	2591	LPSW	X'48'	LOAD NEW PSW & LOC FROM '48'	PT125910	
1A12	95C2	2592	SCHECK	EPSR	R2,R2	SAVE PSW	PT125920
1A14	48E0 1B5E	2593	LH	R14,SFLAG	EXAMINE SFLAG	PT125930	
1A18	2338	2594	BZS	NCHANG	IF RESET, DO NOT MODIFY	PT125940	
1A1A	C700 FFFF	2595	XHI	R0,X'FFFF'	COMPLEMENT	PT125950	
1A1E	C710 FFFF	2596	XHI	R1,X'FFFF'	THE RESULT	PT125960	
1A22	2611	2597	AIS	R1,1		PT125970	
1A24	4E00 22F6	2598	ACH	R0,ZERO		PT125980	
1A28	95E2	2599	NCHANG	EPSR	R14,R2	RESTORE PSW	PT125990
1A2A	030A	2600	BR	R10		PT126000	
		2601	*	DATA OF TEST11		PT126010	
1A2C	0000	2602	MUD2	DC	0,1,X'FFFF'	PT126020	
1A2E	0001						
1A30	FFFF						
1A32	7FFF	2603	DC	X'7FFF',X'8001'		PT126030	
1A34	8001						
1A36	8000	2604	DC	X'8000',X'7777'		PT126040	
1A38	7777						
1A3A	79DE	2605	DC	X'79DE'		PT126050	
1A3C	0000	2606	MUD1	DC	0	A	PT126060
1A3E	0000	2607	DC	0		B	PT126070
1A40	0000	2608	DC	0,0		A*B	PT126080
1A42	0000						
1A44	0000	2609	DC	0,0		A*B UNSIGNED	PT126090
1A46	0000						
1A48	0000	2610	DC	0		A	PT126100
1A4A	FFFF	2611	DC	X'FFFF'		B	PT126110
1A4C	0000	2612	DC	0,0		A*B	PT126120
1A4E	0000						
1A50	0000	2613	DC	0,0		A*B UNSIGNED	PT126130
1A52	0000						
1A54	7FFF	2614	DC	X'7FFF',0			PT126140
1A56	0000						
1A58	0000	2615	DC	0,0			PT126150
1A5A	0000						
1A5C	0000	2616	DC	0,0			PT126160
1A5E	0000						
1A60	1111	2617	DC	X'1111'		A	PT126170
1A62	1111	2618	DC	X'1111'		B	PT126180
1A64	0123	2619	DC	X'0123',X'4321'		A*B	PT126190
1A66	4321						

1A68	0123	2620	DC	X'0123',X'4321'	A*B UNSIGNED	PT126200
1A6A	4321					
1A6C	1111	2621	DC	X'1111'	A	PT126210
1A6E	FFFF	2622	DC	X'FFFF'	B	PT126220
1A70	FFFF	2623	DC	X'FFFF',X'EEEE'	A*B	PT126230
1A72	EEEE					
1A74	1110	2624	DC	X'1110',X'EEEE'	A*B UNSIGNED	PT126240
1A76	EEEE					
1A78	FFFF	2625	DC	X'FFFF'	A	PT126250
1A7A	FFFF	2626	DC	X'FFFF'	B	PT126260
1A7C	0000	2627	DC	0,1	A*B	PT126270
1A7E	0001					
1A80	FFFE	2628	DC	X'FFFE',X'0001'	A*B UNSIGNED	PT126280
1A82	0001					
1A84	8000	2629	DC	X'8000',X'FFFF'		PT126290
1A86	FFFF					
1A88	0000	2630	DC	0,X'8000'		PT126300
1A8A	8000					
1A8C	7FFF	2631	DC	X'7FFF',X'8000'		PT126310
1A8E	8000					
1A90	8000	2632	DC	X'8000',X'8000'		PT126320
1A92	8000					
1A94	4000	2633	DC	X'4000',0		PT126330
1A96	0000					
1A98	4000	2634	DC	X'4000',0		PT126340
1A9A	0000					
1A9C	0000	2635	DIVD2 DC	0,0,0		PT126350
1A9E	0000					
1AA0	0000					
1AA2	0000	2636	DC	0,0,X'7777'		PT126360
1AA4	0000					
1AA6	7777					
1AA8	0000	2637	DC	0,1,0		PT126370
1AAA	0001					
1AAC	0000					
1AAE	0000	2638	DC	0,1,X'7777'		PT126380
1AB0	0001					
1AB2	7777					
1AB4	FFFF	2639	DC	X'FFFF',X'FFFF'		PT126390
1AB6	FFFF					
1AB8	0000	2640	DC	0,X'FFFF',X'FFFF'		PT126400
1ABA	FFFF					
1ABC	FFFF					
1ABE	7777	2641	DC	X'7777'		PT126410
1AC0	0000	2642	DC	0,0,X'7FFF'		PT126420
1AC2	0000					
1AC4	7FFF					
1AC6	0000	2643	DC	0,0,0		PT126430
1AC8	0000					
1ACA	0000					
1ACC	0000	2644	DC	0,0,X'FFFF'		PT126440
1ACE	0000					
1AD0	FFFF					
1AD2	0000	2645	DC	0,0,0		PT126450
1AD4	0000					

1AD6	0000				
1AD8	UUU0	2646	DC	0,0,X'8000'	PT126460
1ADA	0000				
1ADC	8000				
1ADE	0000	2647	DC	0,0,U	PT126470
1AE0	0000				
1AE2	0000				
1AE4	3FFF	2648	DC	X'3FFF',X'8000'	PT126480
1AE6	80U0				
1AE8	7FFF	2649	DC	X'7FFF',X'3FFF'	PT126490
1AEA	3FFF				
1AEC	8000	2650	DC	X'8000',X'7777'	PT126500
1AEE	7777				
1AF0	CUU0	2651	DC	X'C000',X'8000'	PT126510
1AF2	8000				
1AF4	8001	2652	DC	X'8001',X'C000'	PT126520
1AF6	C000				
1AF8	8000	2653	DC	X'8000',X'7777'	PT126530
1AFA	7777				
1AFC	3FFF	2654	DC	X'3FFF',X'7FFF'	PT126540
1AFE	7FFF				
1B00	7FFF	2655	DC	X'7FFF',X'7FFE'	PT126550
1B02	7FFE				
1B04	7FFF	2656	DC	X'7FFF',0	PT126560
1B06	U000				
1B08	C000	2657	DC	X'C000',X'8001'	PT126570
1B0A	8001				
1B0C	80U1	2658	DC	X'8001',X'8002'	PT126580
1B0E	8002				
1B10	7FFF	2659	DC	X'7FFF',0	PT126590
1B12	0000				
1B14	3FFF	2660	DC	X'3FFF',X'FFFE'	PT126600
1B16	FFFE				
1B18	8001	2661	DC	X'8001',X'7FFE'	PT126610
1B1A	7FFE				
1B1C	8000	2662	DC	X'8000',0	PT126620
1B1E	0000				
1B20	CUU0	2663	DC	X'C000',X'0002'	PT126630
1B22	0002				
1B24	7FFF	2664	DC	X'7FFF',X'8002'	PT126640
1B26	8002				
1B28	8000	2665	DC	X'8000',0	PT126650
1B2A	0000				
1B2C	3FFF	2666	DC	X'3FFF',X'FFFF'	PT126660
1B2E	FFFF				
1B30	8001	2667	DC	X'8001',X'3FFF'	PT126670
1B32	3FFF				
1B34	FFFF	2668	DC	X'FFFF',X'7777'	PT126680
1B36	7777				
1B38	C000	2669	DC	X'C000',X'0001'	PT126690
1B3A	0001				
1B3C	7FFF	2670	DC	X'7FFF',X'C000'	PT126700
1B3E	C000				
1B40	00U1	2671	DC	X'0001',X'7777'	PT126710
1B42	7777				

1B44	0000	2672	DC	0,1,X'FFFF'	PT126720	
1B46	0001					
1B48	FFFF					
1B4A	0000	2673	DC	0,X'FFFF',0	PT126730	
1B4C	FFFF					
1B4E	0000					
1B50	FFFF	2674	DC	X'FFFF',X'FFFC'	PT126740	
1B52	FFFC					
1B54	0002	2675	DC	X'0002',0	PT126750	
1B56	0000					
1B58	FFFE	2676	DC	X'FFFE',0	PT126760	
1B5A	0000					
1B5C	0000	2677	IDFLAG	DC 0	PT126770	
1B5E	0000	2678	SFLAG	DC 0	PT126780	
1B60		2679	TEMPF	DS 2	PT126790	
1B62	0000	2680	NUMBER	DC 0,X'7FFF'	PT126800	
1B64	7FFF					
		2681	*****			PT126810
		2682	*		PT126820	
		2683	*	TEST 12	PT126830	
		2684	*		PT126840	
		2685	*	THIS TEST CHECKS SET MAP AND LOAD PROGRAM STATUS INSTRUCTIONS.	PT126850	
		2686	*	THE FIRST PART OF THE TEST CHECKS SETMR AND SETM.	PT126860	
		2687	*	THE SECOND PART OF THE TEST CHECKS LPS AND LPSR.	PT126870	
		2688	*		PT126880	
		2689	*****			PT126890
		2690	*		PT126900	
		2691	*	THE COMMENTS BELOW REFER TO BITS 8-11.	PT126910	
		2692	*	THESE BITS ARE FROM THE SECOND OPERAND (R2).	PT126920	
		2693	*		PT126930	
1B66	C8E0 1CBE	2694	TEST12	LHI R14,STOSETM	STORAGE AREA FOR RX FORMAT INSTR.	PT126940
1B6A	C8F0 0334	2695		LHI R15,TEST1		PT126950
1B6E	40F0 22F4	2696		STH R15,NXTST		PT126960
1B72	C800 3143	2697		LHI R0,C'1C'		PT126970
1B76	4000 22B8	2698		STH R0,TESTNO		PT126980
1B7A	C850 7C00	2699		LHI R5,X'7C00'	ARBITRARY PSW FOR SWITCHING	PT126990
1B7E	07AA	2700		XHR R10,R10	FLAG DECIDES TO EXEC. SETMR OR SETM	PT127000
1B80	0799	2701		XHR R9,R9	DOCOMP ROUTINE FLAG	PT127010
1B82	C800 001C	2702		LHI R0,X'001C'		PT127020
1B86	4000 22F2	2703		STH R0,ERRIND		PT127030
1B8A	4300 1880	2704		B SET01		PT127040
1B8E	C5A0 0001	2705	SET0	CLHI R10,1	CHECK FLAG	PT127050
1B92	2184	2706		BLS SER0	IF FLAG IS ZERO EXECUTE SETMR	PT127060
1B94	2339	2707		BES SER	IF FLAG IS NOT ZERO EXECUTE SETMR	PT127070
1B96	4300 1CC0	2708		B CHANST	BRANCH TO CHECK FOR LARGER MEMORY	PT127080
1B9A	1312	2709	SER0	SETMR R1,R2		PT127090
1B9C	4520 1F3C	2710		CLH R2,RTWOFI	CHECK R2 FIELD TO SEE IF INTACT	PT127100
1BA0	4200 1F34	2711		BNE SETERC		PT127110
1BA4	030B	2712		BR R11		PT127120
1BA6	4020 1CBE	2713	SER	STH R2,STOSETM	STORE R2 FIELD IN STORAGE LOCATION	PT127130
1BAA	531E 0000	2714		SETM R1,0(R14)	R14 CONTAINS ADDRESS OF STOSETM	PT127140
1BAE	030B	2715		BR R11		PT127150
		2716	*			PT127160
		2717	*	BITS 8-11 IN THIS SECTION ARE FROM 0000 TO 0110		PT127170
		2718	*			PT127180

