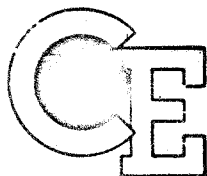


IBM-POUGHKEEPSIE
December 31, 1964



Diagnostic Engineering Publication

1410/7010

Subject: Diagnostic Program C022D **1410 Alarm Program**

Sequence Number 025
Replaces C022C

1. Card 001 is a STANDARD SYSTEM CONTROL CARD.
Card 002 is a STANDARD CHANNEL 1 CONTROL CARD.
Card 003 is a STANDARD CHANNEL 2 CONTROL CARD.
2. C022D is a slightly modified version of C022C. The routine on page 37 (pglin 1534-1555, addresses 03737 to 03857 "CHECK ADDRESS CHECK ALARM CIRCUITRY BY GENERATING AN ADDRESS WRAP AROUND LOW") must be bypassed on systems with 100K memory.

Enclosures: 75 Pages
 Card Deck for CARD ONLY SYSTEMS (as punched by UP51)
 8 Cards - Card Loader (1-7) and 1 Core Clear
 168 Cards No. 001 - 168 Data Cards
 1 Card Execute Card

Distribution: X 1410
 7010
 Other

082

C022

083

C022D
Page 001

C022D
1410 ALARM PROGRAM
12/31/64

084
C022

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2.00 .00.0 TEST DESCRIPTION

00.1 MODIFICATIONS

See Release Sheet

00.2 DESCRIPTION

This program is designed to test:

1. All circuitry used to detect machine and program errors that result in SYSTEM CHECKS. (In this writeup and program, the words "SYSTEM CHECKS" and "ALARMS" are synonymous.)
2. All circuitry used to cause a MASTER ERROR as a result of a SYSTEM CHECK
3. All MASTER ERROR circuitry that is used, or required, to properly cause an error stop, error restart and error reset - restart as determined by the CHECK CONTROL switch setting.

This program checks all circuits in the above categories except those listed in Appendix I of this writeup.

This program assumes that the current CPU error detection or reliability program has been successfully run with no alarms occurring.

This program is made in two sections. Under normal operation, only the first, or "automatic", section is run. If TAD4 is set to a one, the second, or "manual", section will also be run.

AUTOMATIC SECTION. This section includes the majority of the program. It checks all the alarm circuitry that can be checked by program means with the check control switch in normal, restart and reset-restart modes. The word "automatic" is probably a misnomer since several manual interventions are required to change switch settings. Also, although the majority of the possible errors in this section will be detected

by program means, some require visual observation by the operator as indicated by program typeouts.

The first routine of the program operates in normal mode, and requires the operator to perform checks using the "CHECK TEST" switches. Error indications are entirely visual.

The next routine operates in restart mode. Its errors will be detected by program means, unless an "alarm" stop occurs.

The majority of the automatic section then operates in reset-restart mode. All errors are detected by program means except for the possibility of an "alarm" stop.

Five routines (six routines if you have a 1405) will then operate in normal mode. Error indications are completely visual for these routines.

Unless TAD4 is set to one, the program will normally end here.

MANUAL SECTION. This section is termed "Manual" because each of the eight routines included require the operator to ground a pin on the backpanel of the CPU. As stated earlier, this section will be run only if requested by setting TAD4 to a one. Since this section checks only circuit inputs, and no transistors, it should be necessary to run it only on a new system, or after an engineering change has been completed. See Appendix I for specific circuitry checked by the manual section. (The manual section should also be run upon initial receipt of this program.) Because of the grounding of backpanel pins, the routines in the manual section will not necessarily check the settings of the standard TADS. You will have to refer to each individual routine listing to see how they handle looping, error halts, etc.

00.3 EQUIPMENT REQUIRED

1410 or 1410 ACC CPU, Console Printer, any size memory.

Other equipment used only if it is attached to your system:

1311 IMPAC with SEEK OVERLAP and SCAN features. (Program performs only SEEK and SCAN operations. It will not WRITE)

1405 FILE (Program will write on the C. E. tracks only.)

00.4 CARD DECK

7 Cards Load Program

1 Card Core Clear Card

167 Cards Program

(Cards numbered 001 - 167)

Card numbered 004 contains all TADS

Card numbered 001 is STANDARD SYSTEM CONTROL CARD

Card numbered 002 is STANDARD CHANNEL 1 CONTROL CARD

Card numbered 003 is STANDARD CHANNEL 2 CONTROL CARD

1 Card Execute Card (Branch to 2000)

00.5 MACHINE E. C. LEVEL

251818

00.6 PASS LENGTH

2.5 Minutes - Auto Section Only (Normal Pass)

6.5 Minutes - Auto and Manual Sections

The actual machine running time is very short. The above times represent the average times required to run the program with all manual interventions included.

2.00 .01.0

LOADING PROCEDURES

1. Display memory location 00000.

2. Alter to —

✓✓ RL%1100011\$ ✓ For channel 1 reader

✓✓ XL□1100011\$ ✓ For channel 2 reader

✓✓ RL%B000011\$ ✓ For channel 1 tape*

✓✓ XL□B000011\$ ✓ For channel 2 tape*

3. Set to RUN, RESET, START.

*Note: This procedure will load the current diagnostic tape control program. To select a specific diagnostic from tape, refer to the control program's writeup.

2.00 .02.0

OPERATING PROCEDURES

Load Program.

Program will normally type its identity followed by specific instructions to the operator. At its completion, it will return to the load program.

Normal program operation may be altered at any time by using the "Inquiry Request Key" and the "Program Alter Routine" to set one, or several, of the following TADS to "1".

<u>TAD</u>	<u>ADDRESS</u>	<u>IF NOT 1 (NORMAL)</u>	<u>IF SET TO ONE</u>
0	01000	Normal Typeouts	Bypass typeouts for scoping. (Typeouts giving directions to the operator will not be bypassed.)

<u>TAD</u>	<u>ADDRESS</u>	<u>IF NOT 1 (NORMAL)</u>	<u>IF SET TO ONE</u>
1	01001	No Loops	Loop present routine.
2	01002	No Error Halts	Halt on error.
3	01003	Single Program Pass	Repeat program.
4	01004	Run Auto Section Only	Run entire program.
5	01005	No Effect	Repeat the RESET- RESTART MODE routines in the Auto Section.

2.00.03.0

OPERATING HINTS AND COMMENTS

Most of the 1410 CPU incorporates "Fail Safe" circuitry. However, in order for this fail safe circuitry to be effective, the "System Check" or "Alarm" circuitry must be capable of detecting circuit and program errors. Much of the alarm circuitry is not "fail safe". This program is meant to fill this gap. After successful completion of this program, you should be able to assume that your alarm circuitry will detect all errors that it is designed to detect. (Exception - Failures of those circuits listed in Appendix I.)

There is a HALT in the program listing for every conceivable alarm circuit failure. (This includes the errors that must be detected by visual means.) Directly following each of these halts in the listing is a brief statement indicating the probable reason for the failure. Most of these halts will also have a logic page and scope point listed after the error statement.

These error statements and scope points will be accurate only if all previous routines have been successfully run. The first error indication in the program should always be the most accurate.

When it is desired to loop a routine for scoping, and error typeouts are not desired, setting TADS0 to 1, and TAD2 to 1, by use of the Program Alter Routine, will result in a tighter loop than if only TAD 1 is a one.

When running the manual section of the program, the standard TADS will not necessarily have any effect on the program operation. For these eight routines, it will be necessary to refer to each routine listing in order to determine how to scope loop, etc.

2.00 .. 04.0

PROGRAM STOPS AND RESTARTS

04.1

PROGRAM STOPS

There are several program stops to allow the operator to change switch settings, visually check for errors, etc. In all such cases, the halt will be preceded by a typeout of directions to the operator. (See Section 2.XX.05.1 for typeout explanations.)

Every program detected error will cause an error halt to occur if TAD 2 is a one. These halts are provided for every program detectable error. Refer to the IAR address in the listing for an explanation of a specific error.

04.2

PROGRAM RESTARTS

02000 Program may be restarted from the beginning at any time by starting at address 2000.

00030 You may restart the program, at the beginning of the last routine run, by starting at address 30 at any time.

**FIRST ADDRESS
OF ANY ROUTINE**

You may restart the program at the first address of any routine at any time.

You MAY NOT restart the program by a RESET-START action except upon completion of the program. Address 00001 is necessarily used by the program for automatic reset-restarts.

2.00.05.0 TYPEOUTS (See Appendix II for examples of actual program typeouts.)

05.1 NON ERROR TYPEOUTS
C022C

Program identification typed at program beginning.

CONTROL CARD INFO IS MISSING

You should never receive this typeout. It is an indication that the operator did not enter system and channel control card information.

PRINT CTRL TO NRML

Place the PRINT OUT CONTROL switch in the NORMAL position and start.

CHK CTRL TO NRML

Place the CHECK CONTROL switch in the STOP NORMAL position and start.

CHK TST SW CHK:

1. COMP RESET, PRESS A CHK TST SW, START

2. CHECK FOR:

STOP WITH ALL PROCESS ALARMS ON TYPEOUT:

SW.1-E #####

SW.2-E BLANK

SW.3-E 00002

3. IF WRONG-ERR XXXXX

4. REPEAT 1-3 FOR 3 CHK TESTS

FOR NEXT CHK-RESET, START, START

This series of typeouts is provided by the first routine of the program. At the completion of the typeouts, depress (and hold in) check test switch 1. Computer reset, and press start. All process alarm indicators should come on. The typeout should be as illustrated for "SW.1". (Plus AAR, BAR, etc.)

The same actions should be taken for check test switches 2 and 3. (Switch 2 IAR typeout should be bbbbb unless you have a 10K machine. In this case, it should be 0bbbb.)

If all process alarm indicators are not on for each switch or if the typeout is incorrect, refer to the error halt address indicated above by XXXXX.

To continue the program, COMPUTER RESET, and depress START twice.

INHIBIT PRINTOUT

Place the PRINTOUT CONTROL switch to the INHIBIT position and start.

CHK CTRL TO RSTRT

Place the CHECK CONTROL switch in the RESTART position and start.

IF THIS MODE ERR STOPS-ERR XXXXX

This typeout is provided after placing the CHECK CONTROL switch in the RESTART or RESET-RESTART position. If, while the switch is so positioned, the machine should stop due to a SYSTEM CHECK, refer to the error halt at the address indicated above by XXXXX.

CHK CTRL TO RST-RSTRT

Place the CHECK CONTROL switch in the RESET-RESTART position and start.

1405 C.E. TST & 1405 CMP DISABLE TO ON

This typeout will occur only if your channel control cards indicate you have a 1405 attached to your system. Place the C.E. TEST and the UNEQUAL COMPARE INOP switches to on. Also, the low order 1405 module for each channel should be made ready.

1405 SWITCHES TO NORMAL

This typeout will occur at the end of the program if the program has requested 1405 switch changes. Restore 1405 switches to normal.

----- ALARM:**OFF-ERR XXXXX****ON-OK, COMP RESET, START**

When this typeout occurs, the alarm indicated by the ---'s should be on. If it is not, refer to the error halt in the listing at the address indicated by the XXX's. To continue the program, computer reset and start.

----- ALARM:**NOT ON ALONE-ERR XXXXX****ON ALONE-OK, RESET, START**

When this typeout occurs, the alarm indicated by the ---'s should be on, and only that alarm should be on. If it is not on, or if other alarms are on in addition, refer to the error halt in the listing indicated above by the XXX's.

END C022 AUTO

This typeout indicates the end of a normal pass of C022.

GRND 11D2D22K&START

Manual section typeout. Ground the indicated backpanel point and depress **START**.

UNGRND&START

Manual section typeout. Remove the ground wire and depress start.

1. GRND 11D2C09B&START

2. -----ALARM:

NOT ON ALONE-ERR XXXXX

ON ALONE-OK, UNGRND, RESET, START

Manual section typeout. Ground the indicated backpanel point and depress START. The alarm indicated above by ---'s should come on (and no other alarms should come on). To continue the program, remove the ground wire, computer reset and start.

If "1." does not specifically say START, the indicated alarm should come on as soon as the ground wire is attached.

1. GRND 11D2B24C&START

2. SHUD STOP ON -----ALARM

3. IF NOT-ERR XXXXX

4. IF OK-UNGRND, RESET, START

Manual section typeout. Ground the indicated backpanel point and depress START. Check to see that the alarm indicated by the ---'s comes on and that the computer stops. To continue the program, remove the ground wire, computer reset and start.

END C022

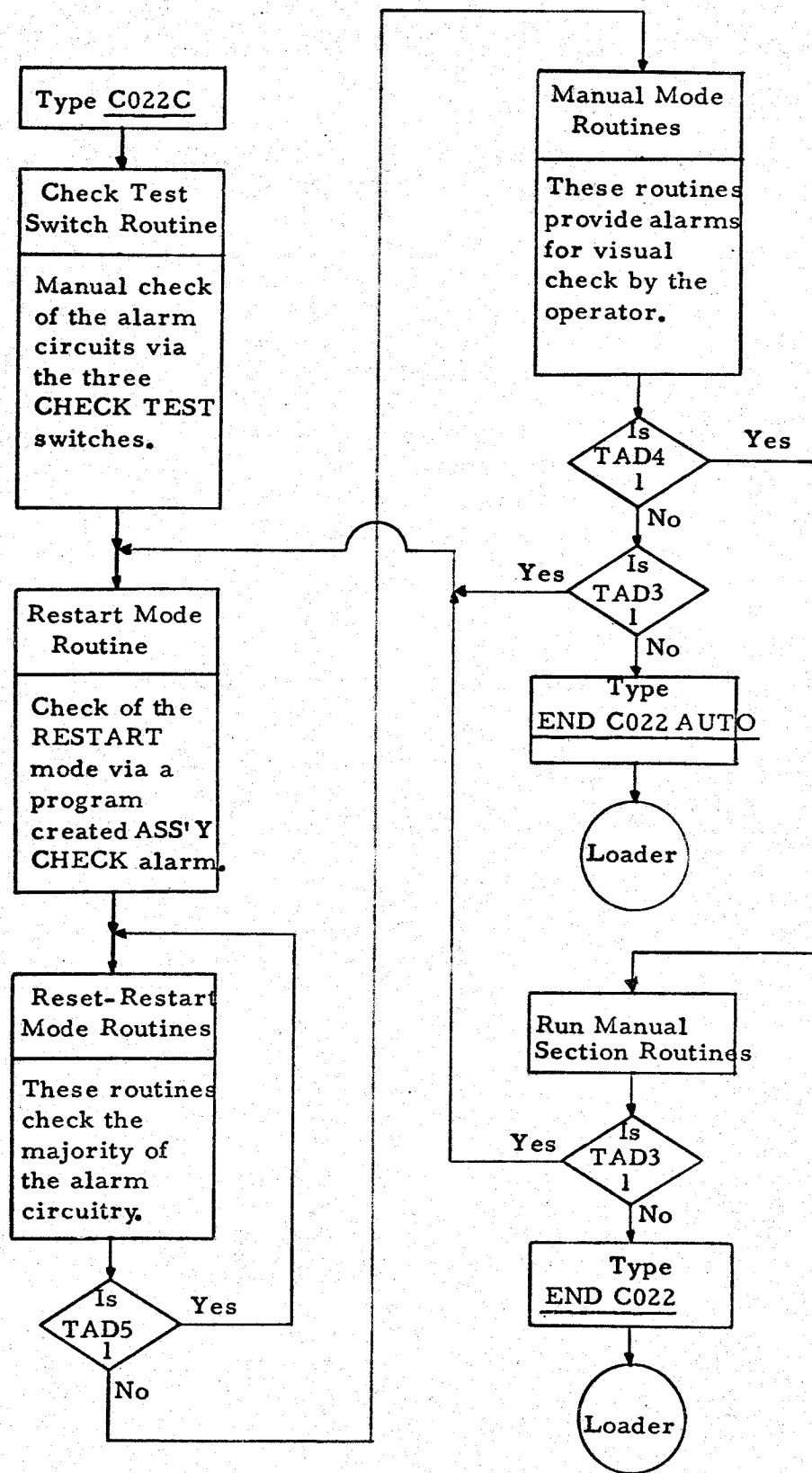
Typed at the completion of a complete pass of the program.

05.2

ERROR TYPEOUTS

ERR XXXXX

This typeout is an indication that a program detected error occurred. Refer to the error halt address in the listing (indicated above by XXXXX) for specific error information.



