

DQ11

DQ11 TRIAL PROGRAM
CZDQGB0

AH-8631B-MC

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MAR 1978

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MADE IN USA

B01

EOF1CZDMGDSEQ
CZDQGB.P11

00010000
PDP10 411
SEQ 00000001
28-DEC-77 13:17

780223
MACY11 30A(1052)
DQ11 MANUAL PARAMETER INPUT PROGRAM.

PDP10 411

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HDR1CZDQGBSEQ

00010000

780223

IDENTIFICATION

PRODUCT CODE: AC-8630B-MC
PRODUCT NAME: CZDQGBD DQ11 TRIAL PRG
DATE: FEB 1978
MAINTAINER: DIAGNOSTICS
AUTHOR: JOHN EGOLF, JUAN VALDES

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1. ABSTRACT

SINCE THE DQ11 HAS MANY VARIATIONS AND IT IS THE INTENT OF ALL THE DIAGNOSTICS TO RUN MULTIPLE DEVICES CONFIGURED DIFFERENTLY OR ALIKE; THE PROGRAM MUST RECEIVE INFORMATION ON THE CONFIGURATION OF EACH DQ11, THE CSRS, AND THE VECTORS FOR ALL DQ11S. THE PROGRAMS WERE WRITTEN TO ALLOW THE GREATEST FLEXIBILITY IN CONFIGURATION POSSIBLE; BUT TO GET THE INFORMATION NEEDED TO RUN THE PROGRAMS WAS A PROBLEM.

THERE ARE TWO WAYS PROVIDED TO SUPPLY NEEDED INFORMATION FOR DIAGNOSTICS:

- 1: ON THE INITIAL START OF ANY DQ11 DIAGNOSTIC IF SW07=0 THE PROGRAM WILL *AUTO SIZE* FOR DQ11S AND THEIR OPTIONS. (THIS WILL WORK GREAT IF THE DQ11 ARE OPERATING WELL ENOUGH TO RESPOND TO THE SIZING TESTS.
- 2: IF THE DQ11 IS SO BROKEN THAT IT WILL NOT RESPOND TO AUTO SIZING THE SECOND METHOD IS USED. THIS PROGRAM ALLOWS THE USER TO TYPE IN THE INFORMATION ABOUT THE CONFIGURATION TO ALERT THE DIAGNOSTIC OF THE SYSTEM.
 NOTE AFTER RUNNING THIS PROGRAM AND SUPPLYING THE INFORMATION SW07 MUST BE SET (=1)
 IF USING XXDP MEDIUM PLEASE DO NOT RE-BOOT!

AFTER THIS PROGRAM HAS BEEN RUN THERE IS NO REASON TO RUN IT AGAIN UNLESS

- 1: DQ11 CONFIGURATION IS CHANGED
- 2: DIAGNOSTICS OTHER THAN DQ11 DIAGNOSTIC WERE RUN.
- 3: MEMORY WAS ALTERED FOR SOME REASON.

THIS PROGRAM BUILDS A TABLE STARTING AT ADD. 1400
 ALL DQ11 DIAGNOSTICS REFERENCE THIS TABLE FOR INFORMATION.
 YOU DON'T HAVE TO RUN THIS PROGRAM FOR EACH SINGLE RUNNING OF THE DIAGNOSTICS. ONLY IF THE ABOVE 3 WERE VIOLATED.

2. REQUIREMENTS

PDP-11 FAMILY PROCESSOR
 ASR 33 OR EQUIVALENT
 AT LEAST 4K OF MEMEORY

3. STARTING PROCEDURE

LOAD PROGRAM INTO CORE LIKE ANY PROGRAM.
 LOAD AND START ADD. 000200
 ANSWER ALL QUESTIONS NOTE: ANY NUMBERS USED ARE *OCTAL*

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;REGISTER DEFINITIONS

000000	R0=%0	: GENERAL REGISTER
000001	R1=%1	: GENERAL REGISTER
000002	R2=%2	: GENERAL REGISTER
000003	R3=%3	: GENERAL REGISTER
000004	R4=%4	: GENERAL REGISTER
000005	R5=%5	: GENERAL REGISTER
000006	SP=%6	: PROCESSOR STACK POINTER
000007	PC=%7	: PROGRAM COUNTER