1880	0744	2719	SET01	XHR	R4,R4	R4 IS CHECK AGAINST R2 (PSW)	PT127190	
1882	0746	2720		XHR	R6,R6	R6 IS PSW COUNTER	PT127200	
1884	0722	2721		XHR	R2,R2	R2 IS LOCATION FOR NEW PSW'S	PT127210	
1886	9552	2722		EPSR	R5,R2	SWITCH TO NEW PSW	PT127220	
1888	4020 1F3C	2723		STH	R2,RTWOFI		PT127230	
18BC	0755	2724		XHR	R5,R5		PT127240	
18BE	C810 F0F0	2725		LHI	R1,X'F0F0'	R1 TO BE COMPARE TO	PT127250	
18C2	0831	2726		LHR	R3,R1	CONSTANT VALUE OF R3	PT127260	
18C4	C880 0060	2727		LHI	R8,X'0060'	R8 IS UPPER LIMIT FOR COUNTER	PT127270	
18C8	C880 18D4	2728		LHI	R11,SET0A		PT127280	
18CC	C8D0 1C2E	2729		LHI	R13,SETR		PT127290	
18D0	4300 188E	2730		R	SET0		PT127300	
		2731	*				PT127310	
		2732	*				PT127320	
		2733	* THIS SECTION TESTS THE ABOVE SET UPS FOR SETMR AND SETM					PT127330
18D4	0513	2734	SET0A	CLHR	R1,R3	COMPARE R1 TO EXPECTED VALUE (R3)	PT127340	
18D6	4230 1C98	2735		BNE	SETERA		PT127350	
18DA	9525	2736		EPSR	R2,R5	EXCHANGE PSW TO TEST IT	PT127360	
18DC	0524	2737		CLHR	R2,R4	COMPARE R2(PSW) TO EXPECTED PSW(R4)	PT127370	
18DE	4230 1CAE	2738		BNE	SETERB		PT127380	
18E2	C5A0 0001	2739		CLHI	R10,1	CHECK IF SETM OR SETMR EXECUTED	PT127390	
18E6	2137	2740		BNES	SET0A2	IF R10=1, R2 FIELD WAS CHECKED	PT127400	
18E8	4820 1CRE	2741		LH	R2,STOSETM	LOAD R2 FIELD INTO R2 FOR CHECK	PT127410	
18EC	4520 1F3C	2742		CLH	R2,RTWOFI	CHECK IF R2 FIELD IS STILL INTACT	PT127420	
18F0	4230 1F34	2743		BNE	SETERC		PT127430	
18F4	0568	2744	SET0A2	CLHR	R6,R8	CHECK IF ALL PSW'S HAVE BEEN TESTED	PT127440	
18F6	4330 1C12	2745		BE	CHFI		PT127450	
18FA	CA60 0010	2746		AHI	R6,X'10'	INCREMENT PSW COUNTER	PT127460	
18FE	0826	2747	SET0A1	LHR	R2,R6	LOAD NEW PSW INTO R2	PT127470	
1C00	C420 00F0	2748		NHI	R2,X'00F0'	AND OFF UNNECESSARY BITS	PT127480	
1C04	C620 4C00	2749		OHI	R2,X'4C00'	OR IN CHECK BITS	PT127490	
1C08	4020 1F3C	2750		STH	R2,RTWOFI	STORE IN R2 FIELD CHECK AREA	PT127500	
1C0C	0846	2751		LHR	R4,R6		PT127510	
1C0E	4300 188E	2752		R	SET0	BRANCH TO EXECUTE TEST INSTRUCTION	PT127520	
		2753	*				PT127530	
1C12	C560 7E60	2754	CHFI	CLHI	R6,X'7E60'	COMPARE COUNTER (R6) TO FINAL PSW	PT127540	
1C16	033D	2755		BER	R13		PT127550	
1C18	C400 FF00	2756		NHI	R6,X'FF00'	REMOVE EXTRANEIOUS BITS	PT127560	
1C1C	CA60 0200	2757		AHI	R6,X'0200'	INCREMENT FOR NEW PSW	PT127570	
1C20	0886	2758		LHR	R8,R6		PT127580	
1C22	CA80 0060	2759		AHI	R8,X'60'	ADJUST R8 TO FINAL PSW	PT127590	
1C26	9556	2760		EPSR	R5,R6	SWITCH TO NEW PSW	PT127600	
1C28	0856	2761		LHR	R5,R6	R5 TO BE NEW PSW AT COMPAR. ROUTINE	PT127610	
1C2A	4300 18FE	2762		B	SET0A1		PT127620	
		2763	*				PT127630	
		2764	* BIT 8-11 IN THIS SECTION ARE EQUAL TO 1111 ONLY					PT127640
		2765	*				PT127650	
1C2E	C810 F0F0	2766	SETB	LHI	R1,X'F0F0'	LOAD R1 WITH CONSTANT	PT127660	
1C32	0831	2767		LHR	R3,R1	R3 TO BE CHECK AGAINST R1	PT127670	
1C34	C880 1C4A	2768		LHI	R11,SET0B		PT127680	
1C38	0755	2769		XHR	R5,R5	R5 TO BE COUNTER	PT127690	
1C3A	9525	2770		EPSR	R2,R5	SWITCH TO NEW PSW	PT127700	
1C3C	C820 00F0	2771		LHI	R2,X'00F0'	SET UP R2 FIELD	PT127710	
1C40	4020 1F3C	2772		STH	R2,RTWOFI	STORE IN R2 FIELD CHECK AREA	PT127720	
1C44	0842	2773		LHR	R4,R2	R4 TO BE CHECK AGAINST R2	PT127730	

1C46	4300 1B8E	2774		B	SET0		PT127740
		2775	*				PT127750
1C4A	0513	2776	SET0B	CLHR	R1,R3	COMPARE R1 TO EXPECTED VALUE (R3)	PT127760
1C4C	4230 1C98	2777		BNE	SETERA		PT127770
1C50	9525	2778		EPSR	R2,R5	GET PSW	PT127780
1C52	0524	2779		CLHR	R2,R4	COMPARE PSW(R2) TO EXPECTED PSW(R4)	PT127790
1C54	4230 1CAE	2780		BNE	SETERB		PT127800
1C58	C5A0 0001	2781		CLHI	R10,1	CHECK IF SETM OR SETMR EXECUTED	PT127810
1C5C	4230 1C6C	2782		BNE	SET0B,2	IF R10=1, R2 FIELD WAS CHECKED	PT127820
1C60	4820 1CBE	2783		LH	R2,STOSETM	LOAD R2 FIELD INTO R2	PT127830
1C64	4520 1F3C	2784		CLH	R2,RTWOFI	CHECK IF R2 FIELD STILL INTACT	PT127840
1C68	4230 1F34	2785		BNE	SETERC		PT127850
1C6C	C550 7E00	2786	SET0B,2	CLHI	R5,X'7E00'	COMPARE COUNTER (R5) TO FINAL PSW	PT127860
1C70	4330 1C8E	2787		BE	SET0B,1		PT127870
1C74	CA50 0200	2788		AHI	R5,X'200'	INCREMENT COUNTER	PT127880
1C78	0825	2789		LHR	R2,R5	SET UP R2 FIELD	PT127890
1C7A	C620 4CF0	2790		OHI	R2,X'4CF0'	OR IN CHECK BITS	PT127900
1C7E	4020 1F3C	2791		STH	R2,RTWOFI	STORE IN R2 FIELD CHECK AREA	PT127910
1C82	0845	2792		LHR	R4,R5	R4 TO BE COMPARISON AGAINST NEW PSW	PT127920
1C84	C640 00F0	2793		OHI	R4,X'00F0'	OR IN NECESSARY BITS	PT127930
1C88	9565	2794		EPSR	R6,R5		PT127940
1C8A	4300 1B8E	2795		B	SET0		PT127950
1C8E	C8B0 1B04	2796	SET0B,1	LHI	R11,SET0A		PT127960
1C92	26A1	2797		AIS	R10,1	SET FLAG	PT127970
1C94	4300 1B80	2798		B	SET01		PT127980
		2799	*				PT127990
1C98	08AA	2800	SETERA	LHR	R10,R10	CHECK FLAG	PT128000
1C9A	2134	2801		BNZS	SETERA1	IF FLAG SET THEN SETM ERROR	PT128010
1C9C	C800 011C	2802		LHI	R0,X'011C'	ERROR 1C01	PT128020
1CA0	2303	2803		BS	SETERR		PT128030
1CA2	C800 021C	2804	SETERA1	LHI	R0,X'021C'	ERROR 1C02	PT128040
1CA6	4000 22F2	2805	SETERR	STH	R0,ERRIND		PT128050
1CAA	4300 2182	2806		B	ERROR		PT128060
1CAE	08AA	2807	SETERB	LHR	R10,R10	CHECK FLAG	PT128070
1CB0	2134	2808		BNZS	SETERB1	IF FLAG SET THEN SETM ERROR	PT128080
1CB2	C800 031C	2809		LHI	R0,X'031C'	ERROR 1C03	PT128090
1CB6	2208	2810		BS	SETERR		PT128100
1CB8	C800 041C	2811	SETERB1	LHI	R0,X'041C'	ERROR 1C04	PT128110
1CBC	2208	2812		BS	SETERR		PT128120
		2813	*				PT128130
1CBE	0000	2814	STOSETM	DC	0	STORAGE AREA FOR RX FORMAT	PT128140
		2815	*				PT128150
1CC0	48E0 1F56	2816	CHANST	LH	R14,MEMSTO	LOAD MEMORY FLAG	PT128160
1CC4	C5E0 0001	2817		CLHI	R14,X'1'	IF LESS THAN 32K	PT128170
1CC8	4230 1F58	2818		BNE	CHLPS	SKIP TO LPS INSTRUCTIONS	PT128180
1CCC	0799	2819		XHR	R9,R9	INSURE FLAG (R9) IS ZERO	PT128190
1CCE	C8C0 1F5E	2820		LHI	R12,CHLPS1	END ADDRESS FOR STORE ROUTINE	PT128200
1CD2	C850 7C00	2821		LHI	R5,X'7C00'	PSW TO INSURE PROPER MEMORY MODULE	PT128210
1CD6	9545	2822		EPSR	R4,R5	SWITCH TO NEW PSW	PT128220
1CD8	C800 1CF4	2823		LHI	R13,SET00	LOAD BYTES STARTING FROM SET00	PT128230
1CDC	D3FD 0000	2824	CHBYT	LB	R15,0(R13)	LOAD A BYTE	PT128240
1CE0	D2FD 8000	2825		STB	R15,X'8000'(R13)	STORE THE BYTE	PT128250
1CE4	05DC	2826		CLHR	R13,R12	IF IT IS THE LAST BYTE	PT128260
1CE6	2334	2827		BES	SWLPS	CONTINUE WITH THE TEST	PT128270
1CE8	26D1	2828		AIS	R13,1	ADD 1 TO ADDRESS TO GET NEXT BYTE	PT128280