2.00..07.0 APPENDIX I

07.1 **ALARM CIRCUIT INPUTS CHECKED ONLY BY THE
MANUAL SECTION OF PROGRAM.**

LOGIC 18.14.08

Circuit 4F	Input H	A channel V.C.
Circuit 4G	Input A	A Reg Set Error
Circuit 4H	Input Q	Address Exit Error
Circuit 4I	Input H	A Char Select Error
Circuit 4G	Input B	B Reg Set Error
Circuit 4I	Input G	Op Mod Reg Set Error
Circuit 4H	Input P	B Char Sel Error

LOGIC 18.14.01

Circuit 3D	Input E	A Char Sel Error
Circuit 3E	Input R	A Char Sel Error
Circuit 3B	Input D	A Char Sel Error
Circuit 3C	Input R	A Char Sel Error

07.2 **CAUTION - THE FOLLOWING ALARM CIRCUITRY IS
NOT CHECKED BY THIS PROGRAM.**

It would be impractical for a diagnostic program to be of any assistance in checking the following groups of circuits:

LOGIC 12.12.46

All circuits meant to detect multiple cycle control latches being on at the same time. (The circuits on this logic page that are meant to detect the lack of any cycle control latch being on are checked in the auto section of the program.)

LOGIC 18.14.01

Circuit Inputs 3B-E, 3C-G, 3D-D and 3E-G.

These four circuit inputs are used to detect multiple A Character Selections. Specifically, they are meant to check for OP MOD - F2 multiple selections and E2 - F2 multiple selections.

LOGIC 12.12.43

Circuits 1D, 1E, 2E, 2F, 3F.
Circuit Input 1G-G.

These circuits are for the purpose of detecting a NO LAST LOGIC GATE condition, and causing an INSTRUCTION CHECK as a result.

2. .07.3 APPENDIX II - AUTO SECTION TYPEOUTS

R C022A
R PRINT CTRL TO NRML
R CHK CTRL TO NRML

C022 APPENDIX II

Page 016

S 01789 01788 01188 .V 000 T0bb
R CHK TST SW CHK:
R 1.COMP RESET,PRESS A CHK TST SW,START
R 2.CHECK FOR:
R STOP WITH ALL PROCESS ALARMS ON
R TYPEOUT:
R SW.1-E 0000S
R -----
R SW.2-E BLANK
R SW.3-E 00002
R 3.IF WRONG-ERR 02579
R 4.REPEAT 1-3 FOR 3 CHK TESTS
R FOR NEXT CHK-RESET,START,START

S 02579 02580 02579 .A 00b T0bb

E 0000S 0SVY0 0SVXZ Jb 000 bbbb

E bbbbb 02580 02579 bb bb bbbb

E 00002 02580 02579 Jb 000 bbbb

S 02579 02580 02579 .A 00b bbbb
R INHIBIT PRINTOUT
R CHK CTRL TO RSTRT

S 02714 02713 01188 .V 000 T0bb
R IF THIS MODE ERR STOPS-ERR 02853
R CHK CTRL TO RST-RSTRT
R 1405 C.E.TST & 1405 CMP DISABLE TO ON
R IF THIS MODE ERR STOPS-ERR 02997
R CHK CTRL TO NRML
R IO INTRLK ALARM:
R OFF-ERR 06392
R ON-OK,COMP RESET,START

R ADDRESS CHK ALARM:
R OFF-ERR 06508
R ON-QK,COMP RESET,START

R RBC INTRLK ALARM:
R OFF-ERR 06784
R ON-OK,COMP RESET,START

R INSTRUCT CHK ALARM:
R NOT ON ALONE-ERR 06953
R ON ALONE-OK,RESET,START

R OP REG SET ALARM:
R NOT ON ALONE-ERR 07095
R ON ALONE-OK,RESET,START

R 1405 SWITCHES TO NORMAL
R END C022 AUTO

2.00.07.4 APPENDIX II - MANUAL SECTION TYPEOUTS

C022 APPENDIX II

Page 017

R CHK CTRL TO RST-RSTRT
R GRND 11D2D22K&START
R UNGRND&START
R CHK CTRL TO NRML
R 1.GRND 11D2D26D&START
R 2.A REG SET ALARM:
R NOT ON ALONE-ERR 07607
R ON ALONE-OK,UNGRND,RESET,START

R 1.GRND 11D2C09B&START
R 2.ADDR EXIT ALARM:
R NOT ON ALONE-ERR 07762
R ON ALONE-OK,UNGRND,RESET,START

R 1.GRND 11D2C07D&START
R 2.A CHAR SEL ALARM:
R NOT ON ALONE-ERR 07913
R ON ALONE-OK,UNGRND,RESET,START

R 1.GRND 11D2C04P
R 2.A CHAR SEL ALARM:
R NOT ON ALONE-ERR 08056
R ON ALONE-OK,UNGRND,RESET,START

R 1.GRND 11D2B23P&START
R 2.B REG SET ALARM:
R NOT ON ALONE-ERR 08214
R ON ALONE-OK,UNGRND,RESET,START

R 1.GRND 11D2B24C&START
R 2.SHUD STOP ON OP MOD SET ALARM
R 3.IF NOT-ERR 08408
R 4.IF OK-UNGRND,RESET,START

R 1.GRND 11C3H22B&START
R 2.SHUD STOP ON B CHAR SEL ALARM
R 3.IF NOT-ERR 08601
R 4.IF OK-UNGRND,RESET,START

R 1405 SWITCHES TO NORMAL
R END C022

1410 ALARM PROGRAM

CT ADDR INSTRUCTION

PGLIN

LABEL

OPCODE OPERAND

```

1002 * *****
1003 * * PROGRAM STARTS AT ADDRESS 2000 *
1004 * *****
1005 CTL 2
1006 EQU 400
1007 EQU 9899 9691-9999 FOR 1405 WRITE
1008 EQU 9691
1009 *****
1010 **STANDARD TADS.

```

```

1011 ORG 1000 *****ONE***** 01000
1012 DC 2 2 TYPED OUTPUTS BYPASS TYPING 1 01000
1013 DC 2 2 NO LOOPS LOOP ROUTINE 1 01001
1014 DC 2 2 NO ERROR HALTS HALT ON ERROR 1 01002
1015 DC 2 2 ONE PRCG. PASS REPEAT PROGRAM 1 01003

```

```

1016 **SPECIAL TADS.
1017 DC 2 2 AUTO SECT ONLY ENTIRE PROGRAM 1 01004
1018 DC 2 2 NO EFFECT REPEAT RESET- 1 01005
1019 * RESTART MODE
1020 * ROUTINES IN THE
1021 * AUTO SECTION.

```

```

1022 DCW 2 2 01006
1023 ORG 1010 01010

```

```

1024 *****
1025 **CHECK TADS 0,1 AND 2 CLOSED SUBROUTINE.

```

```

1026 CKTAC SBR EXIT65 7 01010 G 01117 8
1027 CKTADA MLCS 2 2,COMTAD SET TADO INDICATOR 12 01017 D 09292 01119 3
1028 BCE *E13,TADO,1 GO IF TADO IS A ONE 12 01029 B 01053 01000 1
1029 MLCS 2 2,COMTAD CLEAR TADO INDICATOR 12 01041 D 09293 01119 3
1030 MLNS 2 2,COMTAD SET TADI INDICATOR 12 01053 D 09294 01119 1
1031 BCE *E13,TADI,1 GO IF TADI IS A ONE 12 01065 B 01089 01001 1
1032 MLNS 2 2,COMTAD CLEAR TADI INDICATOR 12 01077 D 09293 01119 1
1033 BCE *E12,TAD2,1 GO IF TAD 2 IS A ONE 12 01089 B 01112 01002 1
1034 A 2 2,COMTAD SET TAD2 INDICATOR 11 01101 A 09295 01119
1035 B 0 RETURN TO PROGRAM 7 01112 J 00000
1036 COMTAD DCW 2 2 C IF TADO&1-TAD2 NOT 1 1 01119

```

CT ADDR INSTRUCTION

1410 ALARM PROGRAM
 OPCOD OPERAND

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDR	INSTRUCTION
1038			*****			
1039			**STANDARD TYPE ROUTINE 2 WITH DELAY ADDED.			
1040	TYP1	SDR	TYP2E0	7	01120	G 01135 B
1041	TYP2	HCP	0	10	01127	M 3T0 00000 M
1042		SDR	TYP365	7	01137	G 01186 B
1043		BCB1	*-23	7	01144	R 01127 Z
1044		BA1	*C1	7	01151	R 01158 M
1045		MLCWA	02400,022220	12	01158	D 09299 09303 X
1046		S	01,022220	11	01170	S 09304 09303
1047	TYP3	BZ	0	7	01181	J 00000 V
1048		B	*-24	7	01188	J 01170
1049		NOP		1	01195	M
1050			*****			
1051			**CONTROL INDICATORS.			
1052		ONG	01242		01242	
1053		DCM	0X00	3	01244	
1054		DC	0250	3	01247	
1055		DC	0'90	2	01249	
1056			*****			
1057			**PROGRAM IDENTIFICATION.			
1058	IDENT 0	DCM	0C02200.G	5	01254	

NOT APPLICABLE TO 7010
 SEQUENCE NUMBER IS 025
 LAST 1000S IS 09,SYSL,CHNL,CHNZ

1410 ALARM PROGRAM

CT ADDR INSTRUCTION

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDR	INSTRUCTION
1201	*****					
1202	*\$CLOSED SUBROUTINE TO PLACE AN INVALID CHARACTER IN LOCATION 00110					
1203	*\$OF CORE MEMORY.					
1204	CLINVD	SBR	CLINVA&5	7	01808	G 01875 B
1205		CW	CLINVB&1	6	01815	D 01835
1206		SAR	20	7	01821	G 00020 A
1207		CS	120	6	01828	/ 00120
1208	CLINVB	CW	CLINVA&1	6	01834	D 01871
1209		SAR	20	7	01840	G 00020 A
1210		MLCWA	@\$.50@,112	12	01847	D 09310 00112 X
1211		MCE	XEDITA,112	11	01859	E 09220 00112
1212			IN ADDRESS 0110			
1213	CLINVA	B	0	7	01870	J 00000
1214	*****					
1215	*\$CLOSED SUBROUTINE TO CLEAR INVALID CHARACTER AT LOCATION ON 00110					
1216	CLEARC	SBR	CLEARA&5	7	01877	G 01908 B
1217		CW	CLEARA&1	6	01884	D 01904
1218		SAR	20	7	01890	G 00020 A
1219		CS	120	6	01897	/ 00120
1220	CLEARA	B	0	7	01903	J 00000
1221	EUROPE	C	CKTAD	7	01910	J 01010
1222		C	*@8,SYSICS,1	12	01917	M 01936 01261 I
1223		C	*@13	7	01929	J 01948
1224		C	MLCA PATCH,@\$.50@	12	01936	D 01957 09310 T
1225		C	START@19	7	01948	J 02019
1226	PATCH	C	@.50@	3	01957	
1227		ORG	2000		02000	
1228	START	MRCWG	XROUTN,30	12	02000	D 09184 00030 L
1229		C	EUROPE	7	02012	J 01910 G
1230		BA1	*@1	7	02019	R 02026 M
1231		MLCWS	@00000@,X1	12	02026	D 09315 00029 7
1232		WCP	IDENT	10	02038	M @TO 01250 M
1233		BA1	*-16	7	02048	R 02038 M
1234		CS	TOPMEM	6	02055	/ 09899
1235		CS	TOPMEM@M@,TOPMEM@1	1	02061	/
1236		MLCWS	@M@,TOPMEM@1 GM-WM TO 09900	12	02062	D 09316 09900 7

1410 ALARM PROGRAM

PGLIN	LABEL	OPCODE	OPERAND	CT	ADDRS	INSTRUCTION
1142		ORG	1403		01403	
1143						
1144						
1145	SETUPA	SBR	SETG0E5	7	01403	G 01467 B D
1146		MRCWG	XSTR1A,1	12	01410	D 09140 00001 L
1147		B	*620	7	01422	J 01448
1148	SETUPB	SBR	SETG0E5	7	01429	G 01467 B D
1149		MRCWG	XSTR1B,1	12	01436	D 09162 00001 L
1150		B	CKM0DA	7	01448	J 01469
1151	RESTR1	B	CKTAC	7	01455	J 01010
1152	SETGC	B	START	7	01462	J 02000
1153						
1154						
1155	CKM0DA	SBR	CKG0E5	7	01469	G 01657 B
1156		SW	CKSW1T	6	01476	, 01577
1157	CKP0CA	BCE	CKNOPW,XMODE,R	12	01482	B 01569 09203 R
1158		CW	CKSW1T	6	01494	, 01577
1159		NOPWM		1	01500	N
1160	CKSNCH	B	CKNEXT	7	01501	J 01539
1161		SW	CKSNCH	6	01508	, 01501
1162		B	TYP1	7	01514	J 01120
1163		DCW	@ INHIBIT PRINTOUT@,G	17	01537	
1164	CKNEXT	B	TYP1	7	01539	J 01120
1165		DCW	@ CHK CTRL TO RST-RSRT@,G	22	01567	
1166	CKNOPW	B	ODCFIL	7	01569	J 08937
1167		NOPWM		1	01576	N
1168	CKSW1T	B	CKGO	7	01577	J 01652
1169		H		1	01584	.

```

*****
*$CLCSED SUBROUTINE TO SET UP FOR RESET-RESTART TYPE OF ROUTINE.
SETUPA SBR SETG0E5 SET RETURN ADDRESS
MRCWG XSTR1A,1 STORE ROUTINE A
B *620
SETUPB SBR SETG0E5 SET RETURN ADDRESS
MRCWG XSTR1B,1 STORE ROUTINE B
B CKM0DA GET IN RESET-RESTART MODE
B CKTAC GO INTERROGATE TADS 0&1&2
B START RETURN TO PROGRAM
*****
*$REQUEST RESET-RESTART MODE IF NOT NOW IN RESET-RESTART MODE.
CKM0DA SBR CKG0E5 SET TO SKIP HALT
SW CKSW1T
BCE CKNOPW,XMODE,R GO IF IN RESET-RE-START
CW CKSW1T SET TO HALT FOR SW-CHANGE
NOPWM SWITCH TO REQUEST PRINT
B CKNEXT SWITCH SETTING ONLY ONCE
SW CKSNCH PER PROGRAM PASS
B TYP1
DCW @ INHIBIT PRINTOUT@,G
B TYP1
DCW @ CHK CTRL TO RST-RSRT@,G
B ODCFIL GO READY ANY 1405 PRESENT
NOPWM
B CKGO GO IF NO SWITCH CHANGES
H WAIT FOR SWITCH CHANGE

```

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
1171		MLCS	@R,XMODE	12	01585	D 09305 09203 3
1172		NOPWM		1	01597	N
1173	CKERRS	B	CKGO	7	01598	J 01652
1174		SW	*-12	6	01605	, 01598
1175		B	TYPI	7	01611	J 01120
1176		DCM	@ IF THIS MODE ERR STOPS-ERR @	28	01645	
1177		DC	RSETER	5	01650	02997
1178		DCM	@M@	1	01651	
1179	CKGO	B	0	7	01652	J 00000
1180			*****			*****
1181			*\$COMMON ERROR CLOSED SUBROUTINE.			
1182	ERROR	SBR	ERRA	7	01659	G 01700 B
1183		SBR	ERRC@5	7	01666	G 01730 B
1184		BCE	ERRB,TADC,1 GO IF TYPING BYPASSED	12	01673	B 01702 01000 1
1185		B	TYPI	7	01685	J 01120
1186	ERRA	DCM	@ERR @,G	9	01700	
1187	ERRB	BCE	ERRC,TAD2,1 GO TO HALT ON ERROR	12	01702	B 01725 01002 1
1188		A	@1,ERRC@5 SET TO BYPASS HALT	11	01714	A 09304 01730
1189	ERRC	B	0	7	01725	J 00000
1190			*****			*****
1191			*\$CLOSED SUBROUTINE TO SET UP FOR NORMAL MODE OF OPERATION.			
1192	NORMAL	SBR	SETGCC5	7	01732	G 01467 B
1193		MRCWG	XSTRIC,1	12	01739	D 09176 00001 L
1194		BCE	NORMAA,XMODE,N GO IF IN NORMAL	12	01751	B 01801 09203 N
1195		B	TYPI	7	01763	J 01120
1196		DCM	@ CHK CTRL TO NRHL@,G	17	01786	
1197		H		1	01788	.
1198		MLCS	@NG,XMODE	12	01789	D 09306 09203 3
1199	NORMAA	B	RESTR1	7	01801	J 01455