;LOCATION EQUIVALENCIES

177570	SWR=177570	: CONSOLE SWITCH REGISTER
177570	LIGHTS=177570	: PDP-11/45 DISPLAY REGISTER
177776	PS=177776	: PROCESSOR STATUS WORD
001200	STACK=1200	: START OF PROCESSOR STACK

;INSTRUCTION DEFINITIONS

005746	PUSH1SP=5746	: DECREMENT PROCESSOR STACK 1 WORD
005726	POP1SP=5726	: INCREMENT PROCESSOR STACK 1 WORD
010046	PUSHRO=10046	: SAVE R0 ON STACK
012600	POPRO=12600	: RESTORE R0 FROM STACK
024646	PUSH2SP=24646	: DECREMENT STACK TWICE
022626	POP2SP=22626	: INCREMENT STACK TWICE
	.EQUIV EMT,HLT	: BASIC DEFINITION OF ERROR CALL

100000	BIT15=100000
040000	BIT14=40000
020000	BIT13=20000
010000	BIT12=10000
004000	BIT11=4000
002000	BIT10=2000
001000	BIT9=1000
000400	BIT8=400
000200	BIT7=200
000100	BIT6=100
000040	BIT5=40
000020	BIT4=20
000010	BIT3=10
000004	BIT2=4
000002	BIT1=2
000001	BIT0=1


```

(2)                                     ;TRAPCATCHER FOR ILLEGAL INTERRUPTS
(2)                                     . = 0
(3) 000000 000000                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000002 000002                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000004 000000                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000006 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000010 000012                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000012 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000014 000016                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000016 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000020 000022                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000022 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000024 000026                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000026 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000030 000032                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000032 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000034 000036                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000036 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000040 000042                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000042 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000044 000046                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000046 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000050 000052                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000052 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000054 000056                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000056 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000060 000062                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000062 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000064 000066                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000066 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000070 000072                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000072 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000074 000076                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000076 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000100 000102                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000102 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000104 000106                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000106 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000110 000112                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000112 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000114 000116                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000116 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000120 000122                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000122 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000124 000126                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000126 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000130 000132                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000132 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000134 000136                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000136 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000140 000142                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000142 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000144 000146                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000146 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE
(3) 000150 000152                      .+2      ;UNEXPECTED TRAP TO THIS LOCATION
(3) 000152 000000                      HALT      ;EXAMINE STACK TO FIND CAUSE

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(3)	000154	000156	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000156	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000160	000162	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000162	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000164	000166	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000166	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000170	000172	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000172	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000174	000176	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000176	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000200	000202	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000202	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000204	000206	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000206	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000210	000212	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000212	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	CJ0214	000216	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000216	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000220	000222	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000222	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000224	000226	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000226	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000230	000232	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000232	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000234	000236	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000236	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000240	000242	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000242	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000244	000246	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000246	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000250	000252	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000252	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000254	000256	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000256	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000260	000262	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000262	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000264	000266	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000266	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000270	000272	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000272	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000274	000276	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000276	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000300	000302	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000302	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000304	000306	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000306	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000310	000312	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000312	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000314	000316	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000316	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000320	000322	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000322	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000324	000326	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000326	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000330	000332	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000332	000000	HALT	:EXAMINE STACK TO FIND CAUSE

GO1

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SEQ 0006