1CEA	4300	1CDC	2829	B	CHBYT		PT128290
			2830	*			PT128300
1CEE	C820	7C90	2831	SWLPS	LHI R2,X'7C90'	LOAD PSW TO SWITCH MEMORY MODULE	PT128310
1CF2	9522		2832	SWL1	EPSR R5,R2	SWITCH TO NEW PSW	PT128320
1CF4	07AA		2833	SET00	XHR R10,R10	RESET INSTRUCTION FORMAT FLAG	PT128330
1CF6	C8E0	1F3E	2834		LHI R14,STOSETMB	SET UP FOR RX FORMAT	PT128340
1CFA	4300	1D1E	2835		B SET1		PT128350
1CFE	C5A0	0001	2836	SET001	CLHI R10,1	CHECK FLAG	PT128360
1D02	2184		2837		BLS SER0B	IF FLAG IS ZERO EXECUTE SETMR	PT128370
1D04	2338		2838		BES SERB	IF FLAG IS ONE EXECUTE SETM	PT128380
1D06	4300	1F58	2839		B CHLPS	IF FLAG>1,BRANCH TO LPS INSTRUCTION	PT128390
1D0A	1312		2840	SER0B	SETMR R1,R2		PT128400
1D0C	052F		2841		CLHR R2,R15		PT128410
1D0E	4230	1F34	2842		BNE SETERC		PT128420
1D12	030B		2843		BR R11		PT128430
1D14	4020	1F3E	2844	SERB	STH R2,STOSETMB		PT128440
1D18	531E	0000	2845		SETM R1,0(R14)	R14 CONTAINS ADDRESS OF STOSETMB	PT128450
1D1C	030B		2846		BR R11		PT128460
			2847	*			PT128470
			2848	*	BITS 8-11 IN THIS SECTION ARE FROM 1000 TO 1110, R1 IS POSITIVE		PT128480
			2849	*			PT128490
1D1E	C820	0080	2850	SET1	LHI R2,X'0080'	VALUE OF R2, TO BE NEW PSW	PT128500
1D22	0862		2851		LHR R6,R2		PT128510
1D24	9552		2852		EPSR R5,R2	SWITCH TO NEW PSW	PT128520
1D26	C620	4C00	2853		OHI R2,X'4C00'		PT128530
1D2A	08F2		2854		LHR R15,R2		PT128540
1D2C	0755		2855		XHR R5,R5		PT128550
1D2E	C880	00E0	2856		LHI R8,X'00E0'	UPPER LIMIT FOR COUNTER	PT128560
1D32	C830	8000	2857		LHI R3,X'8000'	R3 TO BE CONSTANT FOR CHECK OF R1	PT128570
1D36	0799		2858		XHR R9,R9	INSURE INCREMENT PSW FLAG IS ZERO	PT128580
1D38	0744		2859		XHR R4,R4	R4 IS CHECK AGAINST R2 (PSW)	PT128590
1D3A	0711		2860		XHR R1,R1	RESET R1	PT128600
1D3C	C800	1D6E	2861		LHI R11,SET0AB	BR LOC. AFTER TEST INSTR. EXEC.	PT128610
1D40	C8D0	1D48	2862		LHI R13,SETAB		PT128620
1D44	4300	1CFE	2863		B SET001		PT128630
			2864	*			PT128640
			2865	*			PT128650
			2866	*	BITS 8-11 IN THIS SECTION ARE FROM 1000 TO 1110, R1 IS NEGATIVE		PT128660
			2867	*			PT128670
1D48	C820	0080	2868	SETAB	LHI R2,X'0080'	VALUE OF R2 TO BE NEW PSW	PT128680
1D4C	0862		2869		LHR R6,R2	R6 TO COUNT INCREMENTED PSW	PT128690
1D4E	C810	F0F0	2870		LHI R1,X'F0F0'	ARBITRARY VALUE FOR R1	PT128700
1D52	0831		2871		LHR R3,R1	R3 IS CHECK AGAINST R1	PT128710
1D54	0744		2872		XHR R4,R4	R4 IS CHECK AGAINST R2 (NEW PSW)	PT128720
1D56	C880	00E0	2873		LHI R8,X'00E0'	R8 IS LIMIT FOR COUNTER	PT128730
1D5A	9552		2874		EPSR R5,R2	SWITCH TO NEW PSW	PT128740
1D5C	C620	4C00	2875		OHI R2,X'4C00'	OR IN CHECK BITS	PT128750
1D60	08F2		2876		LHR R15,R2	STORE R2 FIELD IN SAVE REGISTER	PT128760
1D62	0725		2877		XHR R5,R5	RESET R5, TO CONTROL MEMORY	PT128770
1D64	2491		2878		LIS R9,1	SET FLAG	PT128780
1D66	C8D0	1E32	2879		LHI R13,DOCOMP	BR LOC. AFTER FINAL COMPARE ROUTINE	PT128790
1D6A	4300	1CFE	2880		B SET001		PT128800
			2881	*			PT128810
1D6E	0513		2882	SET0AB	CLHR R1,R3	COMPARES R1 TO EXPECTED VALUE (R3)	PT128820
1D70	4230	1F08	2883		BNE SETERAB		PT128830

1E1C	9576	2939	EPSR	R7,R6	SWITCH TO NEW PSW	PT129390
1E1E	0826	2940	LHR	R2,R6	SET UP R2 FIELD	PT129400
1E20	C620 4C00	2941	OHI	R2,X'4C00'	OR IN CHECK BITS	PT129410
1E24	08F2	2942	LHR	R15,R2	STORE R2 FIELD IN R15	PT129420
1E26	0886	2943	LHR	R8,R6	SET UP R8 TO BE COUNTER	PT129430
1E28	C680 00E0	2944	OHI	R8,X'00E0'	OF BITS 8-12 OF NEW PSW	PT129440
1E2C	0711	2945	XHR	R1,R1	RESET R1 FIELD	PT129450
1E2E	4300 1CFE	2946	B	SET001		PT129460
		2947	*			PT129470
		2948	*	* BITS 8-11 IN THIS SECTION ARE EQUAL TO 0111 ONLY		PT129480
		2949	*			PT129490
1E32	2410	2950	DOCOMP	LIS R1,0	RESET R1	PT129500
1E34	C830 8000	2951	LHI	R3,X'8000'	R3 IS CHECK AGAINST R1	PT129510
1E38	C820 00F0	2952	LHI	R2,X'00F0'	SET UP NEW PSW	PT129520
1E3C	9552	2953	EPSR	R5,R2	SWITCH TO NEW PSW	PT129530
1E3E	C850 7C00	2954	LHI	R5,X'7C00'	R5 TO BE PSW BEFORE COMPARISON	PT129540
1E42	C420 0070	2955	NHI	R2,X'0070'	AND OFF PROPER BITS	PT129550
1E46	C620 4C00	2956	OHI	R2,X'4C00'	OR IN CHECK BITS	PT129560
1E4A	08F2	2957	LHR	R15,R2	STORE R2 FIELD IN R15	PT129570
1E4C	2490	2958	LIS	R6,0	R6 IS COUNTER FOR ENTIRE PSW	PT129580
1E4E	2440	2959	LIS	R4,0	R4 IS CHECK AGAINST R2 (PSW)	PT129590
1E50	24C0	2960	LIS	R12,0	INCREMENT FLAG	PT129600
1E52	C880 1E5A	2961	LHI	R11,SET01B		PT129610
1E56	4300 1CFE	2962	B	SET001		PT129620
		2963	*			PT129630
1E5A	0513	2964	SET01B	CLHR R1,R3	COMPARE R1 TO EXPECTED VALUE (R3)	PT129640
1E5C	4230 1F08	2965	BNE	SETERAB		PT129650
1E60	9525	2966	EPSR	R2,R5	GET PSW	PT129660
1E62	0524	2967	CLHR	R2,R4	COMPARE R2(PSW) TO EXPECTED PSW(R4)	PT129670
1E64	4230 1F24	2968	BNE	SETERBB		PT129680
1E68	C5A0 0001	2969	CLHI	R10,1	IF SETMR INSTRUCTION THEN R2 FIELD	PT129690
1E6C	2136	2970	BNES	SET0A,2	HAS ALREADY BEEN CHECKED	PT129700
1E6E	4820 1F3E	2971	LH	R2,STOSETMB	LOAD R2 FIELD INTO R2	PT129710
1E72	052F	2972	CLHR	R2,R15	CHECK R2 FIELD TO SEE IF INTACT	PT129720
1E74	4230 1F34	2973	BNE	SETERC		PT129730
1E78	C5C0 0001	2974	SET0A,2	CLHI R12,X'1'	COMPARE DOCOMP FLAG (R12)	PT129740
1E7C	4280 1E88	2975	BL	CH		PT129750
1E80	4330 1ED2	2976	BE	CH12		PT129760
1E84	4300 1EFC	2977	B	CH13		PT129770
1E88	C540 7E00	2978	CH	CLHI R4,X'7E00'		PT129780
1E8C	4300 1EB2	2979	BE	CH11		PT129790
1E90	CA60 0200	2980	AHI	R6,X'200'	INCREMENT FOR NEXT PSW	PT129800
1E94	0826	2981	LHR	R2,R6	SET UP R2 FIELD	PT129A10
1E96	C620 00F0	2982	OHI	R2,X'00F0'	OR IN PROPER PSW BITS	PT129820
1E9A	9552	2983	EPSR	R5,R2	SWITCH TO NEW PSW	PT129830
1E9C	C420 FF70	2984	NHI	R2,X'FF70'	AND OFF PROPER BITS FOR R2 FIELD	PT129840
1EA0	C850 7C00	2985	LHI	R5,X'7C00'	R5 TO BE NEW PSW BEFORE COMPARISON	PT129850
1EA4	C620 4C00	2986	OHI	R2,X'4C00'	OR IN CHECK BITS	PT129A60
1EA8	08F2	2987	LHR	R15,R2	STORE R2 FIELD IN R15	PT129A70
1EAA	0846	2988	LHR	R4,R6	R4 TO BE CHECK AGAINST NEW PSW	PT129A80
1EAC	2410	2989	LIS	R1,0	SET UP R1 FIELD	PT129A90
1EAE	4300 1CFE	2990	B	SET001		PT129900
		2991	*			PT129910
1EB2	0733	2992	CH11	XHR R3,R3	R3 TO BE CHECK AGAINST R1 FIELD	PT129920
1EB4	26C1	2993	AIS	R12,1		PT129930