SWITCH TO TYPE ERROR STOP
MESSAGE ONLY ONCE

RETURN TO PROGRAM

WAIT FOR SWITCH CHANGE

SET RETURN ADDRESS
STORE ROUTINE C
GO IF IN NORMAL

SET NORMAL INDICATOR

CT ADDR INSTRUCTION

PGLIN LABEL OPCOD OPERAND

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDR	INSTRUCTION
1201	*****					
1202	*\$CLSEC		ROUTINE TO PLACE AN INVALID CHARACTER IN LOCATION 00110			
1203	*\$OF		CCRE MEMORY.			
1204	CLINVD	SBR	CLINVAE5 SET RETURN ADDRESS	7	01808	G 01875 B
1205		CM	CLINVB61	6	01815	M 01835
1206		SAR	20	7	01821	G 00020 A
1207		CS	12C ATTEMPT TO CLEAR LAST ONE	6	01828	/ 00120
1208	CLINVB	CM	CLINVAE1	6	01834	M 01871
1209		SAR	20	7	01840	G 00020 A
1210		MLCWA	@\$.50@,112 STORE EDIT B FIELD	12	01847	D 09310 00112 X
1211		MCE	XEDITA,112 ***GENERATE INVALID BLANK	11	01859	E 09220 00112
1212	*		IN ADDRESS 0110			
1213	CLINVA	B	0	7	01870	J 00000
1214	*****					
1215	*\$CLOSED		ROUTINE TO CLEAR INVALID CHARACTER AT LOCATION ON 00110			
1216	CLEARC	SBR	CLEARA65 SET RETURN ADDRESS	7	01877	G 01908 B
1217		CM	CLEARA61	6	01884	M 01904
1218		SAR	20	7	01890	G 00020 A
1219		CS	12C	6	01897	/ 00120
1220	CLEARA	B	0	7	01903	J 00000
1221		NOP		1	01910	N
1222	*****					
1223	*					
1224	*	*	PROGRAM STARTS HERE			
1225	*					
1226	*****					
1227	ORG		20C0			
1228	START	MRCWG	XROUTN,30 SET TO RSTRT RINS AT 30	12	02000	D 09184 00030 L
1229		B	CKTAC GO INTERROGATE TADS 06162	7	02012	J 01010 G
1230		BAI	*61	7	02019	R 02026 M
1231		MLCWS	@CCCC00@,X1 SET X1 FOR ROUTINE USE	12	02026	D 09315 00029 7
1232		WCP	IDENT TYPE PROGRAM IDENTITY	10	02038	M @T0 01250 M
1233		BAI	*-16	7	02048	R 02038 M
1234		CS	TOPMEM SET UP IN CASE OF 1405	6	02055	/ 09899
1235		CS		1	02061	/
1236		MLCWS	@M@,TOPMEM@1 GH-WM TO 09900	12	02062	D 09316 09900 7

1410 ALARM PROGRAM

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
1271		B	TYPI	7	02428	J 01120
1272		DCW	SH.3-E 00002a,G	18	02452	
1273		B	TYPI	7	02454	J 01120
1274		DCW	3-IF WRCNG-ERR a	17	02477	
1275		DC	NRMLR	5	02482	02579
1276		DCW	2M2	1	02483	
1277		B	TYPI	7	02484	J 01120
1278		DCW	4-REPEAT 1-3 FOR 3 CHK TESTSa,G	30	02520	
1279		B	TYPI	7	02522	J 01120
1280		DCW	FOR NEXT CHK-RESET,START,STARTa,G	31	02559	
1281	NRPLAA	MRCWG	XNRML,1 SET ROUTINE FOR CHK TST	12	02561	D 09284 00001 L
1282	H	NRMLAB	WAIT FOR TEST	6	02573	02580
1283	H	NRMLR	ERROR HALT	1	02579	.
1284			*ERRCR HALT-			
1285			* IF A PROCESS ALARM IS NOT ON-			
1286			* -AND ALL FOLLOWING AUTO ROUTINES ARE			
1287			* SUCCESSFUL-PROBABLY AN INDICATOR FAILURE.			
1288			* -AND ONE OF THE FOLLOWING AUTO ROUTINES			
1289			* FAIL-REFER TO AUTO ROUTINE ERROR HALT.-OR			
1290			* STATIC SCOPE POINT-LOGIC 18.14.08.			
1291			* IF E CHARACTER TYPED INCORRECTLY-			
1292			* SCOPE POINT-42.10.10 2E,11C4H03E			
1293			* IF SYSTEM APPEARS TO BE HUNG IN A LOOP WITH NO			
1294			* ALARMS ON INSTEAD OF STOPPING WITH ALARMS ON-			
1295			* SCOPE POINT-18.14.08 1B,11D2E17A			
1296	NRMLAB	BNQ	ITRI	7	02580	J 08719 Q
1297	BCE	NRPLAA,TAD1,1		12	02587	B 02561 01001 I
1298	CW	CKSNCH	CLR PRINT INHIBIT SWITCH	6	02599	D 01501
1299	CW	CKERRS	CLR RST-RSTRT ERR PRT SW	6	02605	D 01598

1410 ALARM PROGRAM

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
1301	*****					
1302	*\$CHECK THE RESTART POCCE OF THE CHECK CONTROL SWITCH BY					
1303	*\$GENERATING AN ASSEMBLY CHECK ALARM.					
1304	RSTIDAA	MRCWG	XSRTIA,1	12	02611	D 09140 00001 L
1305		CW	RSTART&1	6	02623	D 02745
1306		SAR	20	7	02629	G 00020 A
1307		SAR	SEIG0&5	7	02636	G 01467 A
1308		B	CKTAC	7	02643	J 01010
1309		BW	RSTABA,CK&SCH	12	02650	V 02687 01501 1
1310		B	TYPI	7	02662	J 01120
1311		DCW	& INHIBIT PRINTOUT&,G	17	02685	
1312	RSTABA	B	TYPI	7	02687	J 01120
1313		DCW	& CHK CTRL TO RSTRTO,G	18	02711	
1314		H	WAIT FCR SWITCH CHANGES	1	02713	.
1315		SW	CK&SCH	6	02714	, 01501
1316		MLCS	&E&,XMODE	12	02720	D 09317 09203 3
1317		BCE	RSTAAA,TADC,1	12	02732	B 02785 01000 1
1318	RSTART	B	TYPI	7	02744	J 01120
1319		DCW	& IF THIS MODE ERR STOPS-ERR @	28	02778	
1320		DC	RSTAER	5	02783	02853
1321		DCW	&G	1	02784	
1322	RSTAAA	CW	RSTAST&1	6	02785	D 02855
1323		SAR	20	7	02791	G 00020 A
1324	*****					
1325	RSTARP	CS	12C	6	02798	/ 00120
1326		* MLCWA	&\$.50&,112	12	02804	D 09310 00112 X
1327		* MCE	XEDITA,112	11	02816	E 09220 00112
1328		* *	THIS EDIT SHOULD CAUSE AN INVALID *			
1329		* *	BLANK IN ADDRESS 110 DURING SCAN 3, *			
1330		* *	THUS CAUSING AN ASSEMBLY CHK ALARM. *			
1331	RSTAAD	BNQ	ITRI	7	02827	J 08719 Q
1332		* BCE	RSTARP,COMTAD,C	12	02834	B 02798 01119 C
1333	*****					

1410 ALARM PROGRAM

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
1335		B	RSTAND	7	02846	J 02862
1336	RSTAER	H		1	02853	.
1337	*ERRCR-ALARM STOP OCCURRED WITH CHECK CONTROL SWITCH					
1338	*IN RESTART MODE.					
1339	*STATIC SCPE POINT-13.42.10 4D,11B3B26G					
1340	RSTAST	B	ERROR	7	02854	J 01659
1341		H		1	02861	.
1342	*ERRCR HALT-ASSEMBLY CHECK ALARM, WITH CHECK CONTROL					
1343	*SWITCH IN RESTART MODE, CAUSED RESET-RESTART.					
1344	*PROBABLY OPERATOR ERROR-OR CHECK CONTROL SWITCH IS					
1345	*WIRED WRONG.					
1346	RSTAND	B	BNQ	7	02862	J 08719 Q
1347		BCE		12	02869	B 02798 01001 I
1348		B	CLEARC	7	02881	J 01877

CLEAR INVALID CHARACTERS

PGLIN	LABEL	OPCODE	OPERAND	CT	ADDRS	INSTRUCTION
1350	*****					
1351	*\$CHECK THE RESET-RESTART MODE OF THE CHECK CONTROL SWITCH AND THE					
1352	*\$ASSEMBLY CHECK ALARM CIRCUITRY BY GENERATING AN ASSEMBLY CHECK					
1353	*\$ALARM.					
1354	RSETBB	B	SETUPA	7	02888	J 01403
1355	* *****					
1356	RSETRP	CK	RSETAA&1	6	02895	D 02915
1357	*	SAR	20	7	02901	G 00020 A
1358	*	CS	120	6	02908	/ 00120
1359	RSETAA	CK	RSETAB&1	6	02914	D 02940
1360	*	SAR	20	7	02920	G 00020 A
1361	*	MLCWA	@\$.50@,112	12	02927	D 09310 00112 X
1362	RSETAB	CK	RSEIND&1	6	02939	D 02999
1363	*	SAR	20	7	02945	G 00020 A
1364	*	MCE	XEDITA,112	11	02952	E 09220 00112
1365	*	BNQ	ITR1	7	02963	J 08719 Q
1366	*	BCE	RSETRP,COMTAC,C TAD0&1-1,TAD2-NOT1*	12	02970	B 02895 01119 C
1367	* *****					
1368	B	ERROR	GO TO ERROR ROUTINE	7	02982	J 01659
1369	H			1	02989	.
1370	*ERRCR HALT-ASSEMBLY CHECK ALARM,WITH CHECK CONTROL					
1371	*SWITCH IN RESET-RESTART MODE,CAUSED ONLY RESTART-OR					
1372	*ASSEMBLY CHECK ALARM CIRCUITRY IS FAILING.					
1373	*SCOPE LOOP POINT-18.14.08 4F,11D2D22G					
1374	B	RSETND	GO TO END ROUTINE	7	02990	J 02998
1375	H		DUMMY ERROR HALT	1	02997	.
1376	*ERRCR-WHILE THE CHECK CONTROL SWITCH WAS IN RESET-					
1377	*RESTART MCDE,A MASTER ERRCR CAUSED AN ALARM STOP.					
1378	*MASTER ERROR IS PROBABLY DUE TO AN ASSEMBLY CHECK					
1379	*ALARM GENERATED BY ABOVE ROUTINE.					
1380	*STATIC SCOPE POINT-13.42.10 1E,11D3H18C					
1381	RSEIND	BNQ	ITR1	7	02998	J 08719 Q
1382	BCE	RSETRP,TAD1,1		12	03005	B 02895 01001 I
1383	B	CLEARC	CLEAR INVALID CHARACTERS	7	03017	J 01877

1410 ALARM PROGRAM

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
1385	*****					
1386	*CHECK THE ABILITY OF A CLEAR STORAGE INSTRUCTION TO CLEAR AN					
1387	*INVALID CHARACTER IN CORE WITHOUT CAUSING AN ALARM.					
1388	B	SETUPA	GO TO CLOSED SUBROUTINES	7	03024	J 01403
1389	*****					
1390	CLSTRP	B	CLINVD MAKE ADDR 110 INVALID*	7	03031	J 01808
1391	*	CW	CLSTST&I SET FOR RESET-RESTART*	6	03038	□ 03070
1392	*	SAR	20 *	7	03044	G 00020 A
1393	*	MLNA	XATES,XBAR AAR-BAR STORAGE TO 8S*	12	03051	D 09215 09139 /
1394	*	CS	12C ***CLEAR INVALID CHAR. *	6	03063	/ 00120
1395	CLSTST	BNQ	ITR1 *	7	03069	J 08719 Q
1396	*	BCE	CLSTRP,COMIAD,C TAD0&I-1,TAD2-NOT1*	12	03076	B 03031 01119 C
1397	*****					
1398	C	XBAR,@8888@	CS OK	11	03088	C 09139 09322
1399	BE	CLSTND	GO IF YES	7	03099	J 03114 S
1400	B	ERROR	GO TO ERROR ROUTINE	7	03106	J 01659
1401	H			1	03113	.
1402	*ERRCR HALT-CLEAR STORAGE OF AN INVALID CHARACTER					
1403	*CAUSED A RESET-RESTART.					
1404	*SCOPE LCOOP POINT-18.12.03 3E,11D2B22L					
1405	CLSTND	BNQ	ITR1	7	03114	J 08719 Q
1406	BCE	CLSTRP,IAD1,1		12	03121	B 03031 01001 1

1410 ALARM PROGRAM

PGLIN	LABEL	CPCOD	OPERAND	CT	ADDRS	INSTRUCTION
1408	*****					
1409	**CHECK IO INTERLOCK CHECK WITH % TYPE DP CODE ON E CHANNEL.					
1410	B	SETUPA	GO TO CLOSED SUB ROUTINES	7	03133	J 01403
1411	CW	IOECST&1	SET FOR RESET-RESTART	6	03140	D 03186
1412	SAR	20		7	03146	G 00020 A
1413	*****					
1414	IOEGRP	RCP	XSPACE SET E CHANNEL INTRLK * 18.14.08	10	03153	M %T0 09204 R
1415	*	MLNA	XATES,XBAR AAR-BAR STORAGE TO 85* 4E	12	03163	D 09215 09139 /
1416	IOECAR	RCP	XSPACE ***CAUSE IO INTRLK CHECK* 18.14.11	10	03175	M %T0 09204 R
1417	IOECST	BA1	%&1 * 3D 4D 5E	7	03185	R 03192 M
1418	*	BNQ	ITR1 *	7	03192	J 08719 Q
1419	*	BCE	IOEGRP,COMTAD,C YAD0&1-1,IAD2-NOTI*	12	03199	B 03153 01119 C
1420	*****					
1421	IOECAA	C	XAAR,XOPRSA CORRECT RST-RSTRI OCCURR	11	03211	C 09134 09233
1422	BE	IOECND	GO IF YES	7	03222	J 03237 S
1423	IOECAB	B	ERROR GO TO ERROR ROUTINE	7	03229	J 01659
1424	H			1	03236	.
1425	*ERRCR	+ALT-IO	INTERLOCK ALARM DID NOT CAUSE CORRECT			
1426	*RESET	RESTART				
1427	*SCOPE	LCCP	POINT-18.14.08 4E,11D2C21E			
1428	IOECND	BNQ	ITR1	7	03237	J 08719 Q
1429	BCE	IOEGRP,TADI,1		12	03244	B 03153 01001 I

```

1431 *****
1432 *$CHECK IO INTERLOCK CHECK WITH 2 CHAR E CHANNEL OP CODE.
1433 IOETCH B SETUPA GO TO CLOSED SUBROUTINES
1434 CW IOETST&I SET FOR RESET-RESTART
1435 SAR 20
1436 *****
1437 IOETRP SSF 0 SSF TO SET INTERLOCK * 18.14.11
1438 * MLNA XATES,XBAR AAR-BAR STORAGE TO 8S* 4D 5D
1439 IOETAR SSF 0 ***SSF-IO INTERLOCK ALRM*
1440 IOETST BAI *E1
1441 * BNQ ITRI
1442 * BCE IOETRP,COMTAD,C TAD0E1-1,TAD2-NOT1*
1443 *****
1444 IOETAA C XAAR,XOPRSA CORRECT RST-RSTRT OCCUR
1445 6E IOETND GO IF YES
1446 IOETAB B ERROR GO TO ERROR ROUTINE
1447 H
1448 *ERROR HALT-TWO SUCCESSIVE 2 CHARACTER E CHANNEL OP
1449 *CODES FAIL TO CAUSE AN IO INTERLOCK ALARM.
1450 *SCOPE LCOP POINT-16.14.11 4C,11D2C05C
1451 IOETAD BNQ ITRI
1452 BCE IOETRP,TAD1,1

```

```

7 03256 J 01403
6 03263 M 03293
7 03269 G 00020 A
2 03276 K 0
12 03278 D 09215 09139 /
2 03290 K 0
7 03292 R 03299 M
7 03299 J 08719 Q
12 03306 B 03276 01119 C
11 03318 C 09134 09233
7 03329 J 03344 S
7 03336 J 01659
1 03343 .
7 03344 J 08719 Q
12 03351 B 03276 01001 I

```

1410 ALARM PROGRAM

CT ADDR INSTRUCTION

CPCOD OPERAND

PCLIN

```

1454 *****
1455 *CHECK IO INTERLOCK CHECK WITH □ TYPE OP CODE ON F CHANNEL IF
1456 *SYSTEM HAS 2ND CHANNEL.
1457 BCE IOFLND&19,SYSIE13, SKIP RTN-NO CHN 2
1458 B SETUPA GO TO CLOSED SUBROUTINES
1459 CW IOFLST&1 SET FOR RESET RESTART
1460 SAR 20
1461 *****
1462 IOFRP DCW @LEIO@ RCP CHANNEL 2 OP CODE* 18.14.11
1463 * DC XSPACE IO SET IO INTERLOCK * 4D-G 5F
1464 * DC @R@ *
1465 * MLNA XATES,XBAR AAR-BAR STORAGE TO 8S*
1466 IOFAR DCW @LEIO@ RCP CHANNEL 2 OP CODE*
1467 * DC XSPACE ***CAUSE IO INTRLK ALARM*
1468 * DC @R@ *
1469 IOFLST 8A2 *E1 *
1470 * BNG ITRI *
1471 * BCE IOFRP,COMTAD,C TAD0&1-1,TAD2-NOT 1*
1472 *****
1473 IOFLAA C XAAR,XOPRSA CORRECT RST-RSIRT OCCUR
1474 BE IOFLND GO IF YES
1475 IOFLAB B ERROR GO TO ERROR ROUTINE
1476 H
1477 *ERRCR HALT-TWO SUCCESSIVE □ TYPE F CHANNEL OP CODES
1478 *FAIL IO CAUSE AN IO INTERLOCK ALARM.
1479 *SCOPE LOOP POINT-18.14.11 4C,11D2C05C
1480 IOFLND BNG ITRI
1481 BCE IOFRP,TAD1,1

```

```

12 03363 B 03498 01269
7 03375 J 01403
6 03382 □ 03428
7 03388 G 00020 A
4 03395
5 03403 09204
1 03404
12 03405 D 09215 09139 /
4 03417
5 03425 09204
1 03426
7 03427 X 03434 M
7 03434 J 08719 Q
12 03441 B 03395 01119 C
11 03453 C 09134 09233
7 03464 J 03479 S
7 03471 J 01659
1 03478 .
7 03479 J 08719 Q
12 03486 B 03395 01001 I

```

CT ADDR5 INSTRUCTION

1410 ALARM PROGRAM
 PGLIN LABEL CPCOD OPERAND

1483 *****
 1484 *\$CHECK IO INTERLOCK CHECK WITH 2 CHAR F CHANNEL OP CODE IF SYSTEM
 1485 *\$HAS READER ON SECOND CHANNEL.