(3)	000334	000336	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000336	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000340	000342	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000342	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000344	000346	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000346	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000350	000352	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000352	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000354	000356	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000356	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000360	000362	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000362	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000364	000366	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000366	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000370	000372	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000372	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000374	000376	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000376	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000400	000402	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000402	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000404	000406	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000406	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000410	000412	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000412	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000414	000416	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000416	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000420	000422	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000422	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000424	000426	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000426	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000430	000432	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000432	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000434	000436	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000436	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000440	000442	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000442	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000444	000446	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000446	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000450	000452	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000452	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000454	000456	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000456	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000460	000462	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000462	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000464	000466	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000466	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000470	000472	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000472	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000474	000476	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000476	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000500	000502	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000502	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000504	000506	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000506	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000510	000512	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000512	000000	HALT	:EXAMINE STACK TO FIND CAUSE

H01

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SEQ 0007

(3)	000514	000516	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000516	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000520	000522	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000522	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000524	000526	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000526	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000530	000532	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000532	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000534	000536	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000536	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000540	000542	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000542	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000544	000546	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000546	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000550	000552	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000552	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000554	000556	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000556	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000560	000562	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000562	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000564	000566	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000566	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000570	000572	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000572	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000574	000576	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000576	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000600	000602	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000602	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000604	000606	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000606	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000610	000612	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000612	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000614	000616	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000616	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000620	000622	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000622	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000624	000626	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000626	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000630	000632	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000632	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000634	000636	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000636	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000640	000642	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000642	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000644	000646	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000646	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000650	000652	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000652	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000654	000656	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000656	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000660	000662	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000662	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000664	000666	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000666	000000	HALT	:EXAMINE STACK TO FIND CAUSE
(3)	000670	000672	.+2	:UNEXPECTED TRAP TO THIS LOCATION
(3)	000672	000000	HALT	:EXAMINE STACK TO FIND CAUSE

(3)	000674	000676	.+2	;UNEXPECTED TRAP TO THIS LOCATION
(3)	000676	000000	HALT	;EXAMINE STACK TO FIND CAUSE
(3)	000700	000702	.+2	;UNEXPECTED TRAP TO THIS LOCATION
(3)	000702	000000	HALT	;EXAMINE STACK TO FIND CAUSE
(3)	000704	000706	.+2	;UNEXPECTED TRAP TO THIS LOCATION
(3)	000706	000000	HALT	;EXAMINE STACK TO FIND CAUSE
(3)	000710	000712	.+2	;UNEXPECTED TRAP TO THIS LOCATION
(3)	000712	000000	HALT	;EXAMINE STACK TO FIND CAUSE
(3)	000714	000716	.+2	;UNEXPECTED TRAP TO THIS LOCATION
(3)	000716	000000	HALT	;EXAMINE STACK TO FIND CAUSE
(3)	000720	000722	.+2	;UNEXPECTED TRAP TO THIS LOCATION
(3)	000722	000000	HALT	;EXAMINE STACK TO FIND CAUSE
(3)	000724	000726	.+2	;UNEXPECTED TRAP TO THIS LOCATION
(3)	000726	000000	HALT	;EXAMINE STACK TO FIND CAUSE
(3)	000730	000732	.+2	;UNEXPECTED TRAP TO THIS LOCATION
(3)	000732	000000	HALT	;EXAMINE STACK TO FIND CAUSE
(3)	000734	000736	.+2	;UNEXPECTED TRAP TO THIS LOCATION
(3)	000736	000000	HALT	;EXAMINE STACK TO FIND CAUSE
(3)	000740	000742	.+2	;UNEXPECTED TRAP TO THIS LOCATION
(3)	000742	000000	HALT	;EXAMINE STACK TO FIND CAUSE
(3)	000744	000746	.+2	;UNEXPECTED TRAP TO THIS LOCATION
(3)	000746	000000	HALT	;EXAMINE STACK TO FIND CAUSE
(3)	000750	000752	.+2	;UNEXPECTED TRAP TO THIS LOCATION
(3)	000752	000000	HALT	;EXAMINE STACK TO FIND CAUSE
(3)	000754	000756	.+2	;UNEXPECTED TRAP TO THIS LOCATION
(3)	000756	000000	HALT	;EXAMINE STACK TO FIND CAUSE
(3)	000760	000762	.+2	;UNEXPECTED TRAP TO THIS LOCATION
(3)	000762	000000	HALT	;EXAMINE STACK TO FIND CAUSE
(3)	000764	000766	.+2	;UNEXPECTED TRAP TO THIS LOCATION
(3)	000766	000000	HALT	;EXAMINE STACK TO FIND CAUSE
(3)	000770	000772	.+2	;UNEXPECTED TRAP TO THIS LOCATION
(3)	000772	000000	HALT	;EXAMINE STACK TO FIND CAUSE
(3)	000774	000776	.+2	;UNEXPECTED TRAP TO THIS LOCATION
(3)	000776	000000	HALT	;EXAMINE STACK TO FIND CAUSE

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; STANDARD INTERRUPT VECTORS

```
(2)
(2)
(2)
(2)
(2) 000024 000024      . = 24      .PFAIL      ; POWER FAIL HANDLER
(2) 000024 003216      340          ; SERVICE AT LEVEL 7
(2) 000026 000340
(2) 000030 000032      32
(2) 000032 000000      HALT
(2) 000034 003164      .TRPSRV      ; GENERAL HANDLER DISPATCH SERVICE
(2) 000036 000340      340          ; SERVICE AT LEVEL 7
(2) 000200 000200
(2) 000200 000137 001600      . = 200      JMP      .START      ; GO TO START OF PROGRAM
```

. = 1200

; INDIRECT POINTERS TO TELETYPE VECTORS AND REGISTERS