1EB6	C820 00F0	2994		LHI	R2,X'00F0'	SET UP FOR NEW PSW	PT129940
1EBA	9552	2995		EPSR	R5,R2		PT129950
1EBC	C850 7C00	2996		LHI	R5,X'7C00'	R5 TO BE NEW PSW BEFORE COMPARISON	PT129960
1EC0	C420 0070	2997		NHI	R2,X'0070'	AND IN PROPER BITS INTO R2 FIELD	PT129970
1EC4	08F2	2998		LHR	R15,R2	STORE R5 FIELD IN R15	PT129980
1EC6	2460	2999		LIS	R6,0		PT129990
1EC8	C810 8000	3000		LHI	R1,X'8000'	SET UP R1 FIELD	PT130000
1ECC	2440	3001		LIS	R4,0	R4 IS CHECK AGAINST NEW PSW	PT130010
1ECE	4300 1CFE	3002		B	SET001		PT130020
		3003	*				PT130030
1ED2	C560 7E00	3004	CH12	CLHI	R6,X'7E00'		PT130040
1ED6	4330 1EFC	3005		BE	CH13		PT130050
1E0A	CA60 0200	3006		AHI	R6,X'200'	INCREMENT COUNTER FOR TOTAL PSW	PT130060
1EDE	0826	3007		LHR	R2,R6	SET UP R2 FIELD	PT130070
1EE0	C620 00F0	3008		OHI	R2,X'00F0'	OR IN CHECK BITS FOR PSW	PT130080
1EE4	9552	3009		EPSR	R5,R2	SWITCH TO NEW PSW	PT130090
1EE6	C420 FF70	3010		NHI	R2,X'FF70'	AND OFF EXTRANEIOUS BITS	PT130100
1EEA	0755	3011		XHR	R5,R5	RESET R5,TO BE PSW AT COMPAR. ROUT.	PT130110
1EEC	C640 4C00	3012		OHI	R2,X'4C00'	OR IN CHECK BITS	PT130120
1EF0	08F2	3013		LHR	R15,R2	STORE R2 FIELD IN R15	PT130130
1EF2	0846	3014		LHR	R4,R6	R4 TO CHECK NEW PSW	PT130140
1EF4	C810 8000	3015		LHI	R1,X'8000'	SET UP R211 FIELD	PT130150
1EF8	4300 1CFE	3016		B	SET001		PT130160
1EFC	07CC	3017	CH13	XHR	R12,R12	RESET DOCOMP FLAG	PT130170
1EFE	26A1	3018		AIS	R10,1	INCREMENT TEST INSTRU. FORMAT FLAG	PT130180
1F00	C800 1D6E	3019		LHI	R11,SET0AB		PT130190
1F04	4300 1D1E	3020		B	SET1		PT130200
		3021	*				PT130210
1F08	08AA	3022	SETERA8	LHR	R10,R10	CHECK FLAG	PT130220
1F0A	2134	3023		BNZS	SETERA1B	IF FLAG NOT ZERO THEN SETM ERROR	PT130230
1F0C	C800 051C	3024		LHI	R0,X'051C'	ERROR 1C05	PT130240
1F10	2303	3025		BS	SETERRB		PT130250
1F12	C800 061C	3026	SETERA1B	LHI	R0,X'061C'	ERROR 1C06	PT130260
1F16	C820 7C00	3027	SETERRB	LHI	R2,X'7C00'		PT130270
1F1A	9552	3028		EPSR	R5,R2		PT130280
1F1C	4000 22F2	3029		STH	R0,ERRIND		PT130290
1F20	4300 2182	3030		B	ERROR		PT130300
1F24	08AA	3031	SETERBB	LHR	R10,R10	CHECK INSTRU. FORMAT FLAG	PT130310
1F26	2134	3032		BNZS	SETERB1B	IF FLAG NOT ZERO THEN SETM ERROR	PT130320
1F28	C800 071C	3033		LHI	R0,X'071C'	ERROR 1C07	PT130330
1F2C	220B	3034		BS	SETERRB		PT130340
1F2E	C800 081C	3035	SETERB1B	LHI	R0,X'081C'	ERROR 1C08	PT130350
1F32	224E	3036		BS	SETERRB		PT130360
1F34	C800 091C	3037	SETERC	LHI	R0,X'091C'	ERROR 1C09	PT130370
1F38	4300 1F16	3038		B	SETERRB		PT130380
		3039	*				PT130390
1F3C	0000	3040	RTWOFI	DC	0		PT130400
1F3E	0000	3041	STOSETMB	DC	0	STORAGE AREA FOR SETM INSTRU.	PT130410
		3042	*				PT130420
1F40	0D0A	3043	MESMEM1	DC	X'D0A'	MESSAGE TO CHECK FOR GREATER	PT130430
1F42	FFFF	3044		DC	X'FFFF'	THAN 32K OF MEMORY	PT130440
1F44	454E 5445 5220 3020	3045		DC	C'ENTER 0 OR 1'	ENTER A ZERO FOR 32K OR	PT130450
1F4C	4F92 2031						
1F50	FFFF	3046		DC	X'FFFF'	LESS OF MEMORY	PT130460
1F52	0D0A	3047		DC	X'D0A'	ENTER A ONE FOR 64K	PT130470

1F54	FFFF		3048	DC	X'FFFF'	OR MORE OF MEMORY	PT130480
	0000	1F55	3049	MESMEM2	EQU	*-1	PT130490
			3050	*			PT130500
1F56	0000		3051	MEMSTO	DCX	0	PT130510
			3052	*		STORAGE AREA FOR MEMORY FLAG	PT130520
			3053	*****			PT130530
			3054	*			PT130540
			3055	*	THIS PART OF THE TEST CHECKS THE LPS AND LPSR INSTRUCTIONS.		PT130550
			3056	*			PT130560
1F58	C850	7C00	3057	CHLPS	LHI	R5,X'7C00'	PT130570
1F5C	9525		3058		EPSR	R2,R5	PT130580
1F5E	C840	F0F0	3059	CHLPS1	LHI	R0,X'F0F0'	PT130590
1F62	C840	5C00	3060		LHI	R4,X'5C00'	PT130600
1F66	4040	1FC8	3061		STH	R4,MEMFLAG	PT130610
1F6A	C830	1FC8	3062		LHI	R3,MEMFLAG	PT130620
1F6E	C200	1F72	3063		LPSW	LS	PT130630
1F72	3C10		3064	LS	DC	X'3C10',LS1	PT130640
1F74	1F76						
1F76	7303	0000	3065	LS1	LPS	0(R3)	PT130650
**	F008	**				CHANGE PSW WITH TEST INSTRUCTION	
1F7A	9515		3066		EPSR	R1,R5	PT130660
1F7C	C500	F0F0	3067		CLHI	R0,X'F0F0'	PT130670
1F80	4230	1F8C	3068		BNE	LERR2	PT130680
1F84	0514		3069		CLHR	R1,R4	PT130690
1F86	4230	1FAA	3070		BNE	LERR	PT130700
			3071	*			PT130710
1F8A	0834		3072		LHR	R3,R4	PT130720
1F8C	C200	1F90	3073		LPSW	LS2	PT130730
1F90	3C10		3074	LS2	DC	X'3C10',LS3	PT130740
1F92	1F94						
1F94	3303		3075	LS3	LPSR	R3	PT130750
**	F008	**				CHANGE PSW WITH TEST INSTRUCTION	
1F96	9515		3076		EPSR	R1,R5	PT130760
1F98	C500	F0F0	3077		CLHI	R0,X'F0F0'	PT130770
1F9C	4230	1FC2	3078		BNE	LERR3	PT130780
1FA0	0514		3079		CLHR	R1,R4	PT130790
1FA2	4230	1FB6	3080		BNE	LERR1	PT130800
1FA6	4300	1FCA	3081		B	TSTEND	PT130810
			3082	*			PT130820
1FAA	C800	0A1C	3083	LERR	LHI	R0,X'0A1C'	PT130830
1FAE	4070	22F2	3084	SETERR1	STH	R7,ERRIND	PT130840
1FB2	4300	1CA6	3085		B	SETERR	PT130850
1FB6	C800	0B1C	3086	LERR1	LHI	R0,X'0B1C'	PT130860
1FBA	2206		3087		BS	SETERR1	PT130870
1FBC	C800	0C1C	3088	LERR2	LHI	R0,X'0C1C'	PT130880
1FC0	2209		3089		BS	SETERR1	PT130890
1FC2	C800	0D1C	3090	LERR3	LHI	R0,X'0D1C'	PT130900
1FC6	220C		3091		BS	SETERR1	PT130910
			3092	*			PT130920
1FC8	0000		3093	MEMFLAG	DC	X'0000'	PT130930
			3094	*		STORAGE AREA FOR MEMORY FLAG	PT130940
			3095	*****			PT130950
			3096	*			PT130960
			3097	*	ALL THE TESTS IN PART 1 ARE DONE		PT130970
			3098	*			PT130980

1FCA	4800	22DA	3099	TSTEND	LH	R0,TOTAL	PT130990
1FCE	2601		3100		AIS	R0,1	PT131000
1FD0	4000	22DA	3101		STH	R0,TOTAL	PT131010
1FD4	2431		3102		LIS	R3,1	PT131020
1FD6	DE90	22E5	3103		OC	R3,NORM	PT131030
1FDA	9400		3104		EXBR	R0,R0	PT131040
1FDC	9830		3105		WHR	R3,R0	PT131050
1FDE	9400		3106		EXBR	R0,R0	PT131060
1FE0	C500	FFFF	3107		CLHI	R0,X'FFFF'	PT131070
1FE4	4230	200C	3108		BNE	NOTFF	PT131080
1FE8	D320	22E6	3109	AGTRY	LB	R2,OUTDEV	PT131090
1FEC	9D25		3110		SSR	R2,R5	PT131100
1FEE	4210	1FE8	3111		BTC	1,AGTRY	PT131110
1FF2	4240	1FE8	3112		BTC	4,AGTRY	PT131120
1FF6	C450	00FC	3113		NHI	R5,X'FC'	PT131130
1FFA	C500	000C	3114		CLHI	R5,X'0C'	PT131140
1FFE	2236		3115		BES	AGTRY	PT131150
2000	41F0	2076	3116		BAL	R15,TIM	PT131160
2004	4100	2088	3117		BAL	R13,PRTTOT	PT131170
2008	4300	0112	3118		B	ENTRY1	PT131180
	0000	200C	3119	NOTFF	EQU	*	PT131190
200C	D320	22E6	3120		LB	R2,OUTDEV	PT131200
2010	9D25		3121		SSR	R2,R5	PT131210
2012	4210	2024	3122		BTC	1,DONE0	PT131220
2016	4240	2024	3123		BTC	4,DONE0	PT131230
201A	C450	00FC	3124		NHI	R5,X'FC'	PT131240
201E	C550	000C	3125		CLHI	R5,X'0C'	PT131250
2022	2136		3126		BNES	DONE	PT131260
2024	2451		3127	DONE0	LIS	R5,1	PT131270
2026	4050	22DE	3128		STH	R5,TTYOFF	PT131280
202A	4300	0334	3129		B	TEST1	PT131290
	0000	202E	3130	DONE	EQU	*	PT131300
202E	4500	010E	3131		CLH	R0,NTIMES	PT131310
2032	4200	030A	3132		BL	ENTRY3	PT131320
2036	4800	22DE	3133		LH	R0,TTYOFF	PT131330
203A	2303		3134		BZS	DONE11	PT131340
203C	41F0	2076	3135		BAL	R15,TIM	PT131350
	0000	2040	3136	DONE11	EQU	*	PT131360
2040	4800	22DC	3137		LH	R0,TOTERR	PT131370
2044	213F		3138		BNZS	DONE3	PT131380
2046	2440		3139		LIS	R4,0	PT131390
2048	C850	22C9	3140		LHI	R5,NOERRB	PT131400
204C	DE20	22E8	3141		OC	R2,OUTCMD	PT131410
2050	9D23		3142	DONE12	SSR	R2,R3	PT131420
2052	2081		3143		BTBS	8,1	PT131430
2054	DA24	22BC	3144	DONE2	WD	R2,NOERRA(R4)	PT131440
2058	C554	22BC	3145		CLHI	R5,NOERRA(R4)	PT131450
205C	2333		3146		BES	DONE3	PT131460
205E	2641		3147		AIS	R4,1	PT131470
2060	2208		3148		BS	DONE12	PT131480
	0000	2062	3149	DONE3	EQU	*	PT131490
2062	4800	22DE	3150		LH	R0,TTYOFF	PT131500
2066	4300	0112	3151		BZ	ENTRY1	PT131510
206A	41F0	2076	3152		BAL	R15,TIM	PT131520
206E	4100	2088	3153		BAL	R13,PRTTOT	PT131530

TOTAL INTO CONSOLE IND.