1486 BCE IOFTND&19,CHN2&12, SKP IF NO F RDR 12 03498 B 03617 01358
 1487 IOFTCH 8 SETUPA GO TO CLOSED SUBROUTINES 7 03510 J 01403
 1488 CW IOFTST&1 SET FOR RESET-RESTART 6 03517 B 03547
 1489 SAR 20 7 03523 G 00020 A

1490 *****
 1491 IOFTRP DCW @42 CHANNEL 2 SELECT * 24.01.03 1 03530
 1492 * DC @02 STACKER & FEED OP * 4F 5F 1 03531

1493 * MLNA XATES,XBAR AAR-BAR STORAGE TO 8S* 12 03532 D 09215 09139 /
 1494 IOFTAR DCW @42 ***SSF-IO INTRLK ALARM * 1 03544
 1495 * DC @02 * 1 03545
 1496 IOFTST 8A1 *E1 * 7 03546 R 03553 M G
 1497 * BNQ ITR1 * 7 03553 J 08719 Q
 1498 * BCE IOFTRP,COMTAD,C TAD0&1-1,TAD2-NOT1* 12 03560 B 03530 01119 C

1499 *****
 1500 IOFTAA C XAAR,XOPRSA CORRECT REST-RSTRT OCCUR 11 03572 C 09134 09233
 1501 BE IOFTND GO IF YES 7 03583 J 03598 S
 1502 B ERROR GO TO ERROR ROUTINE 7 03590 J 01659
 1503 H 1 03597 .

1504 *ERROR HALT-TWO SUCCESSIVE 2 CHARACTER F CHANNEL OP
 1505 *CCDES FAIL TO CAUSE AN IO INTERLOCK ALARM.
 1506 *SCOPE LCOP POINT-LOGIC 24.01.03 4F,11F6C26G

1507 IOFTND BNQ ITR1 7 03598 J 08719 Q
 1508 BCE IOFTRP,TAD1,1 12 03605 B 03530 01001 I

1410 ALARM PROGRAM

CT ADDR INSTRUCTION

PGLIN

LABEL OPCODE OPERAND

```

*****
* $CHECK THE ABILITY OF THE ADDRESS CHANNEL CHECK ALARM TO CAUSE A
* $PASTER ERROR.
ACMEAA B SETUPA GO TO CLCSED SUBROUTINES 7 03617 J 01403
1512
1513 MLCWS @NG,8 NOP SBR INSTRUCTION 12 03624 D 09306 00008 7
1514 CW ACMEST&I SET FOR RESET-RESTART 6 03636 @ 03674
1515 SAR 20 7 03642 G 00020 A
1516
1517 *****
1518 ACMPER MLNA XATES,XBAR AAR-BAR STORAGE TO 8S* 18.14.08 /
1519 * SCNLS 5 ***CAUSE ADDR CHNL CHECK* 4H-R 6 03661 D 00005
1520 * DC @000 0 @ WITH BLANK IN B ADDR * 6 03672
1521 ACMEST BNQ ITRI 7 03673 J 08719 Q
1522 * BCE ACMPER,COMTAD,C TAD0&I-1,TAD2-NOTI* 12 03680 B 03649 01119 C
1523 *****
1524 C XAAR,@00005@ CORRECT RST-RSTRY OCCUR 11 03692 C 09134 09327
1525 BE ACMEND GO IF YES 7 03703 J 03718 S
1526 ACMEER B ERROR GO TO ERROR ROUTINE 7 03710 J 01659
1527 H 1 03717 .
1528
1529 *ERRCR HALT-ADDRESS CHANNEL CHECK ALARM DID NOT CAUSE
1530 *A RESET RESTART.
1531 *SCOPE LOOP POINT-18.14.08 4H,11D2C21D
1532 ACMPEND BNQ ITRI 7 03718 J 08719 Q
BCE ACMPER,TADI,1 12 03725 B 03649 01001 1