```
(2)
(2)
(2)
(2)
(2) 001200 177560      TKCSR: 177560      ; TELETYPE KEYBOARD CONTROL REGISTER
(2) 001202 177562      TKDBR: 177562
(2) 001204 177564      TPCSR: 177564      ; TELEPRINTER CONTROL REGISTER
(2) 001206 177566      TPDBR: 177566      ; TELEPRINTER DATA BUFFER
```

; PROGRAM CONTROL PARAMETERS

```
(2)
(2) 001210 000000      RETURN: 0      ; SCOPE ADDRESS FOR LOOP ON TEST
(2) 001212 000000      NEXT: 0        ; ADDRESS OF NEXT TEST TO BE EXECUTED
(2) 001214 000000      TSTNO: 0       ; NUMBER OF TEST IN PROGRESS
```

; PROGRAM VARIABLES

```
(2)
(2)
(2) 001216 000000      TEMP1: 0        ; TEMPORARY STORAGE
(2) 001220 000000      TEMP2: 0        ; TEMPORARY STORAGE
(2) 001222 000000      TEMP3: 0        ; TEMPORARY STORAGE
(2) 001224 000000      TEMP4: 0        ; TEMPORARY STORAGE
(2) 001226 000000      TEMP5: 0        ; TEMPORARY STORAGE
(2) 001230 000000      SAVR0: 0        ; R0 STORAGE
(2) 001232 000000      SAVR1: 0        ; R1 STORAGE
(2) 001234 000000      SAVR2: 0        ; R2 STORAGE
(2) 001236 000000      SAVR3: 0        ; R3 STORAGE
(2) 001240 000000      SAVR4: 0        ; R4 STORAGE
(2) 001242 000000      SAVR5: 0        ; R5 STORAGE
(2) 001244 000000      SAVSP: 0        ; STACK POINTER STORAGE
(2) 001246 000000      SAVPC: 0        ; PROGRAM COUNTER STORAGE
```