R5 = TTY STATUS

TTYOFF = 1 AND

2072	4300 20E2	3154	TOWT	B	WT000F		PT131540
	0000 2076	3155	TIM	EQU	*		PT131550
2076	C800 FFFF	3156		LHI	R0,X'FFFF'		PT131560
207A	2701	3157	TIME	SIS	R0,1		PT131570
207C	2031	3158		BNZS	TIME		PT131580
207E	C800 FFFF	3159		LHI	R0,X'FFFF'		PT131590
2082	2701	3160	TIME2	SIS	R0,1		PT131600
2084	2031	3161		BNZS	TIME2		PT131610
2086	030F	3162		BR	R15		PT131620
2088	C800 00FF	3163	PRTTOT	LHI	R0,X'FF'		PT131630
208C	41E0 211A	3164		BAL	R14,WRITE1		PT131640
2090	41E0 211A	3165		BAL	R14,WRITE1		PT131650
2094	41E0 211A	3166		BAL	R14,WRITE1		PT131660
2098	240D	3167		LIS	R0,13		PT131670
209A	41E0 211A	3168		BAL	R14,WRITE1		PT131680
209E	C800 00FF	3169		LHI	R0,X'FF'		PT131690
20A2	41E0 211A	3170		BAL	R14,WRITE1		PT131700
20A6	240A	3171		LIS	R0,10		PT131710
20A8	41E0 211A	3172		BAL	R14,WRITE1		PT131720
20AC	48F0 22DA	3173		LH	R15,TOTAL	PRINT TOTAL	PT131730
20B0	41C0 20EA	3174		BAL	R12,PRNTRF		PT131740
20B4	C800 0020	3175		LHI	R0,X'20'		PT131750
20B8	41E0 211A	3176		BAL	R14,WRITE1		PT131760
20BC	41E0 211A	3177		BAL	R14,WRITE1		PT131770
20C0	41E0 211A	3178		BAL	R14,WRITE1		PT131780
20C4	41E0 211A	3179		BAL	R14,WRITE1		PT131790
20C8	48F0 22DC	3180		LH	R15,TOTERR	PRINT TOTERR	PT131800
20CC	41C0 20EA	3181		BAL	R12,PRNTRF		PT131810
20D0	240D	3182		LIS	R0,13		PT131820
20D2	41E0 211A	3183		BAL	R14,WRITE1		PT131830
20D6	41E0 211A	3184		BAL	R14,WRITE1		PT131840
20DA	240A	3185		LIS	R0,10		PT131850
20DC	41E0 211A	3186		BAL	R14,WRITE1		PT131860
20E0	030D	3187		BR	R13		PT131870
	0000 20E2	3188	WT000F	EQU	*		PT131880
20E2	4300 0112	3189		B	ENTRY1	NO OP THIS BRANCH TO BYPASS	PT131890
20E6	4300 030A	3190		B	ENTRY3	INITIAL SET UP	PT131900
		3191	*				PT131910
		3192	*		PRINT THE CONTENTS OF REG. 15 IN HEX.		PT131920
		3193	*				PT131930
		3194	*		EXIT ON R12		PT131940
		3195	*				PT131950
20EA	080F	3196	PRNTRF	LHR	R0,R15		PT131960
20EC	900C	3197		SRLS	R0,12		PT131970
20EE	41E0 210A	3198		BAL	R14,PRNTR0		PT131980
20F2	080F	3199		LHR	R0,R15		PT131990
20F4	9008	3200		SRLS	R0,8		PT132000
20F6	41E0 210A	3201		BAL	R14,PRNTR0		PT132010
20FA	080F	3202		LHR	R0,R15		PT132020
20FC	9004	3203		SRLS	R0,4		PT132030
20FE	41E0 210A	3204		BAL	R14,PRNTR0		PT132040
2102	080F	3205		LHR	R0,R15		PT132050
2104	41E0 210A	3206		BAL	R14,PRNTR0		PT132060
2108	030C	3207		BR	R12		PT132070
210A	C400 000F	3208	PRNTR0	NHI	R0,15		PT132080

210E	CA00 0030	3209	AHI	R0,X'30'		PT132090	
2112	C500 003A	3210	CLHI	R0,X'3A'		PT132100	
2116	2182	3211	BLS	WRITE1		PT132110	
2118	2607	3212	AIS	R0,7		PT132120	
211A	0320 22E6	3213	WRITE1	LB	R2,OUTDEV	PT132130	
211E	DE20 22E8	3214		OC	R2,OUTCMD	PT132140	
2122	9023	3215	WRIT	SSR	R2,R3	PT132150	
2124	021E	3216		BTCR	1,R14	PT132160	
2126	4280 2122	3217		BTC	8,WRIT	PT132170	
212A	9A20	3218		WDR	R2,R0	PT132180	
212C	030E	3219		BR	R14	PT132190	
		3220	*			PT132200	
		3221	*****			PT132210	
		3222	*			PT132220	
		3223	*	AN INTERRUPT IS DETECTED		PT132230	
		3224	*			PT132240	
212E	24F1	3225	FLPTNT	LIS	R15,1	FLPT ARITH. FAULT INTRPT.	PT132250
2130	2309	3226		BS	ERRF		PT132260
2132	24F2	3227	ILGINT	LIS	R15,2	ILL. INSTR. INTRPT.	PT132270
2134	2307	3228		BS	ERRF		PT132280
2136	24F3	3229	MALFTN	LIS	R15,3	MACH. MALFTN. INTRPT.	PT132290
2138	2305	3230		BS	ERRF		PT132300
213A	24F4	3231	EXTINT	LIS	R15,4	EXTERNAL INTERRUPT	PT132310
213C	9FAB	3232		AIR	R10,R11		PT132320
213E	2302	3233		BS	ERRF		PT132330
2140	24F5	3234	DVDFLT	LIS	R15,5	FIXD. PT. DIV. FAULT INTRPT	PT132340
2142	2309	3235		ERRF	BS	ERRORF	PT132350
2144	24F6	3236	CHANIO	LIS	R15,6	CHAN. I/O TERM. INTRPT.	PT132360
2146	2307	3237		BS	ERRORF		PT132370
2148	24F7	3238	QVRFLO	LIS	R15,7	QUEUE OVERFLO INTRPT.	PT132380
214A	2305	3239		BS	ERRORF		PT132390
214C	24F8	3240	SVCERR	LIS	R15,8		PT132400
214E	2303	3241		BS	ERRORF		PT132410
2150	0000	3242	DEVERR	DC	0		PT132420
2152	24F9	3243		LIS	R15,9		PT132430
2154	C6F0 00F0	3244	ERRORF	OHI	R15,X'F0'		PT132440
2158	D2F0 22F2	3245		STB	R15,ERRIND		PT132450
215C	C800 0046	3246		LHI	R13,X'46'		PT132460
2160	9108	3247		SLLS	R13,8		PT132470
2162	C4F0 000F	3248		NHI	R15,X'000F'		PT132480
2166	C6F0 0030	3249		OHI	R15,X'30'		PT132490
216A	06FD	3250		OHR	R15,R13		PT132500
216C	40F0 22BA	3251		STH	R15,ERRNO		PT132510
2170	2431	3252		LIS	R3,1		PT132520
2172	0830 22F2	3253		WH	R3,ERRIND		PT132530
2176	C200 217A	3254		LPSW	WAITF		PT132540
217A	8000	3255	WAITF	DC	X'8000',ERFSS		PT132550
217C	217E	3256	*				PT132560
217E	4300 21C6	3257	ERFSS	B	ERROF		PT132570
		3258	*				PT132580
		3259	*	NXTST = RETURN ADD. IF TTY IS TURNED OFF			PT132590
		3260	*				PT132600
		3261	*	R14 = PSW WHEN THE ERROR OCCURED			PT132610
		3262	*				PT132620

		3263	*	ERRIND = ERROR NO. INTO IND.		PT132630
		3264	*			PT132640
		3265	*	TESTNO = 31NN , NN = TEST NO. 1 THRU E		PT132650
		3266	*			PT132660
		3267	ERROR	EQU *		PT132670
2182	0000 2182	3268	ERRA	STM R0,REGSAV	SAVE REGISTERS	PT132680
2186	0000 2344	3269		EPSR R14,R14	STORE CURRENT PSW	PT132690
2188	95EE	3270		LIS R3,1	R3 = 1 = CONSOLE ADDRESS	PT132700
218A	D800 22F2	3271		WH R3,ERRIND	ERRNO. INTO CONSOLE IND.	PT132710
218E	0300 22F2	3272	ERRA6	LB R0,ERRIND	CONVERT ERRIND INTO	PT132720
2192	C850 0030	3273		LHI R5,X'30'		PT132730
2196	C500 0010	3274		CLHI R0,16	TWO BYTES TO PRINT	PT132740
219A	2383	3275		BNLS ERB		PT132750
219C	0805	3276		LHR R0,R5		PT132760
219E	2307	3277		BS ERB2		PT132770
21A0	9004	3278	ERRB	SRLS R0,4		PT132780
21A2	0A05	3279		AHR R0,R5		PT132790
21A4	C500 003A	3280		CLHI R0,X'3A'		PT132800
21A8	2182	3281		BLS ERB2		PT132810
21AA	2607	3282		AIS R0,7		PT132820
		3283	*			PT132830
		3284	*	ERRNO = 2 BYTES TO PRINT		PT132840
		3285	*			PT132850
21AC	D200 22BA	3286	ERRB2	STB R0,ERRNO		PT132860
21B0	D300 22F2	3287		LB R0,ERRIND		PT132870
21B4	C400 000F	3288	ERRB4	NHI R0,15		PT132880
21B8	0A05	3289		AHR R0,R5		PT132890
21BA	C500 003A	3290		CLHI R0,X'3A'		PT132900
21BE	2182	3291		BLS ERB6		PT132910
21C0	2607	3292		AIS R0,7		PT132920
21C2	D200 22BB	3293	ERRB6	STB R0,ERRNO+1		PT132930
	0000 21C6	3294	ERROF	EQU *		PT132940
21C6	4800 22DC	3295		LH R0,TOTERR	COUNT TOTAL ERRORS	PT132950
21CA	2601	3296		AIS R0,1		PT132960
21CC	4000 22DC	3297		STH R0,TOTERR		PT132970
21D0	C500 FFFF	3298		CLHI R0,X'FFFF'	IF TOTERR = FFFF	PT132980
21D4	4330 21FE	3299		BE WFFFFF		PT132990
21D8	D320 22E6	3300		LB R2,OUTDEV		PT133000
21DC	9D23	3301		SSR R2,R3		PT133010
21DE	4250 21F0	3302		BTC 5,NEXT		PT133020
21E2	C430 00FC	3303		NHI R3,X'FC'		PT133030
21E6	C530 000C	3304		CLHI R3,X'0C'		PT133040
21EA	2303	3305		BES NEXT		PT133050
21EC	4300 2232	3306		B PRTRR		PT133060
21F0	4800 22F4	3307	NEXT	LH R0,NXTST	IF TTY IS OFF GO TO NEXT TEST	PT133070
21F4	C500 0334	3308		CLHI R0,TEST1		PT133080
21F8	4300 1FCA	3309		BE TSTEND		PT133090
21FC	0300	3310		BR R0	CONTINUE THE NEXT TEST	PT133100
21FE	2431	3311	WFFFFF	LIS R3,1	FFFF INTO CO-S-LE &ND.	PT133110
2200	9830	3312		WHR R3,R0		PT133120
2202	C200 2206	3313		LPSW WAITFF		PT133130
2206	8000	3314	WAITFF	DC X'8000',CONT	WAIT UNTIL EXE IS DEPRESSED	PT133140
2208	220A					
220A	D320 22E6	3315	CONT	LB R2,OUTDEV		PT133150
220E	DE20 22E8	3316		OC R2,OUTCMD		PT133160