```

CT ADDR INSTRUCTION

410 ALARM PROGRAM

OPCOD OPERAND

PGLIN

```

1534 *****
1535 *CHECK ADDRESS CHECK ALARM CIRCUITRY BY GENERATING AN ADDRESS WRAP
1536 *$AROUND LOW.
1537      B      SETUPA      GO TO CLOSED SUBROUTINES
1538      D      PATCHA      PATCH AT END * BYPASS ROUTINE *
1539      D      DCM      @      FILL IN * IF 100K SYSTEM *
1540 *****18.14.08
1541      MLNA      XATES,XBAR      AAR-BAR STORAGE TO 8S*      41-F
1542      *      SCNLS 2,2      SET AAR-BAR TO 00001 *
1543      *      SCNLS 1,0      ***CAUSE ADDRESS CHECK * 18.14.11
1544      BNO      ITR1      *      3C 1B 2B
1545      *      BCE      ADRCRP,COMTAD,C      TAD001-1,TAD2-NOT1* 4B 5B 4C
1546      *      *****5C 5G
1547      C      XBAR,399996      CORRECT RSI-RSTRY OCCUR
1548      BE      ADROND      GO IF YES
1549      B      ERROR      GO TO ERROR ROUTINE
1550      .H
1551 *ERROR HALT-WRAP AROUND LOW FAILED TO CAUSE AN ADDRESS
1552 *CHECK ALARM.
1553 *SCOPE LOOP POINT-18.14.08 4I,1102C21C
1554      BNO      ITR1
1555      BCE      ADRCRP,TAD1,1

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7 03737 J 01403
7 03744 J 09373
6 03756
12 03757 D 09215 09139 /
12 03769 D 00002 00002
12 03781 D 00001 00000
7 03793 J 08719 Q
12 03800 B 03757 01119 C
11 03812 C 09139 09331
7 03823 J 03838 S
7 03830 J 01659
1 03837 .
7 03838 J 08719 Q
12 03845 B 03757 01001 I

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1410 ALARM PROGRAM

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDR	INSTRUCTION
1557	*****					
1558	•CHECK ADDRESS CHECK ALARM CIRCUITRY BY GENERATING AN ADDRESS WRAP					
1559	•AROUND HIGH.					
1560	B	SETUPA	GO TO CLOSED SUBROUTINES	7	03857	J 01403
1561	CH	ADCHST61	SET FOR RESET-RESTART	6	03864	D 03914
1562	SAR	20		7	03870	G 00020 A
1563	MLCS	SYS161,ADCHK66	SET MEMORY SIZE	12	03877	D 01257 03907 3
1564	*****					
1565	ADCHRP	MLWA	XATES,XBAR	12	03889	D 09215 09139 7
1566	ADCHK	SCNR	ADCHST,09999	12	03901	D 03913 09999 8
1567	ADCHST	BNQ	ITR1	7	03913	J 08719 Q
1568	BCE	ADCHRP,COMTAD,C	TAD0E1-1,TAD2-NOT1	12	03920	B 03889 01119 C
1569	*****					
1570	C	XBAR,00002	CORRECT RST-RSTRT OCCUR	11	03932	C 09139 09335
1571	BE	ADCHND	GO IF YES	7	03943	J 03958 S
1572	B	ERROR	GO TO ERROR ROUTINE	7	03950	J 01659
1573	H			1	03957	.
1574	*****					
1575	•ERROR HALT-WRAP AROUND HIGH FAILED TO CAUSE AN					
1576	•ADDRESS CHECK ALARM.					
1577	•SCOPE LOOP POINT-18.14.11 48.1102K14K					
1578	ADCHND	BNQ	ITR1	7	03958	J 08719 Q
	BCE	ADCHRP,TAD1,1		12	03965	B 03889 01001 1

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
1580	*****					
1581	*\$CHECK ADDRESS CHECK ALARM CIRCUITRY BY HAVING AN A BIT IN THE					
1582	*\$UNITS POSITION OF THE B ADDRESS.*110 TIME*.					
1583	B	SETUPA	GO TO CLOSED SUBROUTINES	7	03977	J 01403
1584	MLCWS	200,8	NOP SBR INSTRUCTION	12	03984	D 09306 00008 7
1585	CW	ADCAST1	SET FOR RESET-RESTART	6	03996	D 04034
1586	SAR	20		7	04002	G 00020 A
1587	*****					
1588	ADCARP	MLNA	XATES,XBAR AAR BAR STORAGE TO 8S* 1B-P 2A 3A	12	04009	D 09215 09139 /
1589	*	SCNLS	5 ***CAUSE ADDRESS CHECK * 3B	6	04021	D 00005
1590	*	DC	20005* 2 WITH A BIT AT I/O TME* 11.20.09	6	04032	
1591	ADCAST	BNQ	ITR1 * 2C-A	7	04033	J 08719 Q
1592	*	BCE	ADCARP,COMTAD,C TAD01-1,TAD2-NOT1* 15.50.05	12	04040	B 04009 01119 C
1593	*****					
1594	C	XAAR,2000052	CORRECT RST-RSIRT OCCUR	11	04052	C 09134 09327
1595	BE	ADCAND	GO IF YES	7	04063	J 04078 S
1596	B	ERROR	GO TO ERROR ROUTINE	7	04070	J 01659
1597	H			1	04077	.
1598	*ERROR HALT-AN A BIT IN THE UNITS POSITION OF THE B					
1599	*ADDRESS FAILED TO CAUSE AN ADDRESS CHECK ALARM.					
1600	*SCOPE LOOP POINT-18.14.11 1B,1102K150					
1601	ADCAND	BNQ	ITR1	7	04078	J 08719 Q
1602	BCE	ADCARP,TAD1.1		12	04085	B 04009 01001 1

1410 ALARM PROGRAM

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
1604	*****					
1605	*\$CHECK ADDRESS CHECK ALARM WITH A B BIT IN THE THOUSANDS POSITION					
1606	*\$CF THE B ADDRESS.*I7 TIME*.					
1607	B	SETUP	GO TO CLOSED SUBROUTINES	7	04097	J 01403
1608	MLCWS	AND,8	NOP THE SBR INSTRUCTION	12	04104	D 09306 00008 7
1609	CW	ADCST&1	SET FOR RESET-RESTART	6	04116	D 04154
1610	SAR	Z0		7	04122	G 00020 A
1611	*****					
1612	ADCBRP	MLNA	XATES,XBAR AAR-BAR STORAGE TO 8S*	12	04129	D 09215 09139 /
1613	*	SCNLS	5 ***CAUSE ADDRESS CHECK *	6	04141	D 00005
1614	*	DC	20.CC5 @ WITH B BIT AT I7 TIME*	6	04152	
1615	ADCBST	BNQ	ITR1 *	7	04153	J 08719 Q
1616	*	BCE	ADCBRP,COMTAD,C TADCC&1-1,TAD2-NOT1*	12	04160	B 04129 01119 C
1617	*****					
1618	C	XAAR,	2CCCC52 CORRECT RST-RSTRT OCCUR	11	04172	C 09134 09327
1619	BE	ADCBD	GO IF YES	7	04183	J 04198 S
1620	B	ERROR	GO TO ERROR ROUTINE	7	04190	J 01659
1621	H			1	04197	.
1622	*****					
1623	*ERRCR HALT-THE B BIT IN THE THOUSANDS POSITION OF THE					
1624	*B ADDRESS FAILED TO CAUSE AN ADDRESS CHECK ALARM.					
1625	*SCOPE LCCP POINT-18.14.11 18,1102K15P					
1626	ADCBDND	BNQ	ITR1	7	04198	J 08719 Q
	BCE	ADCBRP,	TAD1,1	12	04205	B 04129 01001 1

CT ADDR INSTRUCTION

1410 ALARM PROGRAM

LABEL OPCOD OPERAND

PGLIN

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDR	INSTRUCTION
1628	*****					
1629	*CHECK THE ADDRESS CHECK ALARM WITH ZONE BITS IN THE 10 THOUSANDS					
1630	*POSITION OF THE B ADDRESS.*16 TIME*					
1631	B	SETUPA	GO TO CLOSED SUBROUTINES	7	04217	J 01403
1632	MLCWS	@n@,8	NOP THE SBR INSTRUCTION	12	04224	D 09306 00008 7
1633	CW	ADCCST&1	SET FOR RESET-RESTART	6	04236	□ 04274
1634	SAR	Z0		7	04242	G 00020 A
1635	*****					
1636	ADCCRP	MLNA	XATES,XBAR AAR-BAR STORAGE TO 8.S* 11-20.09	12	04249	D 09215 09139 /
1637	*	SCNLS 5	***CAUSE ADDRESS CHECK * 2C-B	6	04261	D 00005
1638	*	DC @MCC05 @	WITH ZONE BITS AT 16 *	6	04272	
1639	ADCCST	BNQ	ITR1 *	7	04273	J 08719 Q
1640	*	BCE	ADCCRP,COMIAD,C TAD0&1-1,TAD2-NOT1*	12	04280	B 04249 01119 C
1641	*****					
1642	C	XAAR,@CCCC05@	CORRECT RST-RSTRT OCCUR	11	04292	C 09134 09327
1643	BE	ADCCND	GO IF YES	7	04303	J 04318 S
1644	B	ERROR	GO TO ERROR ROUTINE	7	04310	J 01659
1645	H			1	04317	.
1646	*ERRCR FAIL-ZONE BITS IN THE TEN THOUSANDS POSITION OF					
1647	*THE B ADDRESS FAILED TO CAUSE AN ADDRESS CHECK ALARM.					
1648	*SCOPE LOOP POINT-11-20.09 2C,11C1J18G					
1649	ADCCND	BNQ	ITR1	7	04318	J 08719 Q
1650	BCE	ADCCRP,TADI,1		12	04325	B 04249 01001 1

1410 ALARM PROGRAM

PGLIN	LABEL	OPCODE	OPERAND	CT	ADDRS	INSTRUCTION
1652	*****					
1653	*\$CHECK THE ADDRESS CHECK ALARM WITH ZONE BITS IN THE UNITS					
1654	*\$POSITION OF THE A ADDRESS.*15 TIME*					
1655	B	SETUPA	GO TO CLOSED SUBROUTINES	7	04337	J 01403
1656	MLCWS	AND,1	NOP THE SAR INSTRUCTION	12	04344	D 09306 00001 7
1657	CW	ADCDST&1	SET FOR RESET-RESTART	6	04356	D 04400
1658	SAR	20		7	04362	G 00020 A
1659	*****					
1660	ADCDRP	MLNA	XATES,XBAR AAR-BAR STORAGE TO 8S*	12	04369	D 09215 09139 /
1661	*	SCNLS	1,6 SET BAR TO 5,MOD BLNK* 2B-L	12	04381	D 00001 00006
1662	*	SCNLS	***CAUSE ADDRESS CHECK *	1	04393	D
1663	*	DC	Q 20005M,2 WITH ZONE BITS AT 15 *	5	04398	
1664	ADCDST	BNQ	ITR1	7	04399	J 08719 Q
1665	*	BCE	ADCDRP,COMTAD,C TAD0&1-1,TAD2-NOT1*	12	04406	B 04369 01119 C
1666	*****					
1667	C	XBAR,	2000052 CORRECT RST-RSTRY OCCUR	11	04418	C 09139 09327
1668	BE	ADCDND	GO IF YES	7	04429	J 04444 S
1669	B	ERROR	GO TO ERROR ROUTINE	7	04436	J 01659
1670	H			1	04443	.
1671	*****					
1672	*ERRCR HALT-ZONE BITS IN THE UNITS POSITION OF THE A					
1673	*ADDRESS FAILED TO CAUSE AN ADDRESS CHECK ALARM.					
1674	*SCOPE LOOP POINT-11.20.09 2B,11C1J18G					
1675	ADCCNC	BNQ	ITR1	7	04444	J 08719 Q
1676	BCE	ADCDRP,	TAD1,1	12	04451	B 04369 01001 1

CT ADDR INSTRUCTION

1410 ALARM PROGRAM

LABEL OPCOD OPERAND

PGLIN

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1677 *****
1678 *CHECK THE ADDRESS CHECK ALARM WITH ZONE BITS IN THE THOUSANDS
1679 *POSITION OF THE A ADDRESS.*I2 TIME*.
1680 B SETUPA GO TO CLOSED SUBROUTINES
1681 MLCWS 2A.1 NOP THE SAR INSTRUCTION
1682 CW ADCEST1 SET FOR RESET-RESTART
1683 SAR 20
1684 *****
1685 ADCERP MLNA XATES,XBAR AAR-BAR STORAGE TO 8S* 11.20.09
1686 * SCNLS 1,6 SET BAR TO 5,MOD BLNK* 2B-K
1687 * SCNLS ***CAUSE ADDRESS CHECK *
1688 * DC 20PC052 WITH ZONE BITS AT I2 *
1689 ADCEST BNQ ITRI *
1690 * BCE ADCERP,COMTAC,C TAD0&1-1,IAD2-NOTI*
1691 *****
1692 C XBAR,200052 CORRECT RST-RSTRT OCCUR
1693 BE ADCEND GO IF YES
1694 B ERROR GO TO ERROR ROUTINE
1695 H
1696 *ERRCR HALT-ZONE BITS IN THE THOUSANDS POSITION OF THE
1697 *A ADDRESS FAILED TO CAUSE AN ADDRESS CHECK ALARM.
1698 *SCOPE LCCP POINT-11.20.09 2B,11C1J18G
1699 ADCEND BNQ ITRI
1700 BCE ADCERP,TADI,1

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7 04463 J 01403
12 04470 D 09306 00001 7
6 04482 0 04526
7 04488 G 00020 A
12 04495 D 09215 09139 /
12 04507 D 00001 00006
1 04519 D
5 04524
7 04525 J 08719 Q
12 04532 B 04495 01119 C
11 04544 C 09139 09327
7 04555 J 04570 S
7 04562 J 01659
1 04569 .
7 04570 J 08719 Q
12 04577 B 04495 01001 1

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1410 ALARM PROGRAM

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
1702	*****					
1703	*\$CHECK THE ADDRESS CHECK ALARM WITH ZONE BITS IN THE 10 THOUSANDS					
1704	*\$POSITION OF THE A ADDRESS.*11 TIME*.					
1705	B	SETUPA	GO TO CLOSED SUBROUTINES	7	04589	J 01403
1706	MLCWS	200,1	NOP THE SAR INSTRUCTION	12	04596	D 09306 00001 7
1707	CW	ADCFST&1	SET FOR RESET-RESTART	6	04608	D 04652
1708	SAR	20		7	04614	G 00020 A
1709	*****					
1710	ADCFRP	MLNA	XATES,XBAR AAR-BAR STORAGE TO 8S* 11.20.09	12	04621	D 09215 09139 /
1711	*	SCNLS	1,6 SET BAR TO 5,MOD BLNK* 2C-F	12	04633	D 00001 00006
1712	*	SCNLS	***CAUSE ADDRESS CHECK *	1	04645	D
1713	*	DC	2000052 WITH ZONE BITS AT 11 *	5	04650	
1714	ADCFST	BNQ	ITR1	7	04651	J 08719 Q
1715	*	BCE	ADCFRP,COMTAD,C TAD001-1,TAD2-NOI1*	12	04658	B 04621 01119 C
1716	*****					
1717	C	XBAR,2000052	CORRECT RST-RSTRY OCCUR	11	04670	C 09139 09327
1718	BE	ADCFND	GO IF YES	7	04681	J 04696 S
1719	B	ERROR	GO TO ERROR ROUTINE	7	04688	J 01659
1720	H			1	04695	.
1721	*****					
1722	*ERRCR HALT-ZONE BITS IN THE TEN THOUSANDS POSITION OF					
1723	*THE A ADDRESS FAILED TO CAUSE AN ADDRESS CHECK ALARM.					
1724	*SCOPE LCCP POINT-11.20.09 2C,11C1J18G					
1724	ADCFND	BNQ	ITR1	7	04696	J 08719 Q
1725	BCE	ADCFRP,TAD1,1		12	04703	B 04621 01001 1

1410 ALARM PRGCRAP

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDR	INSTRUCTION
1727	*****					
1728	*\$CHECK INSTRUCTION CHECK ALARM CIRCUITRY VIA A BIT IN D MODIFIER					
1729	*\$OF TABLE LOOKUP.					
1730	B	SETUPA	GO TO CLOSED SUBROUTINES	7	04715	J 01403
1731	CW	ITBAST&1	SET FOR RESET-RESTART	6	04722	□ 04760
1732	SAR	20		7	04728	G 00020 A
1733	*****		*****18-14.08			
1734	ITBARP	MLNA	XATES,XBAR AAR-BAR STORAGE TO 8S*	12	04735	D 09215 09139 /
1735	*	DCW	***CAUSE INSTRUCTION CHK* 4E-B	1	04747	
1736	*	DC	XTBLA * 18-14.11	5	04752	09234
1737	*	DC	XTBLB * 3H	5	04757	09235
1738	*	DC	2X2 * 12-12.43	1	04758	
1739	ITBAST	BNQ	ITR1 * 1G 3G 4G	7	04759	J 08719 Q
1740	*	BCE	ITBARP,COMTAD,C TAD0&1-1,TAD2-NOT1*	12	04766	B 04735 01119 C
1741	*****		*****			
1742	C	XBAR,EXTBLB	CORRECT RST-RSTRT OCCUR	11	04778	C 09139 09340
1743	BE	ITRAND	GO IF YES	7	04789	J 04804 S
1744	B	ERROR	GO TO ERROR ROUTINE	7	04796	J 01659
1745	H			1	04803	.
1746	*****		*****			
1747	*\$ERRR HALT-A TABLE LOOKUP INSTRUCTION WITH AN X D					
1748	*\$MODIFIER FAILED TO CAUSE AN INSTRUCTION CHECK.					
1749	ITBAND	BNQ	ITR1	7	04804	J 08719 Q
1750	BCE	ITBARP,TAD1,1		12	04811	B 04735 01001 I

1410 ALARM PROGRAM

CT ADDRS INSTRUCTION

PGLIN LABEL OPCOD OPERAND

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
1752	*****					
1753	*\$CHECK INSTRUCTION CHECK ALARM CIRCUITRY VIA B BIT IN D MODIFIER					
1754	*\$CF TABLE LCKUP.					
1755	B	SETUPA	GO TO CLOSED SUBROUTINES	7	04823	J 01403
1756	CM	ITB8ST&1	SET FOR RESET-RESTART	6	04830	D 04868
1757	SAR	Z0		7	04836	G 00020 A
1758	*****					
1759	ITBRP	MLNA	XATES,XBAR AAR-BAR STORAGE TO 8S* 12.12.43	12	04843	D 09215 09139 /
1760	*	DCM	ST& ***** **CAUSE INSTRUCTION CHK* 4G-R	1	04855	
1761	*	DC	XTBLA	5	04860	09234
1762	*	DC	XTBLB	5	04865	09235
1763	*	DC	QPC	1	04866	
1764	ITB8ST	BNQ	ITR1	7	04867	J 08719 Q
1765	*	BCE	ITBRP,COMTAD,C TAD0&1-L,TAD2-NOT1*	12	04874	B 04843 01119 C
1766	*****					
1767	C	XBAR,XTBLB	CORRECT RST-RSIRT OCCUR	11	04886	C 09139 09340
1768	BE	ITBND	GO IF YES	7	04897	J 04912 S
1769	B	ERROR	GO TO ERROR ROUTINE	7	04904	J 01659
1770	H			1	04911	.
1771	*****					
1772	*ERRR HALT-A TABLE LOOKUP INSTRUCTION,WITH A P FOR					
1773	*THE D MODIFIER, FAILED TO CAUSE AN INSTRUCTION CHECK.					
1774	*SCOPE LCOP POINT-12.12.43 4G,11C1A06D					
1775	ITBND	BNQ	ITR1	7	04912	J 08719 Q
	BCE	ITBRP,TADI,1		12	04919	B 04843 01001 1

1410 ALARM PROGRAM

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
1777	*****					
1778	*\$CHECK INSTRUCTION CHECK ALARM CIRCUITRY VIA AN 8 BIT IN THE D					
1779	*\$MODIFIER OF OF TABLE LOOKUP.					
1780	B	SETUPA	GO TO CLCSED SUBROUTINES	7	04931	J 01403