```

(2)          000000          $Y=0
(2)
(2)          ;DEFINITIONS FOR TRAP SUBROUTINE CALLS
(2)          ;POINTERS TO SUBROUTINES CAN BE FOUND
(2)          ;IN THE TABLE IMMEDIATELY FOLLOWING THE DEFINITIONS
(2)
(2)          104400          TYPE=TRAP+$Y          ;
(2)          104401          INSTR=TRAP+$Y          ;
(2)          104402          INSTER=TRAP+$Y          ;
(2)          104403          PARAM=TRAP+$Y          ;
(2)          104404          CONVRT=TRAP+$Y          ;
(2)          104405          CNVRT=TRAP+$Y          ;
(2)          104406          SETFLG=TRAP+$Y          ;
(2)
(2)          ;TABLE OF POINTERS TO SUBROUTINES
(2)
(2)          001250  002420  .TRPTAB: .TYPE          ;TELETYPE OUTPUT ROUTINE
(2)          001252  002452          .INSTR          ;ASCII STRING INPUT HANDLER
(2)          001254  002544          .INSTER         ;ASCII STRING ERROR HANDLER
(2)          001256  002554          .PARAM          ;PARAMETER INPUT HANDLER
(2)          001260  002740          .CONVRT         ;DATA CONVERSION HANDLER
(2)          001262  002744          .CNVRT          ;
(2)          001264  003116          .SETFLG         ;FLAG SET HANDLER
(1)
(1)          ;DQ11 VECTOR AND REGISTER INDIRECT POINTERS
(1)
(1)          001266  000000  DQ11VEC: 0          ;POINTER TO DQ11 RECEIVER INTERRUPT VECTOR
(1)          001270  000000  DQ11CSR: 0          ;POINTER TO DQ11 RECEIVER CONTROL REGISTER
(1)
(1)          ;DQ11 OPTION FLAGS
(1)
(1)          001272  000000  VRCFLG: 0
(1)          001274          000  BAFLG: .BYTE 0          ;DATASET CONTROL OPTIONFLAG
(1)          001275          000  ACTFLG: .BYTE 0
(1)          001276          000  ODDFLG: .BYTE 0
(1)          001277          000  SYNFLG: .BYTE 0
(1)          001300          000  JUMFLG: .BYTE 0
(1)          001301          000  CAFLG: .BYTE 0          ;CHARACTER LENGTH EXTENDER OPTION FLAG
(1)          001302          000  ABFLG: .BYTE 0          ;CHARACTER DETECTION OPTION FLAG
(1)          001303          000  BBFLG: .BYTE 0          ;BCC GENERATOR OPTION FLAG
(1)          001304          000  JMPFLG: .BYTE 0          ;TEST JUMPER FLAG
(1)          001306          .EVEN
(1)
(1)          .EVEN
(1)
(1)          .=1400
(2)          001400  000001  DQCR00: .BLKW 1
(2)          001402  000001  DQST00: .BLKW 1
(2)          001404  000001  DQCR01: .BLKW 1
(2)          001406  000001  DQST01: .BLKW 1
(2)          001410  000001  DQCR02: .BLKW 1
(2)          001412  000001  DQST02: .BLKW 1
(2)          001414  000001  DQCR03: .BLKW 1
(2)          001416  000001  DQST03: .BLKW 1

```

(2)	001420	000001	DQCR04:	.BLKW	1
(2)	001422	000001	DQST04:	.BLKW	1
(2)	001424	000001	DQCR05:	.BLKW	1
(2)	001426	000001	DQST05:	.BLKW	1
(2)	001430	000001	DQCR06:	.BLKW	1
(2)	001432	000001	DQST06:	.BLKW	1
(2)	001434	000001	DQCR07:	.BLKW	1
(2)	001436	000001	DQST07:	.BLKW	1
(2)	001440	000001	DQCR10:	.BLKW	1
(2)	001442	000001	DQST10:	.BLKW	1
(2)	001444	000001	DQCR11:	.BLKW	1
(2)	001446	000001	DQST11:	.BLKW	1
(2)	001450	000001	DQCR12:	.BLKW	1
(2)	001452	000001	DQST12:	.BLKW	1
(2)	001454	000001	DQCR13:	.BLKW	1
(2)	001456	000001	DQST13:	.BLKW	1
(2)	001460	000001	DQCR14:	.BLKW	1
(2)	001462	000001	DQST14:	.BLKW	1
(2)	001464	000001	DQCR15:	.BLKW	1
(2)	001466	000001	DQST15:	.BLKW	1
(2)	001470	000001	DQCR16:	.BLKW	1
(2)	001472	000001	DQST16:	.BLKW	1
(2)	001474	000001	DQCR17:	.BLKW	1
(2)	001476	000001	DQST17:	.BLKW	1
(1)	001500	000001	DQACTV:	.BLKW	1
(1)	001502	000001	SAVACT:	.BLKW	1
(1)	001504	000001	DQNUM:	.BLKW	1
(1)	001506	000000	DQCSR:	0	
(1)	001510	000000	DQSTAT:	0	
(1)		001600			