2212	9025		3317	SSR	R2,R5		PT133170
2214	4210 21FE		3318	BTC	1,WFFFF		PT133180
2218	C450 00FC		3319	NHI	R5,X'FC'		PT133190
221C	C550 000C		3320	CLHI	R5,X'0C'		PT133200
2220	4330 21FE		3321	BE	WFFFF		PT133210
2224	C840 229C		3322	LHI	R4,FFFF		PT133220
2228	C850 22AD		3323	LHI	R5,FFFFRR		PT133230
222C	9624		3324	WBR	R2,R4		PT133240
222E	4300 20E2		3325	B	WT000F		PT133250
2232	C840 22AE		3326	PRTRR	LHI R4,PRTRR		PT133260
2236	0320 22E6		3327	LB	R2,OUTDEV		PT133270
223A	DE20 22E8		3328	OC	R2,OUTCMO		PT133280
			3329	*			PT133290
	0040 223E		3330	PRTR	EQU *		PT133300
			3331	*			PT133310
223E	0320 22E6		3332	LB	R2,OUTDEV		PT133320
2242	DE20 22E8		3333	OC	R2,OUTCMO		PT133330
2246	9043		3334	PRTBSY	SSR R2,R3		PT133340
2248	2081		3335	BTBS	8,1		PT133350
224A	DA24 0000		3336	WD	R2,0(R4)		PT133360
224E	2641		3337	AIS	R4,1		PT133370
2250	C540 22BE		3338	CLHI	R4,ERRNO+4		PT133380
2254	203B		3339	BNES	PRTR		PT133390
2256	48D0 22BA		3340	LH	R13,ERRNO		PT133400
225A	C4D0 4600		3341	NHI	R13,X'4600'		PT133410
225E	C5D0 4600		3342	CLHI	R13,X'4600'		PT133420
2262	4330 2296		3343	BE	PRTEND		PT133430
2266	D300 22B9		3344	LB	R0,TESTNO+1	GET TEST NUMBER	PT133440
226A	C500 0038		3345	CLHI	R0,C'8'	IF IT IS TEST 8	PT133450
226E	2335		3346	BES	TST812	BRANCH TO TST812	PT133460
2270	C500 0042		3347	CLHI	R0,C'B'	IF IT IS NOT TEST11	PT133470
2274	4230 2296		3348	BNE	PRTEND	BRANCH TO PRTEND	PT133480
2278	C870 234C		3349	TST812	LHI R7,REGSAV+8	GET THE POINTER TO REG SAVE AREA	PT133490
227C	4887 0000		3350	LH	R8,0(R7)	NUMBER OF REGISTERS TO BE PRINTED	PT133500
2280	2672		3351	LOOPXX	AIS R7,2	INCREMENT THE POINTER	PT133510
2282	48F7 0000		3352	LH	R15,0(R7)	GET THE REGISTER CONTENTS	PT133520
2286	41C0 20EA		3353	BAL	R12,PRNTRF	PRINT THE CONTENTS	PT133530
228A	C800 0020		3354	LHI	R0,X'20'		PT133540
228E	41E0 211A		3355	BAL	R14,WRITE1	PRINT A BLANK	PT133550
2292	2781		3356	SIS	R8,1		PT133560
2294	203A		3357	BNZS	LOOPXX	IF NOT DONE GO TO LOOPXX	PT133570
2296	2404		3358	PRTEND	LIS R0,4		PT133580
2298	4300 2062		3359	B	DONE3		PT133590
			3360	*			PT133600
229C	000A		3361	FFFF	DC X'D0A'		PT133610
229E	4646 4646 2045 5252		3362	DC	C'FFFF ERRORS'		PT133620
22A6	4F52 5320						
22AA	000A		3363	DC	X'D0A'		PT133630
22AC	FFFF		3364	OCX	FFFF		PT133640
	0000 22AD		3365	FFFFRR	EQU *-1		PT133650
22AE	0D4A		3366	PRTRR	DC X'D0A'		PT133660
22B0	4522 524F 5220		3367	DC	C'ERROR'		PT133670
22B6	2000		3368	DC	X'2000'		PT133680
22B8	3130		3369	TESTNO	DC X'3130'		PT133690
22BA	3030		3370	ERRNO	DC X'3030'		PT133700

22BC	000A		3371	NOERRA	DC	X'D0A'		PT133710
22BE	4E4F	2045 5252 4F52	3372		DC	C'NO ERROR'		PT133720
22C6	00VA		3373		DC	X'D0A'		PT133730
22C8	FFFF		3374		DCX	FFFF		PT133740
	0000	22C9	3375	NOERRB	EQU	*-1		PT133750
			3376	*				PT133760
			3377	*				PT133770
			3378	*****				PT133780
			3379	*				PT133790
			3380	*	DATA CONSTANTS			PT133800
			3381	*				PT133810
			3382	*****				PT133820
			3383	*				PT133830
22CA	0000		3384		DC	0		PT133840
22CC	0000		3385	TABLE	DC	0	12 BYTES	PT133850
22CE	0000		3386		DC	0		PT133860
22D0	0000		3387		DC	0		PT133870
22D2	0000		3388		DC	0		PT133880
22D4	0000		3389		DC	0		PT133890
22D6	00V0		3390		DC	0		PT133900
22D8	0000		3391	TEMP	DC	0		PT133910
22DA	00V0		3392	TOTAL	DC	0		PT133920
22DC	00V0		3393	TOTERR	DC	0		PT133930
22DE	0000		3394	TTYOFF	DC	0		PT133940
22E0	0000		3395	CPUNO	DC	0		PT133950
22E2	0000		3396	CPUFLAG	DCX	0		PT133960
22E4	00		3397	M7DSWT	DB	0		PT133970
22E5	80		3398	NORM	DB	X'80'		PT133980
			3399	*				PT133990
			3400	*****				PT134000
			3401	*				PT134010
22E6	02		3402	OUTDEV	DB	2	OUTDEV = 2 = TTY ADDRESS	PT134020
22E7	A4		3403	INCMND	DB	X'A4'	READ COMMAND FOR TTY	PT134030
22E8	A8		3404	OUTCMD	DB	X'A8'		PT134040
22EA	ABB9		3405	CRTOUT	DCX	ABB9		PT134050
22EC	C8E4		3406	CONOUT	DCX	C8E4		PT134060
22EE	0000		3407	CRTFLG	DCX	0		PT134070
22F0	00V0		3408	FIRSTCMD	DCX	0		PT134080
22F2			3409		DB	*		PT134090
22F2	00V0		3410	ERRIND	DC	0	COPY ERRNO INTO CONSOLE IND.	PT134100
22F4	00V0		3411	NXTST	DC	0		PT134110
			3412	*				PT134120
22F6	00V0		3413	ZERO	DC	0		PT134130
22F8	0000		3414		DC	0		PT134140
22FA	FFFF		3415	ONE	DC	X'FFFF'		PT134150
22FC	0000		3416		DC	0		PT134160
22FE	5555		3417	FIVE	DC	X'5555'		PT134170
2300	0000		3418		DC	0		PT134180
2302	AAAA		3419	TEN	DC	X'AAAA'		PT134190
2304	0000		3420		DC	0		PT134200
			3421	*				PT134210
2306	0D		3422	TITLE1	DB	13	CR	PT134220
2307	0A		3423		DB	10	LF	PT134230
2308	4D4F	4445 4C20 382F	3424		DC	C'MODEL 8/16E PROCESSOR TEST PART 1 06-211R00'		PT134240
2310	3156	4520 5052 4F43						

2318	4553 534F 5220 5445						
2320	5354 2050 4152 5420						
2328	3120 2030 362D 3231						
2330	3152 3030						
2334	FFFF	3425	TITLE2	DCX	FFFF	PT134250	
2336	000A	3426		DCX	000A	PT134260	
2338	FFF F	3427		DCX	FFFF	PT134270	
233A	4350 5520	3428		DC	C'CPU'	PT134280	
233E	000A	3429		DCX	000A	PT134290	
2340	2A	3430		DB	C'*'	PT134300	
2342	FFFF	3431		DCX	FFFF	PT134310	
	0000 2344	3432	TITEND	EQU	*	PT134320	
	0000 2344	3433	LNZB	EQU	*	PT134330	
2344		3434	REGSAV	DS	32	PT134340	
		3435	*	CHKSUM		PT134350	
		3436	*	(THE FOLLOWING CODE IS NOT PART OF THE TEST.)			PT134360
		3437	*			PT134370	
		3438	*			PT134380	
2364	2400	3439	\$CHKSUM	LIS	R0,0	PUNCH M17 TAPE WITH CHECKSUM	
2366	9510	3440		EPSR	R1,R0	SELECT REG. SET 0	
		3441	*			PT134400	
2368	C810 0100	3442		LDAI	R1,ORIGIN1	START	
236C	2421	3443		LIS	R2,1	INCREMENT	
236E	C830 2344	3444		LDAI	R3,LNZB	FINAL	
2372	2440	3445		LIS	R4,0	CHECKSUM BYTE	
2374	0351 0000	3446	\$GEN	LB	R5,0(R1)	PT134450	
2378	0745	3447		XAR	R4,R5	PT134460	
237A	C110 2374	3448		BXLE	R1,\$GEN	PT134470	
237E	D240 0097	3449		STB	R4,MN+3	CHECKSUM BYTE TO BOOT LOADER	
		3450	*			PT134480	
2382	C810 0080	3451	\$TAPE	LHI	R1,X'0080'	PT134490	
2386	9E21	3452		OCR	R2,R1	PT134500	
2388	9444	3453		EXBR	R4,R4	DISPLAY : NORMAL MODE	
238A	9824	3454		WHR	R2,R4	PT134510	
238C	9411	3455		EXBR	R1,R1	CHECKSUM BYTE TO D1	
238E	9501	3456		EPSR	R0,R1	PT134520	
						PT134530	
						PT134540	
						PT134550	
						PT134560	
2390	0360 007A	3458	\$PUNCH	LB	R6,X'7A'	GET BOUTDV (PUNCH) ADDRESS.	
2394	0E60 007B	3459		OC	R6,X'7B'	START TAPE PUNCH	
2398	9D60	3460		SSR	R6,R0	PT134580	
239A	2081	3461		BTBS	8,1	PT134590	
239C	41F0 23DE	3462		BAL	R15,\$TAPL	PT134600	
23A0	9411	3463		EXBR	R1,R1	PUNCH LEADER	
23A2	C850 00CF	3464		LHI	R3,X'CF'	(R1) = X'0080'	
23A6	DA61 0000	3465	\$PNCH1	WD	R6,0(R1)	PT134610	
23AA	9D60	3466		SSR	R6,R0	PUNCH BOOT LOADER	
23AC	2081	3467		BTBS	8,1	PT134620	
23AE	C110 23A6	3468		BXLE	R1,\$PNCH1	PT134630	
23B2	41F0 23E4	3469		BAL	R15,\$TAPL1	PT134640	
		3470	*			PUNCH ONE-FOLD GAP.	
		3471		LB	R4,MN+3	PT134650	
23B6	0340 0097	3472		LDAI	R1,ORIGIN1	PT134660	
23BA	C810 0100	3473		LDAI	R3,LNZB	GET CHECKSUM BYTE	
23BE	C820 2344	3474	\$PNCH2	LB	R5,0(R1)	(NORMALLY X'A00')	
23C2	0351 0000					PT134670	
						PT134680	
						PT134690	
						PT134700	
						PT134710	
						PT134720	
						PT134730	
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						PT135110	
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						PT136120	
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						PT136770	
						PT136780	
						PT136790	
						PT136800	
						PT136	