1781	CW	ITBCST&I	SET FOR RESET-RESTART	6	04938	□ 04976
1782	SAR	20		7	04944	G 00020 A
1783	*****					
1784	ITBCRP	MLNA	XATES,XBAR AAR-BAR STORAGE TO 8S*	12	04951	D 09215 09139 /
1785	*	DCW	ST& ***CAUSE INSTRUCTION CHK*	1	04963	
1786	*	DC	XTBLA *	5	04968	09234
1787	*	DC	XTBLB *	5	04973	09235
1788	*	DC	SM& *	1	04974	
1789	ITBCST	BNQ	ITRI *	7	04975	J 08719 Q
1790	*	BCE	ITBCRP,CCMTAD,C TADCEL-1,TAD2-NOT1*	12	04982	B 04951 01119 C
1791	*****					
1792	C	XBAR,EXTBLB	CORRECT RST-RSTRT OCCUR	11	04994	C 09139 09340
1793	BE	ITBCND	GO IF YES	7	05005	J 05020 S
1794	B	ERROR	GO TO ERROR ROUTINE	7	05012	J 01659
1795	H			1	05019	.
1796	*****					
1797	*ERROR HALT-A TABLE LOOKUP INSTRUCTION,WITH A FOR					
1798	*THE D MODIFIER, FAILED TO CAUSE AN INSTRUCTION CHECK.					
1799	*SCOPE LCCP POINT-12.12.43 46,11C1A06D					
1800	ITBCND	BNQ	ITRI	7	05020	J 08719 Q
	BCE	ITBCRP,TAD1,1		12	05027	B 04951 01001 I

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
1802			*****			
1803			*\$CHECK INSTRUCTION CHECK ALARM DUE TO OVERLAPPED SCAN OPERATION			
1804			*\$ON THE 1311 IF A 1311 AND OVERLAP IS AVAILABLE ON CHANNEL ONE.			
1805		BCE	IFLEAA,CHN1&22,R GO IF IMPAC PRESENT	12	05039	B 05058 01311 R
1806		B	IFLEND&19 SKIP ROUTINE	7	05051	J 05312
1807	IFLEAA	BCE	IFLEAB,SY51&7,1 GO IF OVERLAP PRESENT	12	05058	B 05077 01263 1
1808		B	IFLEND&19 SKIP ROUTINE	7	05070	J 05312
1809	IFLEAB	BCE	IFLEAC,CPN1&25,1 GO IF SCAN FEATURE	12	05077	B 05096 01314 1
1810		B	IFLEND&19 SKIP ROUTINE	7	05089	J 05312
1811	IFLEAC	B	SETUPA GO TO CLOSED SUBROUTINES	7	05096	J 01403
1812		CM	IFLEST&1 SET FOR RESET-RESTART	6	05103	□ 05208
1813		SAR	20	7	05109	G 00020 A
1814		MLCWS	2&2,8 NOP SBR INSTRUCTION	12	05116	D 09306 00008 7
1815	IFLEAD	MLCS	20&,XIFLA SET DRIVE SELECT TO 0	12	05128	D 09341 09271 3
1816		*	*****			
1817	IFLERP	MLNA	XATES,XBAR AAR-BAR STORAGE TO 8S* 13.74.05	12	05140	D 09215 09139 /
1818		SC	1,XIFLA SEEK * 3A 4A	10	05152	M 2FO 09271 R
1819		BCB1	*-16	7	05162	R 05152 2
1820		BNR1	CHDRIV THIS DRIVE NOT READY *	7	05169	R 08788 1
1821		BA1	*&1	7	05176	R 05183 M
1822	IFLEZX	MU	2F7,XIFLA,h ***CAUSE INSTRUCT CHK *	10	05183	M 2F7 09271 M
1823		BCB1	*-16	7	05193	R 05183 2
1824		BNR1	IFLEER ERROR-NOT READY *	7	05200	R 05266 1
1825	IFLEST	BA1	*&1	7	05207	R 05214 M
1826		BNQ	ITR1	7	05214	J 08719 Q
1827		BCE	IFLERP,COMTAD,C TAD0&1-1,TAD2-NOT1*	12	05221	B 05140 01119 C
1828		*	*****			
1829		C	XAR,CIFLEZX CORRECT RST-RSRT OCCUR	11	05233	C 09134 09346
1830		BE	IFLEND GO IF YES	7	05244	J 05293 S
1831		B	ERROR GO TO ERROR ROUTINE	7	05251	J 01659
1832		H	ERROR HALT	1	05258	.
1833		*	*ERROR HALT-AN OVERLAPPED CHAN ONE SCAN INSTRUCTION ON			
1834		*	*YOUR 1311 FAILED TO CAUSE AN INSTRUCTION CHECK ALARM.			
1835		*	*SCOPE LCOP POINT-13.74.05 3A,11D2E21C			
1836		B	IFLEND GO END ROUTINE	7	05259	J 05293

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
1838	IFLEER	B	ERROR	7	05266	J 01659
1839		H	GO TO ERROR ROUTINE ERROR HALT	1	05273	.
1840			*ERRCR HALT-OPERATOR ERROR-NC 1311 DRIVE IS READY ON			
1841			*CHANNEL ONE-SKIPPING THIS ROUTINE THIS PASS.			
1842		BNQ	ITR1	7	05274	J 08719 Q
1843		BCE	IFLEAD,TAD1,1	12	05281	B 05128 01001 1
1844	IFLEND	BNQ	ITR1	7	05293	J 08719 Q
1845		BCE	IFLERP,TAD1,1	12	05300	B 05140 01001 1
1846			*****			
1847			*\$CHECK INSTRUCTION CHECK ALARM DUE TO OVERLAPPED SCAN OPERATION			
1848			*\$ON THE 1311 IF A 1311 AND CVERLAP IS AVAILABLE ON CHANNEL TWO.			
1849		BCE	IFLFAA,CHN2E22,R	12	05312	B 05331 01368 R
1850		B	IFLND&19	7	05324	J 05585
1851	IFLFAA	BCE	IFLFAB,SYSL&7,1	12	05331	B 05350 01263 1
1852		B	IFLND&19	7	05343	J 05585
1853	IFLFAB	BCE	IFLFAC,CHN2E25,1	12	05350	B 05369 01371 1
1854		B	IFLND&19	7	05362	J 05585
1855	IFLFAC	B	SETUPA	7	05369	J 01403
			GO TO CLOSED SUBROUTINES			

1410 ALARM PROGRAM

PGLIN	LABEL	OPCOD	OPERAND	CT	ADRS	INSTRUCTION
1857		CH	IFLST&1	6	05376	□ 05481
1858		SAR	20	7	05382	G 00020 A
1859		MLCWS	2N2,8	12	05389	D 09306 00008 7
1860	IFLFAD	MLCS	202,XIFLA	12	05401	D 09341 09271 3
1861	*	*****	*****	12	05413	D 09215 09139 /
1862	IFLFRP	MLNA	XATES,XBAR	10	05425	M 0F0 09271 R
1863	*	SC	2,XIFLA	7	05435	X 05425 2
1864	*	BCB2	*-16	7	05442	X 08788 I
1865	*	BNR2	CHDRIV	7	05449	X 05456 M
1866	*	BA2	*E1	10	05456	M *F7 09271 M
1867	IFLFZX	MU	*F7,XIFLA,h	7	05466	X 05456 2
1868	*	BCB2	*-16	7	05473	X 05539 I
1869	*	BNR2	IFLFR	7	05480	X 05487 M
1870	IFLFST	BA2	*E1	7	05487	J 08719 Q
1871	*	BNQ	ITR1	12	05494	B 05413 01119 C
1872	*	BCE	IFLFRP,COMTAD,C	11	05506	C 09134 09351
1873	*	*****	*****	7	05517	J 05566 S
1874		C	XAAR,&IFLFZX	7	05524	J 01659
1875		BE	IFLFND	1	05531	.
1876		B	ERROR			
1877		H	ERROR HALT			
1878			*ERRCR HALT-AN OVERLAPPED CHAN TWO SCAN INSTRUCTION ON			
1879			*YOUR 1311 FAILED TO CAUSE AN INSTRUCTION CHECK ALARM.			
1880			*SCOPE LOOP POINT-13.74.05 3A,11D2E21C			
1881		B	IFLFND	7	05532	J 05566
1882		B	ERROR	7	05539	J 01659
1883		H	ERROR HALT	1	05546	.
1884			*ERRCR HALT-OPERATOR ERROR-NO 1311 DRIVE IS READY ON			
1885			*CHANNEL TWO-SKIPPING THIS ROUTINE THIS PASS.			
1886		BNQ	ITR1	7	05547	J 08719 Q
1887		BCE	IFLFAD,TAD1,1	12	05554	B 05401 01001 1
1888		BNQ	ITR1	7	05566	J 08719 Q
1889		BCE	IFLFRP,TAD1,1	12	05573	B 05413 01001 1

13.74.05
3A 48

CT ADDR. INSTRUCTION

1410 ALARM PROGRAM
OPCOD OPERAND

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDR.	INSTRUCTION
1891	*****					
1892	*\$CHECK ABILITY OF THE B CHANNEL VALIDITY CHECK ALARM TO CAUSE A					
1893	*\$MASTER ERROR.					
1894	B	SETUPA	GO TO CLOSED SUBROUTINES	7	05585	J 01403
1895	*****					
1896	BCHNRP	B	CLINVD GO SET INVLD CHARAC * 18.14.08	7	05592	J 01808
1897	*	CW	BCHNST&1 SET FOR RESET RESTART* 4F-K	6	05599	□ 05637
1898	*	SAR	20 *	7	05605	G 00020 A
1899	*	MLNA	XATES,XBAR AAR-BAR STORAGE TO 8S*	12	05612	D 09215 09139 /
1900	*	MLCWA	299992,112 **CAUSE B CHNL VC *	12	05624	D 09331 00112 X
1901	BCHNST	BNQ	ITR1 *	7	05636	J 08719 Q
1902	*	BCE	BCHNRP,COMIAD,C TAD0&1-1,TAD2-NOT1*	12	05643	B 05592 01119 C
1903	*****					
1904	C	XBAR,2001052	CORRECT RST-RSTRY OCCUR	11	05655	C 09139 09356
1905	BE	BCHNND	GO IF YES	7	05666	J 05681 S
1906	B	ERROR	GO TO ERROR ROUTINE	7	05673	J 01659
1907	H			1	05680	.
1908	*ERROR HALT-B CHANNEL VALIDITY CHECK FAILS TO CAUSE A					
1909	*MASTER ERROR.					
1910	*SCOPE LCOP POINT-18.14.08 4F,11D2D22G					
1911	BCHNND	BNQ	ITR1	7	05681	J 08719 Q
1912	BCE	BCHNRP,TAD1,1		12	05688	B 05592 01001 1
1913	B	CLEARC	CLEAR INVALID CHARACTER	7	05700	J 01877

1410 ALARM PROGRAM

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
1915	*		*****			
1916	*\$CHECK	RBC	INTERLOCK ALARM IF SYSTEM HAS A 1405 ON CHANNEL ONE.			
1917	SW	XFILEA	SET NOT READY INDICATOR	6	05707	, 09236
1918	BCE	*68,CHN1&27,F	CHNL 1 1405 PRESENT	12	05713	B 05732 01316 F
1919	B	RBCEND&19	NO	7	05725	J 05989
1920	B	SETUPA	GO TO CLOSED SUBROUTINES	7	05732	J 01403
1921	CH	RBCEST&1	SET FOR RESET-RESTART	6	05739	□ 05867
1922	SAR	20		7	05745	G 00020 A
1923	MLCWS	@n&,8	NOP SBR INSTRUCTION	12	05752	D 09306 00008 7
1924	RBCECK	SD 1,XFILE	SEEK	10	05764	M &FO 09249 R
1925	BCB1	RBCECK	GO IF BUSY	7	05774	R 05764 2
1926	BA1	RBCEER	GO-ERRCR-CANNOT SEEK OK	7	05781	R 05943 M
1927	MRCWG	XFILE,WRTBCT	STORE FOR WRITING	12	05788	D 09249 09691 L
1928	*		*****			
1929	RBCERP	MLNA	XATES,XBAR AAR-BAR STORAGE TO 8S*	12	05800	D 09215 09139 /
1930	*	SW	XFILEA SET NOT READY INDICATE*	6	05812	, 09236 G
1931	*	BA1	*&1	7	05818	R 05825 M
1932	*	WD	1,WRTBOT WRITE ON CE TRACK * 18.14.08	10	05825	M &F1 09691 M
1933	*	BCB1	*-16 * 4E-E	7	05835	R 05825 2
1934	*	BA1	*&1 * 13.74.02	7	05842	R 05849 M
1935	RBCERB	WD	1,WRTBOT ***CAUSE RBC INTERLOCK * 4A 4B 5C	10	05849	M &F1 09691 M
1936	*	BCB1	*-16 GO IF BUSY * 13.72.03	7	05859	R 05849 2
1937	RBCEST	BA1	*&1 GO ON ANY IO STATUS * 1E	7	05866	R 05879 M
1938	*	CH	XFILEA CLR E 1405 NT RDY IND*	6	05873	□ 09236
1939	*	BNQ	ITR1	7	05879	J 08719 Q
1940	*	BCE	RBCERP,COMIAD,C TAD0&1-1,TAD2-NOTI*	12	05886	B 05800 01119 C
1941	*		*****			
1942	C	XAAR,&RBCERB	CORRECT RST-RSTRT OCCUR	11	05898	C 09134 09361
1943	BE	RBCEND	GO IF YES	7	05909	J 05970 S
1944	BW	RBCEER,XFILEA	GO-E 1405 NOT READY	12	05916	V 05943 09236 1
1945	B	ERROR	GO TO ERROR ROUTINE	7	05928	J 01659
1946	H		ERROR HALT	1	05935	.
1947	*	ERRCR	HALT-TWO SUCCESSIVE WRITE DISK INSTRUCTIONS ON			
1948	*	YOUR	CHANNEL ONE 1405 FAILED TO CAUSE AN RBC			
1949	*	INTERLOCK	ALARM.			
1950	*	SCOPE	LOOP POINT-18.14.08 4E,11D2C21E			

COZZ INSTRUCTION

CT ADDRS

7 05936 J 05970
 7 05943 J 01659
 1 05950 .

7 05951 J 08719 Q
 12 05958 B 05764 01001 1
 7 05970 J 08719 Q
 12 05977 B 05800 01001 1

6 05989 , 09237
 12 05995 B 06014 01373 F
 7 06007 J 06271
 7 06014 J 01403
 6 06021 0 06149
 7 06027 G 00020 A
 12 06034 D 09306 00008 7
 10 06046 M 0FO 09260 R
 7 06056 X 06046 2
 7 06063 X 06225 M
 12 06070 D 09260 09691 L

BNQ ITR1
 BCE RBCECK,TADI,1
 BNQ ITR1
 BCE RBCERP,TADI,1

 *\$CHECK RBC INTERLOCK ALARM IF SYSTEM HAS A 1405 ON CHANNEL TWO.
 SW XFILFA SET NOT READY INDICATRO
 BCE *E8,CHN2E27,F CHNL 2 1405 PRESENT
 B RBCFNDG19 NO
 B SETUPA GO TO CLOSED SUBROUTINES
 CW RBCFST&1 SET FOR RESET-RESTART
 SAR 20
 MLCWS 2NG,8 NOP SBR INSTRUCTION
 SD 2,XFILF SEEK
 BC82 *-16 GO IF BUSY
 BAZ RBCFER GO-ERROR-CANNOT SEEK OK
 MRCWG XFILF,WRTBCT STORE FOR WRITING

RBCFCR
 RBCEER
 H
 *ERRCR HALT-UNABLE TO SEEK AND/OR WRITE ON THE CE
 *TRACK CF YOUR CHANNEL ONE 1405 MOD 0,ACCESS 0,DUE TO
 *AN IO STATUS INDICATOR COMING ON.ROUTINE SKIPPED.

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 1974

OPCOD OPERAND
 B RBCEND
 B ERROR GO TO ERROR ROUTINE
 H ERROR HALT

 *\$CHECK RBC INTERLOCK ALARM IF SYSTEM HAS A 1405 ON CHANNEL TWO.
 SW XFILFA SET NOT READY INDICATRO
 BCE *E8,CHN2E27,F CHNL 2 1405 PRESENT
 B RBCFNDG19 NO
 B SETUPA GO TO CLOSED SUBROUTINES
 CW RBCFST&1 SET FOR RESET-RESTART
 SAR 20
 MLCWS 2NG,8 NOP SBR INSTRUCTION
 SD 2,XFILF SEEK
 BC82 *-16 GO IF BUSY
 BAZ RBCFER GO-ERROR-CANNOT SEEK OK
 MRCWG XFILF,WRTBCT STORE FOR WRITING

1410 ALARM PROGRAM PAGE 53

1410 ALARM PROGRAM

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
1976	*	*****	*****			
1977	RBCFRP	MLNA	XATES,XBAR	12	06082	D 09215 09139 /
1978	*	SW	XFILFA	6	06094	, 09237 G
1979	*	BA2	*E1	7	06100	X 06107 M
1980	*	WD	2,WRTBOT	10	06107	M DF1 09691 W
1981	*	BCB2	*-16	7	06117	X 06107 2
1982	*	BA2	*E1	7	06124	X 06131 M
1983	RBCFRB	WD	2,WRTBOT	10	06131	M DF1 09691 W
1984	*	BCB2	*-16	7	06141	X 06131 2
1985	RBCFST	BA2	*E7	7	06148	X 06161 M
1986	*	CH	XFILFA	6	06155	DF 09237
1987	*	BNQ	ITR1	7	06161	J 08719 Q
1988	*	BCE	RBCFRP,CCMTAD,C TAD0E1-1,TAD2-NOT1*	12	06168	B 06082 01119 C
1989	*	*****	*****			
1990	C	XAAR,	RBCFRB	11	06180	C 09134 09366
1991	BE	RBCFND	GO IF YES	7	06191	J 06252 S
1992	BW	RBCFER,XFILFA	GO-F 1405 NOT READY	12	06198	V 06225 09237 I
1993	B	ERROR	GO TO ERROR ROUTINE	7	06210	J 01659
1994	H		ERROR HALT	1	06217	.
1995	*	ERRCR	HALT-TWO SUCCESSIVE WRITE DISK INSTRUCTIONS ON			
1996	*	YOUR	CHANNEL TWC 1405 FAILED TO CAUSE AN RBC			
1997	*	INTERLOCK	ALARM.			
1998	*	SCOPE	LCCP POINT-18.14.08 4E,11D2C21E			
1999	B	RBCFND		7	06218	J 06252
2000	B	ERROR	GO TO ERROR ROUTINE	7	06225	J 01659
2001	H		ERROR HALT	1	06232	.
2002	*	ERRCR	HALT-UNABLE TO SEEK AND/OR WRITE ON THE CE			
2003	*	TRACK	OF YOUR CHANNEL TWO 1405 MOD 0,ACCESS 0,DUE TO			
2004	*	AN	IO STATUS INDICATOR COMING ON-ROUTINE SKIPPED.			
2005	BNQ	ITR1		7	06233	J 08719 Q
2006	BCE	RBCFCK,TAD1,1		12	06240	B 06046 01001 I
2007	BNQ	ITR1		7	06252	J 08719 Q
2008	BCE	RBCFRP,TAD1,1		12	06259	B 06082 01001 I

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
2010	*****					
2011	*\$BRANCH BACK FROM HERE IF TAD5 IS A ONE.					
2012	BCE	RSETBB,TAD5,1	REPEAT RST-RSTRT SECTION	12	06271	B 02888 01005 1
2013	*****					
2014	*\$CHECK IO INTERLOCK CHECK ALARM INDICATOR.					
2015	MILKIN	B	NORMAL TO CLOSED SUB ROUTINES	7	06283	J 01732
2016	CM	MILKND61	SET FOR RESET-RESTART	6	06290	□ 06394
2017	SAR	6		7	06296	G 00006 A
2018	B	TYPI		7	06303	J 01120
2019	DCW	□ IO INTRLK ALARM.□G		17	06326	
2020	B	TYPI		7	06328	J 01120
2021	DCW	□ OFF-ERR □		10	06344	
2022	DC	MILKER		5	06349	06392
2023	CCM	□MG		1	06350	
2024	B	SPTYPA	ON-OK,COMP RESET,START TP	7	06351	J 08836
2025	*****					
2026	MILKRP	BAI	□E1	7	06358	R 06365 M
2027	•	BNQ	ITRI	7	06365	J 08719 Q
2028	•	RCP	XSPACE	10	06372	M □TO 09204 R
2029	•	RCP	XSPACE CAUSE IO INTRLK ALRM •	10	06382	M □TO 09204 R
2030	*****					
2031	MILKER	H	DUMHY ERROR HALT	1	06392	•
2032	*ERRCR-IC INTERLOCK CHECK ALARM INDICATOR SHOULD NOW					
2033	*BE CN.NC SCOPE LOOP PROVIDED FOR THIS ERROR.					
2034	*STATIC SCOPE POINT-18.14.11 21,11D2K25C					
2035	MILKND	BAI	□E1	7	06393	R 06400 M
2036	BNQ	ITRI		7	06400	J 08719 Q
2037	BCE	MILKRP,TAD1,1		12	06407	B 06358 01001 1

1410 ALARM PROGRAM
PGLIN LABEL OPCODE OPERAND CT ADDR INSTRUCTION

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2039 *****
2040 *$CHECK ADDRESS CHECK ALARM INDICATOR.
2041 B NORMAL GO TO CLOSED SUBROUTINES