```

;PROGRAM INITIALIZATION
;LOCK OUT INTERRUPTS
;SET UP PROCESSOR STACK
;SET UP POWER FAIL VECTOR
;CLEAR PROGRAM CONTROL FLAGS AND COUNTS
;TYPE TITLE MESSAGE

```

(2)	001600	012737	000340	177776	.START:	MOV	#340,PS		;LOCK OUT INTERRUPTS
(2)	001606	012706	001200			MOV	#STACK,SP		;SET UP STACK
(2)	001612	012737	003216	000024		MOV	#PFAIL,#24		;SET UP POWER FAIL VECTOR
(2)	001620	012702	001400			MOV	#1400,R2		
(2)	001624	005022			CLEAR:	CLR	(R2)+		
(2)	001626	022702	001600			CMP	#1600,R2		
(2)	001632	001374				BNE	CLEAR		
(2)	001634	012702	001400			MOV	#1400,R2		
(2)	001640	104400				TYPE			
(2)	001642	003352				MTITLE			
(2)	001644	005000				CLR	R0		
(2)	001646	012701	000005			MOV	#5,R1		
(2)	001652	005200				INC	R0		
(2)	001654	001376				BNE	.-2		
(2)	001656	005301				DEC	R1		
(2)	001660	001374				BNE	.-6		
(1)	001662	005777	177314		15%:	TST	@TKDBR		
(1)	001666	104400				TYPE			

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SEQ 0012

(1)	001670	003704				MNUM
(1)	001672	012705	000003			MOV #3,R5
(1)	001676	005037	001504			CLR DQNUM
(1)	001702	105777	177272		11\$:	TSTB @TKCSR
(1)	001706	100375				BPL -4
(1)	001710	017703	177266			MOV @TKDBR,R3
(1)	001714	105777	177264			TSTB @TPCSR
(1)	001720	100375				BPL -4
(1)	001722	110377	177260			MOVB R3,@TPDBR
(1)	001726	042703	000200			BIC #B117,R3
(1)	001732	022703	000015			CMP #15,R3
(1)	001736	001423				BEQ 12\$
(1)	001740	032703	000110			BIT #110,R3
(1)	001744	001015				BNE 13\$
(1)	001746	000257				CCC
(1)	001750	006137	001504			ROL DQNUM
(1)	001754	006137	001504			ROL DQNUM
(1)	001760	006137	001504			ROL DQNUM
(1)	001764	042703	000260			BIC #260,R3
(1)	001770	050337	001504			BIS R3,DQNUM
(1)	001774	005305				DEC R5
(1)	001776	001341				BNE 11\$
(1)	002000	104400			13\$:	TYPE
(1)	002002	004007				MERR1
(1)	002004	000726				BR 15\$
(1)	002006	005737	001504		12\$:	TST DQNUM
(1)	002012	001772				BEQ 13\$
(1)	002014	023727	001504	000020		CMP DQNUM,#20
(1)	002022	101366				BHI 13\$
(1)	002024	013705	001504			MOV DQNUM,R5
(1)	002030	005037	001500			CLR DQACTV
(1)	002034	012737	000001	001216	16\$:	MOV #1,TEMP1
(1)	002042	052737	000001	001500		BIS #B110,DQACTV
(1)	002050	005305				DEC R5
(1)	002052	001403				BEQ DO
(1)	002054	006137	001500			ROL DQACTV
(1)	002060	000765				BR 16\$
(1)	002062	013737	001500	001502	DO:	MOV DQACTV,SAVACT
(1)	002070	104400				TYPE
(1)	002072	004054				MINFO
(1)	002074	104405				CNVERT
(1)	002076	004726				XNUM
(2)	002100	104401				INSTR
(2)	002102	003525				MVECTOR
(2)	002104	104403				PARAM
(2)	002106	000300				300
(2)	002110	000770				770
(2)	002112	001266				DQRVEC
(2)	002114	001			.BYTE	1
(2)	002115	001			.BYTE	1
(2)	002116	104401				INSTR
(2)	002120	003547				MREGAD
(2)	002122	104403				PARAM
(2)	002124	160000				160000
(2)	002126	164000				164000
(2)	002130	001270				DQRCSR

NO1

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SEQ 0013

(2)	002132	001		.BYTE	1	
(2)	002133	001		.BYTE	1	
(1)	002134	013722	001270		MOV	DQRCSR, (R2)+
(1)	002140	042737	177000	001266	BIC	#177000, DQRVEC
(1)	002146	013712	001266		MOV	DQRVEC, (R2)
(2)	002152	104401			INSTR	
(2)	002154	004301			MBA	
(2)	002156	104406			SETFLG	
(2)	002160	001274			BAFLG	
(1)	002162	105737	001274		TSTB	BAFLG
(1)	002166	001402			BEQ	1\$
(1)	002170	052712	010000		BIS	#BIT12, (R2)
(1)	002174	000240		1\$:	NOP	
(2)	002176	104401			INSTR	
(2)	002200	004247			MAX	
(2)	002202	104406			SETFLG	
(2)	002204	001276			ODDFLG	
(1)	002206	105737	001276		TSTB	ODDFLG
(1)	002212	001402			BEQ	2\$
(1)	002214	052712	001000		BIS	#BIT9, (R2)
(1)	002220	000240		2\$:	NOP	
(2)	002222	104401			INSTR	
(2)	002224	004162			MAB	
(2)	002226	104405			SETFLG	
(2)	002230	001302			ABFLG	
(1)	002232	105737	001302		TSTB	ABFLG
(1)	002236	001402			BEQ	3\$
(1)	002240	052712	002000		BIS	#BIT10, (R2)
(1)	002244	000240		3\$:	NOP	
(2)	002246	104401			INSTR	
(2)	002250	004337			MAB	
(2)	002252	104406			SETFLG	
(2)	002254	001303			BBFLG	
(1)	002256	105737	001303		TSTB	BBFLG
(1)	002262	001402			BEQ	4\$
(1)	002264	052712	020000		BIS	#BIT13, (R2)
(1)	002270	000240		4\$:	NOP	
(2)	002272	104401			INSTR	
(2)	002274	004440			MACTV	
(2)	002276	104406			SETFLG	
(2)	002300	001275			ACTFLG	
(1)	002302	105737	001275		TSTB	ACTFLG
(1)	002306	001402			BEQ	5\$
(1)	002310	052712	004000		BIS	#BIT11, (R2)
(1)	002314	000240		5\$:	NOP	
(2)	002316	104401			INSTR	
(2)	002320	004375			MJUMP	
(2)	002322	104406			SETFLG	
(2)	002324	001300			JUMFLG	
(1)	002326	105737	001300		TSTB	JUMFLG
(1)	002332	001402			BEQ	6\$
(1)	002334	052712	010000		BIS	#BIT14, (R2)
(1)	002340	000240		6\$:	NOP	
(2)	002342	104401			INSTR	
(2)	002344	004527			MSYNC	
(2)	002346	104406			SETFLG	