23C6	0745	3475		XAR	R4,R5		PT134750
23C8	9A65	3476		WDR	R6,R5		PT134760
23CA	9401	3477		EXBR	R0,R1		PT134770
23CC	9840	3478		WHR	R2,R0		PT134780
23CE	9D60	3479		SSR	R6,R0	DATA ADDRESS TO DISPLAY.	PT134790
23D0	2081	3480		BTBS	8,1		PT134800
23D2	C110 23C2	3481		BXLE	R1,\$PNCH2		PT134810
23D6	41F0 23DE	3482		BAL	R15,\$TAPL	PUNCH TRAILER.	PT134820
23DA	4300 2382	3483		B	\$TAPE	DISPLAY CHECKSUM, HALT PROCESSOR.	PT134830
23DE	C800 0100	3485	\$TAPL	LHI	R0,256	TO PUNCH BLANK LEADER	PT134850
23E2	2303	3486		BS	\$TAPLP		PT134860
23E4	C800 0055	3487	\$TAPL1	LHI	R0,85	TO PUNCH 1-FOLD GAP	PT134870
23E8	2701	3488	\$TAPLP	SIS	R0,1		PT134880
23EA	032F	3489		BNPR	R15	RETURN	PT134890
23EC	2430	3490		LIS	R3,0		PT134900
23EE	9A63	3491		WDR	R6,R3	PUNCH BLANK FRAME	PT134910
23F0	9D68	3492		SSR	R6,R8		PT134920
23F2	2081	3493		BTBS	8,1		PT134930
23F4	2206	3494		BS	\$TAPLP	CONTINUE.	PT134940
		3495	*				PT134950
23F6		3496		END			PT134960

CHF1	0000	10CC	2893	2915*				
CHF3	0000	1E04	2916	2932*				
CHF1	0000	1C12	2745	2754*				
CHLPS	0000	1F58	2818	2839	3057*			
CHLPS1	0000	1F5E	2820	3059*				
CLB	0000	0D4C	1373*					
CLH	0000	058C	505*					
CLHI	0000	05A8	516*					
CLHR	0000	0574	493*					
CONADR	0000	010A	73*	134				
CONOUT	0000	22EC	135	3406*				
CONT	0000	220A	3314	3315*				
CPUERR	0000	0284	190*					
CPUFLAG	0000	22E2	149	161	193	3396*		
CPUN0	0000	22E0	195	1947	2403	3395*		
CRT	0000	0106	71*					
CRTFLG	0000	22EE	127	133	163	210	3407*	
CRTIO	0000	0196	115	118*				
CRTOUT	0000	22EA	121	124	3405*			
DEVERR	0000	2150	3242*					
DFAULT	0000	19FE	2512	2587*				
DH	0000	196C	2530*					
DHR	0000	195E	2523*					
DIVD2	0000	1A9C	2516	2635*				
DLOOP2	0000	1952	2518*	2535				
DOCOMP	0000	1E32	2879	2918	2950*			
DONE	0000	202E	3126	3130*				
DONE0	0000	2024	3122	3123	3127*			
DONE11	0000	2040	3134	3136*				
DONE12	0000	2050	3142*	3148				
DONE2	0000	2054	3144*					
DONE3	0000	2062	3138	3146	3149*	3359		
DVDCCHK	0000	1938	2510*					
DVDFLT	0000	2140	100	3234*				
ENT3A	0000	0312	237*					
ENT3B	0000	032C	240	243	245*			
ENTRY1	0000	0112	68	81*	3118	3151	3189	
ENTRY2	0000	02AA	142	145	147	201*		
ENTRY3	0000	030A	234*	3132	3190			
ENTR14	0000	02FA	229*					
EPSR	0000	082E	1135*					
ERFSS	0000	217E	3255	3257*				
ERR1	0000	1292	1807	1816	1821	1825	1826*	
ERR11	0000	1258	1760	1767	1774	1803*		
ERR12	0000	1264	1790	1801	1808*			
ERR13	0000	127C	1635	1637	1639	1653	1655	1657
ERR14	0000	1288	1743	1822*				1817*
ERR2	0000	19EE	2570	2582*				
ERR21	0000	198A	2540	2542	2544	2558*		
ERRA	0000	2182	3268*					
ERRA6	0000	218E	3272*					
ERRB	0000	21A0	3275	3278*				
ERRB2	0000	21AC	3277	3281	3286*			
ERRB4	0000	21B4	3288*					
ERRB6	0000	21C2	3291	3293*				

PLUSM	0000	12B8	1751	1780	1843*														
PLUSN	0000	12BA	1752	1778	1784	1795	1844*												
POINT	0000	0000	2395*	2408	2410	2411	2416	2417	2421	2426	2451	2452	2467	2486	2490				
			2491	2495	2504														
POINTR	0000	0007	2508*	2516	2518	2531	2533												
PRNTR0	0000	210A	3198	3201	3204	3206	3208*												
PRNTRF	0000	20EA	3174	3181	3196*	3353													
PRTBSY	0000	224E	3334*																
PRTCP	0000	0230	162*																
PRTCPU	0000	021A	153	155*	159														
PRTCPU1	0000	021E	151	154*															
PRTEND	0000	229E	3343	3348	3358*														
PRTERR	0000	22AE	3326	3366*															
PRTR	0000	223E	3330*	3339															
PRTRR	0000	2232	3306	3326*															
PRTTLE	0000	01FA	146*	148	194														
PRTTOT	0000	2088	3117	3153	3163*														
PSWAVE	0000	0110	39	76*															
PURETOP	0000	0000R																	
QVRFLO	0000	2148	106	3238*															
RO	0000	0000	14*	81	82	83	84	85	86	87	88	90	91	92	93				
			94	95	96	97	98	99	100	101	102	103	104	105	106				
			107	111	112	113	114	116	117	118	119	155	163	174	175				
			180	181	182	184	186	188	190	195	196	198	210	230	231				
			232	233	235	236	254	255	256	257	258	259	276	277	298				
			299	379	380	435	436	452	453	454	455	456	457	461	464				
			469	503	580	581	582	583	584	585	587	591	598	602	603				
			605	606	606	608	610	614	614	634	634	636	638	640	642				
			644	647	648	650	652	653	655	656	658	659	661	662	665				
			666	668	669	671	672	675	676	677	679	681	683	685	747				
			748	749	750	751	752	754	759	762	764	767	769	771	774				
			777	779	781	781	783	786	789	792	794	797	800	802	804				
			806	806	809	811	813	815	817	819	826	828	830	832	832				
			843	845	850	855	863	881	884	893	895	911	912	914	917				
			921	926	931	938	942	946	963	967	971	976	989	990	991				
			992	993	994	997	1000	1008	1025	1050	1051	1054	1059	1064	1081				
			1086	1110	1111	1127	1128	1129	1130	1131	1132	1134	1136	1138	1139				
			1141	1141	1143	1146	1149	1153	1155	1162	1163	1226	1227	1266	1267				
			1312	1313	1314	1315	1317	1317	1347	1348	1349	1350	1351	1352	1354				
			1355	1356	1357	1358	1359	1360	1387	1390	1403	1426	1469	1470	1471				
			1472	1473	1474	1477	1477	1482	1486	1486	1491	1510	1510	1514	1517				
			1517	1575	1582	1582	1590	1611	1611	1626	1638	1645	1656	1656	1661				
			1667	1668	1668	1697	1699	1704	1712	1719	1721	1726	1777	1781	1781				
			1793	1797	1797	1813	1818	1826	1828	1829	1864	1865	1866	1867	1868				
			1869	1893	1894	1901	1908	1911	1916	1917	1933	1934	1947	1949	1952				
			1955	1961	1962	1963	1964	1965	1966	1967	1995	1996	1998	2003	2006				
			2007	2014	2015	2092	2093	2094	2095	2105	2106	2107	2108	2109	2110				
			2158	2159	2230	2231	2315	2316	2397	2398	2399	2400	2401	2402	2403				
			2404	2421	2426	2439	2445	2461	2467	2480	2486	2495	2501	2520	2524				
			2527	2531	2541	2549	2562	2578	2582	2584	2585	2595	2598	2697	2698				
			2702	2703	2802	2804	2805	2809	2811	3024	3026	3029	3033	3035	3037				
			3059	3067	3077	3083	3086	3088	3090	3099	3100	3101	3104	3104	3105				
			3106	3106	3107	3131	3133	3137	3150	3156	3157	3159	3160	3163	3167				
			3169	3171	3175	3182	3185	3196	3197	3199	3200	3202	3203	3205	3208				
			3209	3210	3212	3218	3268	3272	3274	3276	3278	3279	3280	3282	3286				