2042 CW MACND&I SET FOR RESET-RESTART
2043 SAR 6
2044 B TYPI
2045 DCW @ ADDRESS CHK ALARM.@,G
2046 B TYPI
2047 DCW @ OFF-ERR @
2048 DC MACCR
2049 DCW @M@
2050 B SPTYPA ON-OK,COMP RESET,START TP
2051 *****
2052 PADCRP SCNLS 5 ***CAUSE ADDRESS CHECK * 18.14.11
2053 * DC @OC05M @ * IC 2C
2054 *****
2055 PADCR H DUMMY ERROR HALT
2056 *ERRR-ADDRESS CHECK ALARM INDICATOR SHOULD NOW BE ON.
2057 *NO SCOPE LOOP PROVIDED FOR THIS ERROR.
2058 *STATIC SCOP POINT-18.14.11 2C,11D2K25A
2059 PADCND BNQ ITRI
2060 BCE MACCRP,TAD1,1
2061 *****
2062 *$CHECK RBC INTERLOCK ALARM INDICATOR IF ONE OF THE PREVIOUS 1405
2063 *$ROUTINES HAS BEEN RUN.
2064 BW RBCIAA,XFILEA GO-NO E 1405 READY
2065 MLCS @X@,RBCIRP&I SET UP FOR E 1405
2066 MLCS @R@,RBCIAC
2067 MRCWG XFILE,WRTBOT
2068 B RBCIAB
2069 BW RBCINDE19,XFILFA GO-NO 1405 READY
2070 MLCS @R@,RBCIRP&I SET UP FOR F 1405
2071 MLCS @X@,RBCIAC
2072 MRCWG XFILF,WRTBOT

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7	06419	J	01732
6	06426	□	06510
7	06432	G	00006 A
7	06439	J	01120
19	06464		
7	06466	J	01120
10	06482		
5	06487		06508
1	06488		
7	06489	J	08836
6	06496	D	00005
6	06507		
1	06508	.	
7	06509	J	08719 Q
12	06516	B	06496 01001 1
12	06528	V	06583 09236 1
12	06540	D	09367 06744 3
12	06552	D	09305 06753 3
12	06564	D	09249 09691 L
7	06576	J	06631
12	06583	V	06828 09237 1
12	06595	D	09368 06744 3
12	06607	D	09369 06753 3
12	06619	D	09260 09691 L

PCLIN	LABEL	OPCODE	OPERAND	CT	ADDRS	INSTRUCTION
2074	RBCIAB	B	NORMAL	7	06631	J 01732
2075	CM	RBCIND&1	GO TO CLOSED SUBROUTINES SET FOR RESET-RESTART	6	06638	□ 06810
2076	SAR	6		7	06644	G 00006 A
2077	B	TYPI		7	06651	J 01120
2078	CCW	□	RBC INTRLK ALARM.□.G	18	06675	
2079	B	TYPI		7	06677	J 01120
2080	DCW	□	OFF-ERR □	10	06693	
2081	DCW	RBCIER		5	06698	06784
2082	DCW	□		1	06699	
2083	B	SPTYP	ON-OK,COMP RESET,START TP	7	06700	J 08836
2084	MLCS	RBCIAC,RBCIAD		12	06707	D 06753 06760 3
2085	MLCS	RBCIRPE1,RBCIAE&1		12	06719	D 06744 06768 3
2086	MRN	RBCIRPE5,RBCIAE&5		12	06731	D 06748 06772 9
2087	*	*****	*****			
2088	RBCIRP	WC	1.WRTBOT WRT ON CE TRACK * 13.74.02	10	06743	M &F1 09691 M
2089	RBCIAC	BCB1	--16 GO IF BUSY * 18 28	7	06753	R 06743 2
2090	RBCIAD	BAL	*&1	7	06760	R 06767 M
2091	RBCIAE	WC	1.WRTBOT ***CAUSE RBC INTER LOCK *	10	06767	M &F1 09691 M
2092	*	BCB1	--16 *	7	06777	R 06767 2
2093	*	*****	*****			
2094	RBCIER	H	RBCIRP	6	06784	• 06743
2095	*	*****	*****			
2096	*	*****	*****			
2097	*	*****	*****			
2098	RBCIST	MLCS	RBCIAC,*&1	12	06790	D 06753 06802 3
2099	RBCIND	BAL	*&1	7	06802	R 06809 M
2100	RBCIND	BNQ	ITRI	7	06809	J 08719 Q
2101	BCE	RBCIRP,TAD1,1		12	06816	B 06743 01001 1

CT ADDR INSTRUCTION

PGLIN LABEL OPCOD OPERAND

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*****
2103 *$CHECK INSTRUCTION CHECK ALARM VIA CYCLE CHECK ERROR DUE TO NO
2104 *$CYCLE CONTROL LATCH BEING CN CAUSED BY ILLEGAL INSTRUCTION LENGTH
2105      B NORMAL TO CLOSED SUBROUTINES
2106      CW MIINND&1 SET FOR RESET-RESTART
2107      SAR 6
2108      B TYP1
2109      DCW @ INSTRUCT CHK ALARM.a,G
2110      B TYP1
2111      DCW @ NOT ON ALONE-ERR @
2112      DC MIINER
2113      DCW @M@
2114      B TYP1
2115      DCW @ ON ALCNE-CK,RESET,START@,G
2116      * *****18.14.11
2117      MIINRP SW 09999 ***CAUSE INSTRUCTION CHK* 11 21
2118      * DC @099959@ VIA LONG SM * 12.12.43
2119      * *****1G-F
2120      MIINER H MIINRP 12.12.46
2121 *ERROR-IF INSTRUCTION CHECK ALARM IS NOT ON-INDICATOR 1G 1E 2D 3B
2122      * FAILURE. 4B 4C 4F
2123 *STATIC SCOPE POINT-18.14.11 2I,11D2K25C
2124 *ERRCR-IF ADDITICNAL ALARMS ARE ON WITH THE
2125      * INSTRUCTION CHECK ALARM-CYCLE CHECK ERROR
2126      * CIRCUIT FAILURE.
2127 *SCOPE LCOP POINT-12.12.43 1G,11C1A06C
2128      MIINND BNQ ITRI
2129      BCE MIINRP,TADI,1
2130

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7 06828 J 01732
6 06835 @ 06960
7 06841 G 00006 A
7 06848 J 01120
20 06874
7 06876 J 01120
19 06901
5 06906 06953
1 06907
7 06908 J 01120
25 06939
6 06941 , 09999
6 06952
6 06953 . 06941
7 06959 J 08719 Q
12 06966 B 06941 01001 1

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CT ADDR INSTRUCTION

1410 ALARM PROGRAM
 OPCOD OPERAND

PGLIN LABEL

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*****
*CHECK THE ABILITY OF AN CP REGISTER SET CHECK ALARM
*$TO CAUSE A MASTER ERROR.
      B      NORMAL          TO CLOSED SUBROUTINES
      CW     MORSND&1      SET FOR RESET-RESTART
      SAR    6
      B      TYPI
      DCW   @ CP REG SET ALARM.@,G
      B      TYPI
      DCW   @ NOT ON ALONE-ERR @
      DC     MORSER
      DCW   @MG
      B      TYPI
      DCW   @ ON ALONE-OK,RESET,START@,G
      B      TYPI
      DCW   @ ON ALONE-OK,RESET,START@,G
*****18.14.08
MORSRP  DCW   @ CC005@  ***CAUSE CP REG SET CHK * 4G-F
*
MORSER  H
*ERROR-ONLY THE CP REG SET CHECK ALARM SHOULD BE ON.
*FAILURE IF IT IS NOT ON OR IF MULTIPLE ALARMS ARE ON.
*TO SCOPE LOOP,PLACE A BRANCH TO LABEL MORSRP-5 AT
*LOCATION 00001,AND USE RESET-RESTART MODE.
*SCOPE LOOP POINT-18.14.08 4G,11D2D22G
MORSND  BNQ   ITRI
BCE     MORSRP,TADI,1
  
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7 06978 J 01732
6 06985 @ 07097
7 06991 G 00006 A
7 06998 J 01120
18 07022
7 07024 J 01120
19 07049
5 07054 07095
1 07055
7 07056 J 01120
25 07087

6 07094
1 07095 .

7 07096 J 08719 Q
12 07103 B 07094 01001 1
  
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CT ADDR INSTRUCTION

*\$AUTO SECTION ENDED.

AUTNDD BCE MANSEC,TAD4,1 GO IF MANUAL REQUESTED

2160 BCE *E8,TAD3,1

2161 B ODDFCL GO TURN 1405 SWITCHES OFF

2162 BCE AUTNAA,TAD0,1

2163 B TYPI

2164 DCW @END C022 AUTO2,G

2165 BCE RSIDAA,TAD3,1 REPEAT ALL BUT NRML SECT

2166 MRCWG XSTRIC,1 SET TO RESET & START PROG

2167 CW START&1

2168 SAR 6

2169 B ODDFCL GO TURN 1405 SWITCHES OFF

2170 B LOAD

2171 NCP

2172 MANSEC

*\$ANUAL INTERVENTION ROUTINE-CHECK THE ABILITY OF THE A CHANNEL

*\$VALIDITY CHECK ALARM TO CAUSE A MASTER ERROR

2173 B SETUPA GO TO CLOSED SUBROUTINES

2174 B TYPI 18.14.08 4F

2175 DCW @ GRND 11D2D22K@ PREVENT B CHNL VC

2176 DC @&START@,G

2177 H WAIT FOR GROUND

2178 MAVCEX B CLINVD SET INVLD CHAR AT 00110

2179 CW MAVCER&1 SET FOR RESET RESTART

2180 SAR 20

2181 MLCWA @9999@,112 ALARM IF NOT GROUNDED

2182 B CLINVD SET INVLD CHAR AT 00110

12	07115	B	07230	01004	1
12	07127	B	07146	01003	1
7	07139	J	09045		
12	07146	B	07179	01000	1
7	07158	J	01120		
13	07177				
12	07179	B	02611	01003	1
12	07191	D	09176	00001	L
6	07203	D	02001		
7	07209	G	00006	A	
7	07216	J	09045		
7	07223	J	00400		
1	07230	N			

7	07231	J	01403		
7	07238	J	01120		
14	07258				
6	07264				
1	07266				
7	07267	J	01808		
6	07274	D	07396		
7	07280	G	00020	A	
12	07287	D	09331	00112	X
7	07299	J	01808		

1410 ALARM PROGRAM

PGLIN	LABEL	OPCODE	OPERAND	CT	ADDRS	INSTRUCTION	COZZ
2187		CW	MAVCST&1	6	07306	07344	
2188		SAR	20	7	07312	00020 A	
2189	*		***** SET FOR RESET RESTART *****				
2190	MAVCRP	MLNA	XATES,XBAR AAR-BAR STORAGE TO 8S	12	07319	09215 09139 /	S
2191	*	SCNLA	112,099990 ***CAUSE A CHNL VAL CHK*	12	07331	00112 09331 B	
2192	MAVCST	BNQ	ITRI	7	07343	J 08719 Q	
2193	*	BCE	MAVCRP,COMTAD,C TADCC&1-I,TAD2-NOTI*	12	07350	B 07319 01119 C	
2194	*		***** CORRECT RST-RSTRT OCCUR *****				
2195	C	XAAR,	0001050	11	07362	C 09134 09356	
2196	BE	MAVCND	GO IF YES	7	07373	J 07422 S	
2197	B	ERROR	GO TO ERROR ROUTINE	7	07380	J 01659	
2198	H			1	07387	.	
2199			*ERROR HALT-A CHANNEL VALIDITY CHECK FAILS TO CAUSE A				
2200			*MASTER ERROR.				
2201			*SCOPE LOOP POINT-18.14.08 4F,11D2D22G				
2202	B	MAVCND	GO END ROUTINE	7	07388	J 07422	
2203	B	ERROR	GO TO ERROR ROUTINE	7	07395	J 01659	
2204	H			1	07402	.	
2205			*ERRCR HALT-OPERATOR ERROR-PROPERLY GROUNDING THE				
2206			*DESIGNATED POINT WOULD HAVE PREVENTED A B CHANNEL VC				
2207			*ERROR.THE B CHNL VC OCCURREC.THE A CHANNEL				
2208			*VALIDITY CHECK ALARM CIRCUITRY WAS NOT CHECKED THIS				
2209			*PASS.				
2210	BNQ	ITRI		7	07403	J 08719 Q	
2211	BCE	MAVCEX,TAD1,1		12	07410	B 07267 01001 1	
2212	MAVCND	BNQ	ITRI	7	07422	J 08719 Q	
2213	BCE	MAVCRP,TAD1,1		12	07429	B 07319 01001 1	
2214	B	CLEARC	CLEAR INVALID CHARACTER	7	07441	J 01877	
2215	B	TYPI		7	07448	J 01120	
2216	DCM	0 UNGRND&START&G		13	07467		
2217	H		WAIT FCR GROUND REMOVAL	1	07469	.	

1410 ALARM PROGRAM

CT ADDR INSTRUCTION

PGLIN LABEL

2219 *\$ANUAL INTERVENTION ROUTINE-CHECK THE ABILITY OF THE A REG SET

2220 *\$ERROR ALARM TO CAUSE A MASTER ERROR.

2221 MARSAA B NORMAL GO TO CLOSED SUBROUTINES

2222 CW MARSND&1 SET FOR RESET-START

2223 SAR 6

2224 MARSAB B TYPI 18.14.07 5D

2225 DCW @ 1-GRND 11D2D26D&START@,G

2226 B TYPI

2227 DCW @ 2-A REG SET ALARM@,G

2228 B TYPI

2229 DCW @ NOT CN ALONE-ERR @

2230 DC MARSND

2231 DCW @MG

2232 B SPTYPB ON ALONE-OK,UNGRND,RST,ST

2233 H WAIT FOR GROUND

2234 MARSRP SCNLS 5,5&X1 ***CAUSE A REG SET ERR * 18.14.08

2235 MARSST H MARSRP * 4G-A

2236 PARSER H DUMMY ERROR HALT

2237 *ERRC HALT-A REG SET ALARM FAILED TO CAUSE A MASTER

2238 *ERRC.TC SCOPE LOOP,CHANGE HALT AT LABEL MARSST TO A

2239 *BRANCH TO LABEL MARSRP AND START AT LABEL MARSRP.

2240 *SCOPE LCOOP POINT-18.14.08 4G,11D2D22G

2241 MARSND BNQ ITRI

2242 BCE MARSAB,TADI,1

7 07470 J 01732

6 07477 B 07608

7 07483 G 00006 A

7 07490 J 01120

22 07518

7 07520 J 01120

19 07545

7 07547 J 01120

20 07573

5 07578 07607

1 07579

7 07580 J 08882

1 07587 .

12 07588 D 00005 000#5

6 07600 . 07588

1 07606 .

7 07607 J 08719 Q

12 07614 B 07490 01001 1

CT ADDR INSTRUCTION

PGLIN LABEL OPCOD OPERAND

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDR	INSTRUCTION
2247	*****					
2248	*\$MANUAL INTERVENTION ROUTINE-CHECK ABILITY OF THE ADDRESS EXIT					
2249	*\$ALARM TO CAUSE MASTER ERROR.					
2250	B	NORMAL	GO TO CLOSED SUBROUTINES	7	07626	J 01732
2251	CW	MAEXND&1	SET FOR RESET START	6	07633	□ 07764
2252	SAR	6		7	07639	G 00006 A
2253	MAEXAA	B	TYPI	7	07646	J 01120
2254	DCW	@	1.GRND 11D2C098&START@,G	22	07674	
2255	B	TYPI		7	07676	J 01120
2256	DCW	@	2.ADDR EXIT ALARM.@,G	19	07701	
2257	B	TYPI		7	07703	J 01120
2258	DCW	@	NOT ON ALONE-ERR @	20	07729	
2259	DC	MAEXER		5	07734	07762
2260	DCW	@	G	1	07735	
2261	B	SPTYPB	ON ALONE-OK,UNGRND,RST,ST	7	07736	J 08882
2262	H		WAIT FOR GROUND	1	07743	.
2263	*****					
2264	PAEXRP	SCNLS	90&X1,5 ***CAUSE ADDR EXIT ALARM*	12	07744	D 00020 00005
2265	MAEXST	H	MAEXRP	6	07756	. 07744
2266	*****					
2267	MAEXER	H	DUMMY ERROR HALT	1	07762	.
2268	*****					
2269	ERRCR	HALT-ADDRESS EXIT ALARM DID NOT CAUSE A MASTER				
2270	ERRCR.	TC SCOPE LOOP,CHANGE THE HALT AT LABEL MAEXST				
2271	*****					
2272	MAEXND	BNQ	ITRI	7	07763	J 08719 Q
2273	BCE	MAEXAA, TADI,1		12	07770	B 07646 01001 I

CT ADDR INSTRUCTION

PGLIN

LABEL OPCOD OPERAND

 *\$ANUAL INTERVENTION ROUTINE-CHECK ABILITY OF THE A CHAR SEL ALARM
 *\$TD CAUSE MASTER ERROR BY GATING THE OP MOD AND A DATA REGS TO THE
 *\$A CHANNEL AT THE SAME TIME.

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDR	INSTRUCTION
2275						
2276						
2277						
2278						
2279	MASDAA	B	NORMAL	7	07782	J 01732
2280		CW	MASDND&I	6	07789	M 07920
2281		SAR	6	7	07795	G 00006 A
2282	MASDAB	B	TYPI	7	07802	J 01120
2283		DCW	@ 1-GRND 11D2C07D&START@,G	22	07830	
2284		B	TYPI	7	07832	J 01120
2285		DCW	@ 2-A CHAR SEL ALARM.@,G	20	07858	
2286		B	TYPI	7	07860	J 01120
2287		DCW	@ NOT ON ALONE-ERR @	20	07886	
2288		DC	MASDER	5	07891	07913
2289		DCM	@M@	1	07892	
2290		B	SPTYPB	7	07893	J 08882
2291		H	ON ALONE-OK,UNGRND,RST,ST WAIT FOR GROUND	1	07900	.
2292						18.14.01
2293	MASDRP	SCNLS	MASDRPE11,MASDRPE11 *** A CHAR SEL*	12	07901	D 07912 07912
2294						18.14.08
2295	MASDER	H	MASDRP	6	07913	. 07901
2296			ERROR HALT			
2297			*ERRCR HALT-GATING THE A DATA AND OP MOD REGS BOTH TO			
2298			*THE A CHANNEL CAUSED NO A CHAR SEL ALARM.PROGRAM			
2299			*CANNOT BE LOOPEC.IF NO ALARMS ARE ON,ERROR MAY BE			
2300			*REPEATED BY PRESSING START.			
2301	MASCNC	BNQ	ITRI	7	07919	J 08719 Q
2302		BCE	MASDAB,TADI,1	12	07926	B 07802 01001 I

1410 ALARM PROGRAM

CT ADDR INSTRUCTION

OPCOD OPERAND

LABEL

PGLIN

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2304 *****
2305 *$ANUAL INTERVENTION ROUTINE-CHECK A CHAR SEL ALARM WHEN E2 AND A
2306 *$DATA REGS ARE BOTH GATED TO THE A CHANNEL.
2307 PASCAL B NORMAL TO CLOSED SUB ROUTINES
2308 CW MASCND&1 SET FOR RESET-RESTART
2309 SAR 6
2310 PASCAB B TYP1 18.14.01 5C
2311 DCW @ 1-GRND 11D2C04P@,G
2312 B TYP1
2313 DCW @ 2-A CHAR SEL ALARM,@,G
2314 B TYP1
2315 DCW @ NOT ON ALONE-ERR @
2316 DC MASCER
2317 DCW @MG
2318 B SPTYPB ON ALONE-OK,UNGRND,RST,ST
2319 * ***** 18.14.01
2320 PASCRRP H MASCRRP ***CAUSE A CHAR SEL ALARM* 3B-D 3C-R
2321 * *****
2322 PASCER H DUMMY ERROR HALT
2323 *ERRCR HALT-GATING THE E2 AND THE A DATA REGS TO THE A
2324 *CHANNEL AT THE SAME TIME CAUSED NO A CHAR SEL ALARM.
2325 *STATIC SCOPE POINT-18.14.01 2C,11D2C03C
2326 PASCND BNQ ITR1
2327 BCE MASCAB,TAD1,1
    
```