```

(2) 002350 001277 SYNFLG
(1) 002352 105737 001277 TSTB SYNFLG
(1) 002356 001402 BEQ 7$
(1) 002360 052712 100000 BIS #BIT15, (R2)
(1) 002364 023737 001216 001504 7$: CMP TEMP1, DQNUM
(1) 002372 001405 BEQ ENDF
(1) 002374 005237 001216 INC TEMP1
(1) 002400 005722 TST (R2)+
(1) 002402 000137 002062 JMP DO
(1) 002406 104400 ENDPA: TYPE
(1) 002410 004607 MTHNK
(1) 002412 000000 HALT
(1) 002414 000137 000200 JMP 200
(2)
(2) ;TELETYPE OUTPUT ROUTINE
(2)
(2) 002420 017605 000000 .TYPE: MOV @ (SP), R5
(2) 002424 062716 000002 ADD #2, (SP)
(2) 002430 105715 1$: TSTB (R5)
(2) 002432 001406 BEQ 3$
(2) 002434 105777 176544 2$: TSTB @TPCSR
(2) 002440 100375 BPL 2$
(2) 002442 112577 176540 MOVB (R5)+, @TPDBR
(2) 002446 000770 BR 1$
(2) 002450 000002 3$: RTI
(2)
(2) ;ASCII STRING INPUT ROUTINE
(2)
(2) 002452 017637 000000 002466 .INSTR: MOV @ (SP), MSG
(2) 002460 062716 000002 ADD #2, (SP)
(2) 002464 104400 .INST1: TYPE
(2) 002466 000000 .MSG: 0
(2) 002470 012704 004734 MOV #INBUF, R4
(2) 002474 012703 000007 MOV #7, R3
(2) 002500 105777 176474 1$: TSTB @TKCSR
(2) 002504 100375 BPL 1$
(2) 002506 117714 176470 MOVB @TKDBR, (R4)
(2) 002512 142714 000200 BICB #200, (R4)
(2) 002516 122427 000015 CMPB (R4)+, #15
(2) 002522 001413 BEQ INSTR2
(2) 002524 117777 176452 176454 2$: MOVB @TKDBR, @TPDBR
(2) 002532 105777 176446 TSTB @TPCSR
(2) 002536 100375 BPL 2$
(2) 002540 005303 DEC R3
(2) 002542 001356 BNE 1$
(2) 002544 104400 .INSTE: TYPE
(2) 002546 003603 MQM
(2) 002550 000745 BR .INST1
(2) 002552 000002 INSTR2: RTI
(2)
(2) ;CONVERT ASCII STRING TO OCTAL
(2)
(2) 002554 011605 .PARAM: MOV (SP), R5
(2) 002556 012537 002730 MOV (R5)+, LOLIM
(2) 002562 012537 002732 MOV (R5)+, HILIM

```

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```
(2) 002566 012537 002734
(2) 002572 112537 002736
(2) 002576 112537 002737
(2) 002602 010516
(2) 002604 005005
(2) 002606 012704 004734
(2) 002612 122714 000015
(2) 002616 001420
(2) 002620 121427 000060
(2) 002624 002415
(2) 002626 121427 000067
(2) 002632 003012
(2) 002634 142714 000060
(2) 002640 152405
(2) 002642 122714 000015
(2) 002646 001406
(2) 002650 006305
(2) 002652 006305
(2) 002654 006305
(2) 002656 000760
(2) 002660 104402
(2) 002662 000750
(2)
(2)
(2)
(2) 002664 020537 002732
(2) 002670 101373
(2) 002672 020537 002730
(2) 002676 103770
(2) 002700 133705 002736
(2) 002704 001365
(2)
(2)
(2)
(2) 002706 013704 002734
(2) 002712 010524