		3287	3288	3289	3290	3292	3293	3295	3296	3297	3298	3307	3308	3311
		3312	3344	3345	3347	3354	3358	3439	3440	3456	3460	3466	3477	3478
		3479	3485	3487	3488									
R1	0000 0001	15*	42	52	53	55	60	121	122	123	125	130	131	132
		133	134	137	178	179	181	464	466	588	592	656	999	1000
		1024	1060	1066	1066	1075	1083	1084	1084	1092	1098	1136	1137	1139
		1143	1145	1147	1147	1149	1152	1153	1158	1158	1160	1160	1358	1362
		1365	1371	1388	1392	1425	1478	1478	1483	1487	1487	1492	1496	1500
		1503	1558	1565	1612	1612	1625	1636	1643	1654	1654	1662	1670	1684
		1686	1689	1690	1693	1694	1698	1699	1708	1709	1713	1716	1730	1732
		1751	1753	1757	1762	1766	1769	1773	1776	1787	1806	1811	1819	1871
		1880	1881	1882	1883	1884	1885	1886	1920	1921	1926	1970	1971	1971
		1985	1986	1994	2418	2424	2437	2443	2459	2465	2477	2484	2492	2498
		2521	2528	2543	2551	2563	2574	2596	2597	2709	2714	2725	2726	2734
		2766	2767	2776	2840	2845	2860	2860	2870	2871	2882	2899	2899	2945
		2945	2950	2964	2989	3000	3015	3066	3069	3076	3079	3440	3442	3446
		3448	3451	3452	3455	3455	3456	3463	3463	3465	3468	3472	3474	3477
		3481												
R10	0000 000A	24*	482	483	486	489	494	511	514	523	524	528	529	756
		764	774	802	1333	1334	1336	1360	1364	1369	1377	1480	1489	1500
		1505	1809	1958	1968	1968	1973	2422	2427	2440	2441	2446	2447	2462
		2463	2468	2469	2481	2482	2487	2488	2496	2502	2518	2520	2527	2545
		2563	2572	2575	2600	2700	2700	2705	2739	2781	2797	2800	2800	2807
		2807	2830	2833	2836	2887	2969	3018	3022	3022	3031	3031	3232	
R11	0000 000B	25*	549	553	1407	1408	1411	1415	1418	1425	1429	1810	1960	1978
		1978	1980	1990	2521	2528	2560	2579	2580	2712	2715	2728	2768	2796
		2843	2846	2861	2961	3019	3232							
R12	0000 000C	26*	551	555	1412	1416	1420	1426	1432	1497	1501	1504	1509	1509
		1526	1535	1548	1553	1557	1567	1581	1596	1605	1667	1683	1688	1707
		1711	1729	1734	1742	1824	2419	2419	2425	2425	2438	2438	2444	2444
		2460	2460	2466	2466	2478	2478	2485	2485	2493	2493	2499	2499	2524
		2539	2559	2561	2573	2576	2820	2826	2960	2974	2993	3017	3017	3174
		3181	3207	3353										
R13	0000 000D	27*	537	540	1413	1417	1422	1427	1434	1627	1632	1777	1793	2549
		2558	2575	2577	2729	2755	2823	2824	2825	2826	2828	2862	2879	3117
		3153	3187	3246	3247	3250	3340	3341	3342					
R14	0000 000E	28*	156	191	197	199	202	202	220	221	222	224	226	227
		544	547	625	642	666	1498	1506	1628	1629	1740	1740	1741	1742
		1823	2538	2538	2539	2551	2558	2559	2580	2581	2593	2599	2694	2714
		2816	2817	2834	2845	3164	3165	3166	3168	3170	3172	3176	3177	3178
		3179	3183	3184	3186	3198	3201	3204	3206	3216	3219	3269	3269	3355
R15	0000 000F	29*	500	501	520	521	547	608	623	640	662	757	762	767
		771	792	797	815	819	841	861	867	872	877	880	884	889
		890	895	899	936	950	952	955	961	973	2553	2695	2696	2824
		2825	2841	2854	2876	2890	2904	2912	2928	2942	2957	2972	2987	2998
		3013	3116	3135	3152	3162	3173	3180	3196	3199	3202	3205	3225	3227
		3229	3231	3234	3236	3238	3240	3243	3244	3245	3248	3249	3250	3251
		3352	3462	3469	3482	3489								
R2	0000 0002	16*	37	41	56	62	124	135	138	139	140	141	146	165
		166	167	171	172	174	176	178	205	206	207	209	212	213
		214	217	218	220	238	239	466	467	589	593	600	659	1004
		1005	1074	1075	1389	1394	1427	1479	1479	1484	1488	1488	1493	1505
		1598	1602	1613	1613	1624	1634	1642	1652	1652	1663	1673	1685	1686
		1696	1702	1714	1716	1726	1731	1735	1752	1812	1820	2429	2429	2430
		2435	2436	2453	2453	2454	2457	2458	2471	2471	2472	2475	2476	2510

			2510	2511	2514	2515	2517	2534	2592	2592	2599	2709	2710	2713	2721
			2721	2722	2723	2736	2737	2741	2742	2747	2748	2749	2750	2770	2771
			2772	2773	2778	2779	2783	2784	2789	2790	2791	2831	2832	2840	2841
			2844	2850	2851	2852	2853	2854	2868	2869	2874	2875	2876	2884	2885
			2889	2890	2900	2901	2903	2904	2906	2907	2908	2909	2911	2912	2926
			2927	2928	2940	2941	2942	2952	2953	2955	2956	2957	2966	2967	2971
			2972	2981	2982	2983	2984	2986	2987	2994	2995	2997	2998	3007	3008
			3009	3010	3012	3013	3027	3028	3058	3109	3110	3120	3121	3141	3142
			3144	3213	3214	3215	3218	3300	3301	3315	3316	3317	3324	3327	3328
			3332	3333	3334	3336	3443	3452	3454	3478					
R3	0000 0003		17*	43	126	127	141	143	144	146	167	172	176	207	214
			218	467	468	471	473	480	497	769	1002	1005	1077	1078	1319
			1320	1324	1511	1520	1536	1539	1568	1579	1583	1592	1614	1614	1623
			1625	1632	1643	1647	1650	1650	1664	1675	1675	1715	1724	1753	1754
			1755	1756	1762	1763	1764	1769	1770	1771	1805	1873	1874	1878	1879
			1887	1888	1902	1903	1905	1906	1908	1909	1918	1919	1924	1925	2009
			2010	2012	2012	2410	2414	2418	2459	2492	2501	2512	2513	2515	2519
			2526	2566	2569	2583	2584	2726	2734	2767	2776	2857	2871	2882	2951
			2964	2992	2992	3062	3072	3102	3103	3105	3142	3215	3252	3253	3270
			3271	3301	3303	3304	3311	3312	3334	3444	3464	3473	3490	3491	
R4	0000 0004		18*	45	46	47	49	57	59	149	150	152	154	155	157
			158	160	161	192	192	193	203	209	468	469	509	517	627
			631	843	845	848	850	853	855	858	863	874	877	890	947
			950	953	955	958	961	963	965	965	967	1009	1012	1015	1016
			1039	1042	1045	1047	1078	1090	1093	1101	1154	1155	1156	1208	1209
			1211	1213	1215	1217	1219	1221	1224	1224	1228	1229	1231	1233	1235
			1238	1241	1243	1245	1476	1537	1542	1549	1550	1559	1562	1597	1599
			1615	1615	1621	1624	1629	1642	1646	1648	1648	1665	1678	1757	1763
			1765	1778	1784	1786	1794	1803	1808	1817	1822	1872	1874	1875	1876
			1919	1923	1925	1948	1951	1954	1957	1970	1974	1976	1981	1982	1985
			2112	2115	2118	2121	2124	2127	2129	2131	2133	2135	2138	2140	2143
			2146	2149	2153	2162	2164	2168	2170	2174	2177	2181	2183	2188	2190
			2195	2197	2199	2203	2206	2210	2212	2216	2218	2223	2224	2228	2228
			2317	2318	2327	2340	2352	2365	2372	2379	2411	2415	2424	2477	2498
			2567	2568	2571	2719	2719	2737	2751	2773	2779	2792	2793	2822	2859
			2859	2872	2872	2885	2897	2924	2925	2937	2959	2967	2978	2988	3001
			3014	3060	3061	3069	3072	3079	3139	3144	3145	3147	3322	3324	3326
			3336	3337	3338	3445	3447	3449	3453	3453	3454	3471	3475		
R5	0000 0005		19*	47	49	50	50	52	53	54	57	59	65	204	239
			241	242	246	247	471	472	492	494	497	501	503	506	524
			526	529	628	630	636	672	755	759	777	779	786	811	828
			1010	1040	1061	1062	1082	1089	1359	1363	1367	1374	1527	1530	1554
			1555	1606	1607	1616	1627	1666	1680	1759	1764	1765	1766	1771	1772
			1773	1776	1778	1779	1780	1783	1784	1785	1786	1789	1792	1794	1800
			1804	1806	1809	1811	1818	1823	2113	2128	2139	2155	2166	2172	2179
			2185	2187	2192	2192	2196	2201	2208	2214	2220	2226	2319	2320	2329
			2342	2354	2367	2374	2381	2412	2414	2431	2437	2445	2473	2480	2484
			2564	2566	2572	2699	2722	2724	2724	2736	2760	2761	2769	2769	2770
			2778	2786	2788	2789	2792	2794	2821	2822	2832	2852	2855	2855	2874
			2877	2877	2884	2901	2902	2902	2908	2910	2910	2921	2921	2936	2936
			2953	2954	2966	2983	2985	2995	2996	3009	3011	3011	3028	3057	3058
			3066	3076	3110	3113	3114	3121	3124	3125	3127	3128	3140	3145	3273
			3276	3279	3289	3317	3319	3320	3323	3446	3447	3474	3475	3476	
R6	0000 0006		20*	44	54	61	472	473	595	598	616	616	629	638	649
			650	1014	1018	1041	1056	1057	1091	1092	1095	1165	1179	1183	1185

T90INT	0000	1336	1887	1898*	1902	1906	1916	1917	1924												
T90J	0000	13FE	1972	1976*																	
T90JJ	0000	1400	1975	1977*																	
T90K	0000	1404	1969	1978*																	
T90KK	0000	1416	1979	1985*																	
T90L	0000	1426	1977	1989	1994*																
T90LST	0000	148D	1982	2089*																	
T90M	0000	1442	2000	2001*																	
T9000D	0000	1488	1974	2084*																	
T90P1	0000	141A	1986*																		
T90R2	0000	1322	1873	1884	1885	1886	1890*	1918													
T90R2B	0000	1328	1893*																		
T90R3	0000	1396	1933*																		
T90R34	0000	139A	1912	1934*																	
T90R4	0000	135A	1904	1907	1911*																
T90R7	0000	1448	2005*																		
T90R78	0000	1470	2004	2015*																	
T90R8	0000	146C	2008	2011	2014*																
T90SNT	0000	138A	1889	1927*																	
T90Z	0000	148E	1983	2092*																	
T9END	0000	14CE	2096*																		
TABLE	0000	22CC	102	3385*																	
TEMP	0000	22D8	3391*																		
TEMPF	0000	1860	2587	2590	2679*																
TEN	0000	2302	482	526	756	813	826	1336	1364	1377	3419*										
TEST1	0000	0334	244	254*	2695	3129	3308														
TEST10	0000	14D2	1864	2096	2103*																
TEST11	0000	17F0	2105	2384	2397*																
TEST12	0000	1866	2397	2405	2536	2694*															
TEST2	0000	0508	254	438	452*																
TEST3	0000	0622	452	558	580*																
TEST4	0000	07BC	580	740	747*																
TEST5	0000	098A	747	979	989*																
TEST6	0000	0814	989	1113	1127*																
TEST7	0000	0D5C	1127	1340	1347*																
TEST8	0000	0E8A	1347	1454	1469*																
TEST83	0000	1188	1499	1750*																	
TEST85	0000	0EE2	1481	1485	1490	1494	1496*														
TEST9	0000	12C4	1469	1738	1864*																
TESTC4	0000	1980	2422	2427	2441	2447	2463	2469	2482	2488	2496	2502	2538*								
TESTC5	0000	1996	2525	2532	2546*																
TESTCC	0000	11A6	1515	1518	1521	1524	1531	1533	1540	1543	1547	1551	1556	1563	1566						
			1572	1576	1578	1580	1588	1591	1593	1595	1600	1603	1608	1669	1671						
			1674	1676	1679	1681	1687	1691	1695	1700	1703	1705	1710	1717	1720						
			1722	1725	1727	1733	1736	1740*													
TESTNO	0000	22B8	257	457	585	752	994	1130	1352	1474	1869	2110	2402	2698	3344						
			3369*																		
THI	0000	0D38	1328*																		
TIM	0000	2076	3116	3135	3152	3155*															
TIME	0000	207A	3157*	3158																	
TIME2	0000	2082	3160*	3161																	
TITEND	0000	2344	158	3432*																	
TITLE1	0000	2306	152	3422*																	
TITLE2	0000	2334	154	3425*																	
TOT	0000	000F	1467*	1475	1513	1640	1659	1744	1750	1761	1768	1775	1791	1827	1828						