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7 07938 J 01732
6 07945 @ 08058
7 07951 G 00006 A
7 07958 J 01120
16 07980
7 07982 J 01120
20 08008
7 08010 J 01120
20 08036
5 08041 08056
1 08042
7 08043 J 08882
6 08050 @ 08050
1 08056 @
7 08057 J 08719 Q
12 08064 B 07958 01001 1
    
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CT ADDR INSTRUCTION

OPCOD OPERAND

LABEL

PGLIN

2329 *\$MANUAL INTERVENTION ROUTINE-CHECK ABILITY CF B REG SET ERROR TO

2330 *\$CAUSE MASTER ERROR.NOTE-ACTUALLY B REG RESET ERROR.

2331 MBRSA A B NORMAL TO CLOSED SUBROUTINES

2332 MBRSD E1 SET FOR RESET-RESTART

2333 SAR 6

2334 B TYPI 18.14.06 5C

2335 DCM @ 1.GRND IID2B23P@START@,G

2336 B TYPI

2337 DCM @ 2.B REG SET ALARM.@,G

2338 B TYPI

2339 DCM @ NOT ON ALONE-ERR @

2340 DC MBRSER

2341 DCM @M@

2342 B SPTYB ON ALONE-OK,UNGRND,RST,ST

2343 H WAIT FOR GROUND

2344 * *****18.14.08

2345 MBRSRP NCP ***CAUSE B REG SET ALARM* 4G-B

2346 * BNQ ITRI

2347 * BCE MBRSRP,COMIAD,C TAD0@1-1,IAD2-NOTI*

2348 * *****

2349 MBRSER H MBRSRP

2350 *ERRCR HALT-B REG SET ALARM CID NOT CAUSE ALARM STOP.

2351 *THIS ROUTINE CAN BE LOOPED ONLY IF B REG SET ALARM IS

2352 *FAILING.

2353 *SCOPE LGCP POINT-18.14.08 4G-IID2D22G

2354 MBRSDC BNQ ITRI

2355 BCE MBRSA A,TADI,1

7 08076 J 01732

6 08083 @ 08221

7 08089 G 00006 A

7 08096 J 01120

22 08124

7 08126 J 01120

19 08151

7 08153 J 01120

20 08179

5 08184 08214

1 08185

7 08186 J 08882

1 08193 .

1 08194 N

7 08195 J 08719 Q

12 08202 B 08194 01119 C

6 08214 . 08194

7 08220 J 08719 Q

12 08227 B 08076 01001 I

1410 ALARM PROGRAM

CT ADDR INSTRUCTION

PGLIN LABEL

OPCOD OPERAND

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2358 *****
2359 *$ANUAL INTERVENTION ROUTINE-CHECK THE ABILITY OF THE OP MOD REG
2360 *$SET ALARM TO CAUSE A MASTER ERROR.
2361 MOPSAA B NORMAL GO TO CLOSED SUBROUTINES
2362 MOPSND1 CW MOPSND1 SET FOR RESET-START
2363 SAR 6
2364 MOPSAB B TYPI 18.14.09 5A
2365 DCW @ 1.GRND 11D2B24C&START@,G
2366 B TYPI
2367 DCW @ 2.SHLD STOP ON OP MOD SET ALARM@,G
2368 B TYPI
2369 DCW @ 3.IF NOT-ERR @
2370 DC MOPSR
2371 DCW @M@
2372 B TYPI
2373 DCW @ 4.IF OK-LNGRND,RESET,START@,G
2374 H WAIT FOR GROUND
2375 ***** 18.14.08
2376 MOPSRP BAI *E1 * 41-G
2377 * SSF 0 ***CAUSE OP MOD SET ERR *
2378 * B MOPSRP *
2379 *****
2380 MOPSR H DUMMY ERROR HALT
2381 *ERRCR FALT-MACHINE SHOULD NOW BE STOPPED WITH ONLY
2382 *THE OP MODIFIER SET ALARM ON.THIS ROUTINE MAY BE
2383 *LOOPEC IN RESTART OR RESET-RESTART MODES.
2384 *SCOPE LCCP POINT-18.14.08 41,11D2C21C
2385 MOPSND BAI *E1
2386 BNQ ITRI
2387 BCE MOPSAB,IA01.1
    
```

CT	ADDR	INSTRUCTION
7	08239	J 01732
6	08246	□ 08410
7	08252	G 00006 A
7	08259	J 01120
22	08287	
7	08289	J 01120
32	08327	
7	08329	J 01120
14	08349	
5	08354	08408
1	08355	
7	08356	J 01120
27	08389	
1	08391	.
7	08392	R 08399 M
2	08399	K 0
7	08401	J 08392
1	08608	.
7	08409	R 08416 G
7	08416	J 08719 Q
12	08423	B 08259 01001 I

1410 ALARM PROGRAM
 PGLIN LABEL CPCOD OPERAND

CT ADDR INSTRUCTION

PGLIN	LABEL	CPCOD	OPERAND	CT	ADDR	INSTRUCTION
2389	*****					
2390	*\$ANUAL INTERVENTION ROUTINE-CHECK THE ABILITY OF THE B CHARACTER					
2391	*\$SELECT ERROR TC CAUSE A MASTER ERROR.					
2392	B	NORMAL	GO TO CLOSED SUBROUTINES	7	08435	J 01732
2393	CW	MBCSND&I		6	08442	D 08603
2394	SAR	6		7	08448	G 00006 A
2395	MBCSAA	B	TYPI 15.30.10 4G	7	08455	J 01120
2396	DCW	@	1-GRND 11C3H22B&START@,G	22	08483	
2397	B	TYPI		7	08485	J 01120
2398	DCW	@	2-SHUD STOP ON B CHAR SEL ALARM@,G	32	08523	
2399	B	TYPI		7	08525	J 01120
2400	DCW	@	3-IF NOT-ERR @	14	08545	
2401	DC	MBCSER		5	08550	08601
2402	DCW	@Mc		1	08551	
2403	B	TYPI		7	08552	J 01120
2404	DCW	@	4-IF OK-LNGRND,RESET,START@,G	27	08585	
2405	H		WAIT FOR GROUND	1	08587	.
2406	*****					
2407	MBCSRP	SCNLS	1 * 18.14.08	6	08588	D 00001
2408	*	*****	4H-P			
2409	B	MBCSRP	CAUSE LOOP ON ERROR	7	08594	J 08588
2410	MBCSER	H		1	08601	.
2411	*ERRCR HALT-B CHAR SEL ERROR FAILED TO CAUSE A MASTER					
2412	*ERRCR.NCh LOOPING ON ERROR.					
2413	*SCOPE LCCP POINT-18.14.C8 4F.11D2C21D					
2414	MBCSNC	BNQ	ITRI	7	08602	J 08719 Q
2415	BCE	MBCSAA,TADI,1		12	08609	B 08455 01001 1

1410 ALARM PROGRAM

PGLIN	LABEL	OPCODE	OPERAND	CT	ADDRS	INSTRUCTION
2417	*****					
2418	*\$ANUAL SECTION ENDED.					
2419	BCE	*E8,TAD3,1		12	08621	B 08640 01003 1
2420	B	ODDFCL	GO TURN 1405 SWITCHES OFF	7	08633	J 09045
2421	BCE	MANEND,TAD0,1		12	08640	B 08668 01000 1
2422	B	TYPI		7	08652	J 01120
2423	DCW	@END C022a,G		8	08666	
2424	MANEND	BCE	RSIDAA,TAD3,1 REPEAT ALL BUT NRML SECT	12	08668	B 02611 01003 1
2425	MRCWG	XSTRIC,1	SET TO RESET & RESTART PR	12	08680	D 09176 00001 L
2426	CW	START&1		6	08692	□ 02001
2427	SAR	6		7	08698	G 00006 A
2428	B	ODDFCL	GO TURN 1405 SWITCHES OFF	7	08705	J 09045
2429	B	LOAD		7	08712	J 00400
2430	*****					
2431	*\$STANDARD PROGRAM ALTER ROUTINE.					
2432	ITR1	SBR	EXIT&5 SET EXIT ADDRESS	7	08719	G 01117 B
2433	ITR2	RCP	ITR3&4 ENTER ADDR TO BE ALTERED	10	08726	M ZTO 08761 R
2434	BEX1	ITR2,M	GO ANY BUT WLR & NO TRANS	7	08736	R 08726 M
2435	BNT1	ITR4	EXIT ON NO TRANSF5R	7	08743	R 08781 B
2436	BAL	*E1	RESET I/O INTERLOCK	7	08750	R 08757 M
2437	RCPW	0	ENTER DATA	10	08757	L ZTO 00000 R
2438	BEX1	ITR3,M	BRANCH ANY BUT WLR	7	08767	R 08757 M
2439	BAL	*E1	RESET I/O INTERLOCK	7	08774	R 08781 M
2440	ITR4	B	CKTADA GO INTERROGATE TADS 0&1&2	7	08781	J 01017
2441	*****					
2442	*\$SUBROUTINE TO FIND READY 1311 DRIVE.					
2443	CHCRIV	SBR	CHCRND&5	7	08788	G 08834 B
2444	BCE	CHCRND,XIFLA,8	GO IF NO DRIVES READY	12	08795	B 08829 09271 8
2445	A	@Z&,XIFLA	INCREASE SELECTION	11	08807	A 09295 09271
2446	S	@Z4,CHCRND&5		11	08818	S 09371 08834
2447	CHCRND	B	0 EXIT	7	08829	J 00000

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDRS	INSTRUCTION
2449	*****					
2450	*\$SPECIAL TYPEDUTS					
2451	SPTYPA	SBR	SPTYND&S	7	08836	G 08880 B
2452		B	TYPI	7	08843	J 01120
2453		DCW	@ ON-OK,CCMP RESET,START@,G	24	08873	
2454	SPTYND	B	0	7	08875	J 00000
2455	SPTYPB	SBR	SPTYXD&S	7	08882	G 08935 B
2456		B	TYPI	7	08889	J 01120
2457		DCW	@ ON ALONE-OK,UNGRND,RESET,START@,G	33	08928	
2458	SPTYXD	B	0	7	08930	J 00000
2459	##					
2460	*****					
2461	*\$PREPARE 1405 IF 1405 IS PRESENT.					
2462	CCDFIL	BCE	ODCFAA,CHN1&27,F	12	08937	B 08968 01316 F
2463		BCE	ODCFAA,CHN2&27,F	12	08949	B 08968 01373 F
2464		B	ODCFEX GO-NO 1405 PRESENT	7	08961	J 09038
2465	CCDFAA	BW	ODCFEX,XODCFI GO-SWITCHES ALREADY ON	12	08968	V 09038 09238 1
2466		B	TYPI	7	08980	J 01120
2467		DCW	@ 1405 C.E-TST & 1405 CMP DISABLE TO ON@,G	38	09024	
2468		CW	CKSWIT SET TO HALT FOR SW.CHANGE	6	09026	□ 01577
2469		SW	XODCFI SET SW.ON INDICATOR	6	09032	□ 09238
2470	ODCFEX	B	CKNOPW&7	7	09038	J 01576
2471	ODCFCL	SBR	ODCFND&S	7	09045	G 09128 B
2472		BW	*E8,XODDFI	12	09052	V 09071 09238 1
2473		B	ODCFND GO- SWITCHES NOT ON	7	09064	J 09123
2474		CW	ODCFAB&1	6	09071	□ 09118
2475		SAR	6	7	09077	G 00006 A
2476		B	TYPI	7	09084	J 01120
2477		DCW	@ 1405 SWITCHES TO NORMAL@,G	24	09114	
2478		H	WAIT FOR SWITCH CHANGES	1	09116	.
2479	CCDFAB	CW	XODCFI CLEAR SWITCH ON INDICATOR	6	09117	□ 09238
2480	ODCFND	B	0	7	09123	J 00000

1410 ALARM PROGRAM

CT ADDR INSTRUCTION

PGLIN LABEL

OPCOD OPERAND

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*****
2482 *$CONSTANTS AND STORAGE
2483 XAAR DCW @99999@ AAR CONTENTS ON RST-RSTRT
2484 XBAR DCW @99999@ BAR CONTENTS ON RST-RSTRT
2485 XSTR1A SAR XAAR @CC01 RESE-RESTART ROUTINE A
2486 XSTR1B SBR XBAR @CC08
2487 B @G @CC15
2488 DCW @M@ @CC22
2489 XSTR1B CW XINDIC @CC01 RESE-RESTART ROUTINE B
2490 B @G @CC07
2491 DCW @M@ @CC14
2492 XSTR1C B @G @CC01 RESE-RESTART ROUTINE C
2493 DCW @M@ @CC08
2494 XROUTN S @7,SETG@E5 @C030 RSTRT LAST ROUTINE
2495 B RSTRT @0041
2496 DCW @M@ @0048
2497 XMCDE DCW @ @ N-NRML,R-RSTRSTRT,E-RSTRT
2498 XSPACE DCW @ @,G
2500 XATES DCW @8888888888@

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5 09134
5 09139
7 09140 G 09134 A
7 09147 G 09139 B
7 09154 J 00000
1 09161
6 09162 @ 09216
7 09168 J 00000
1 09175
7 09176 J 00000
1 09183
11 09184 S 09372 01467
7 09195 J 01455
1 09202
1 09203
1 09204
10 09215

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1410 ALARM PROGRAM

CT ADDR INSTRUCTION

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDR	INSTRUCTION
2502	XINDIC	DCW	2 2	1	09216	
2503	XECITA	DCW	2 222	4	09220	RST-RSTRT MAY CLEAR WM
2504	XPASA	DCW	2 UNGRND2,G	7	09221	EDIT A FIELD DATA
2505	XOPRSA	DCW	XATES-10	5	09233	SPECIAL MESSAGE
2506	XTBLA	DCW	2 2	1	09234	
2507	XTBLB	DCW	2 2	1	09235	
2508	XFILEA	DCW	2 2	1	09236	WM IF E CHNL 1405 NOT RDY
2509	XFILFA	DCW	2 2	1	09237	WM IF F CHNL 1405 NOT RDY
2510	XOCDFI	DC	2 2	1	09238	WM IF 1405 SWITCHES ON
2511	XRBCFA	DCW	WRIBOT	5	09243	09691
2512	XRBCFA	DCW	WRIBOT	5	09248	09691
2513	XFILE	DCW	20C00000Ta,G	8	09249	1405 E CHANNEL SELECTION
2514	XFILE	DCW	2 2,G	1	09258	
2515	XFILE	DCW	20C00000Ta,G	8	09260	1405 F CHANNEL SELECTION
2516	XFILE	DCW	2 2,G	1	09269	
2517	XIFLA	DCW	20C00000012,G	10	09271	
2518	XIFLCK	DC	2 2,G	1	09282	
2519	XNRPL	B	NRPLAA	7	09284	J 02561
2520		DCW	2M2	1	09291	
2521	PST					

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1410 ALARM PROGRAM

CT ADDR INSTRUCTION

PGLIN	LABEL	OPCOD	OPERAND	CT	ADDR	INSTRUCTION
2527	PATCHA 0	CH	ADRCST&1	6	09373	R 03794
2528	0	SAR	20	7	09379	G 00020 A
2529	0	BCE	ADRCND&19, SYSI&1.9	12	09386	B 03857 01257 9
2530	0	B	ADRCRP	7	09398	J 03757
2531	0	H		1	09405	.
2532		END	START			J02000

SET FOR RESET RESTART

BYPASS RT IF LOOK SYSTEM
GO TO ROUTINE

D.E.B.

END OF ASSEMBLY