(2) 002714 062705 000002
(2) 002720 105337 002737
(2) 002724 001372
(2) 002726 000002
(2) 002730 000000
(2) 002732 000000
(2) 002734 000000
(2) 002736 000000
(2) 002737
(2)
(2)
(2)
(2) 002740 104400
(2) 002742 003607
(2) 002744 017601 000000
(2) 002750 062716 000002
(2) 002754 012137 003110
(2) 002760 112137 003112
(2) 002764 112137 003113
(2) 002770 013137 003114
```

```
MOV (R5)+,DEVADR
MOVB (R5)+,LOBITS
MOVB (R5)+,ADRCNT
MOV R5,(SP)
PARAM1: CLR R5
MOV #INBUF,R4
CMPB #15,(R4)
BEQ PARERR
1$: CMPB (R4),#0
BLT PARERR
CMPB (R4),#67
BGT PARERR
BICB #60,(R4)
BISB (R4)+,R5
CMPB #15,(R4)
BEQ LIMITS
ASL R5
ASL R5
ASL R5
BR 1$
PARERR: INSTER
BR PARAM1
;TEST TO SEE IF NUMBER IS WITHIN LIMITS
LIMITS: CMP R5,HILIM
BHI PARERR
CMP R5,LOLIM
BLO PARERR
BITB LOBITS,R5
BNE PARERR
;STORE NUMBER AT SPECIFIED ADDRESS
1$: MOV DEVADR,R4
MOV R5,(R4)+
ADD #2,R5
DECB ADRCNT
BNE 1$
RTI
LOLIM: 0
HILIM: 0
DEVADR: 0
LOBITS: 0
ADRCNT=LOBITS+1
;CONVERT OCTAL NUMBER TO ASCII AND OUTPUT TO TELEPRINTER
.CONVR: TYPE
MCRLF
.CNVRT: MOV @ (SP),R1
ADD #2,(SP)
MOV (R1)+,WRDCNT
1$: MOVB (R1)+,CHRCNT
MOVB (R1)+,SPACNT
MOV @ (R1)+,BINWRD
```


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```

(2) 003172 017616 000030      TRPOK: MOV      @ (SP), (SP)      ; GET TRAP
(2) 003176 006316              ASL      (SP)      ; MULTIPLY TRAP ARG BY 2
(2) 003200 042716 177001      BIC      #177001, (SP) ; CLEAR UNWANTED BITS
(2) 003204 062716 001250      ADD      #.TRPTAB, (SP) ; POINTER TO SUBROUTINE ADDRESS
(2) 003210 017616 000000      MOV      @ (SP), (SP) ; SUBROUTINE ADDRESS
(2) 003214 000136              JMP      @ (SP)+      ; GO TO SUBROUTINE
(2)                               ; ENTER HERE ON POWER FAILURE

(2)                               .PFAIL: MOV      R0, -(SP)      ; SAVE R0-R5 ON PROCESSOR STACK
(2)                               MOV      R1, -(SP)
(2)                               MOV      R2, -(SP)
(2)                               MOV      R3, -(SP)
(2)                               MOV      R4, -(SP)
(2)                               MOV      R5, -(SP)
(2)                               MOV      24, -(SP)
(2)                               MOV      SP, SAVSP      ; SAVE STACK POINTER
(2)                               MOV      #RESTART, 24      ; SET UP FOR POWER UP TRAP
(2)                               HALT      ; HALT ON POWER DOWN NORMAL
(2)                               BR
(2)                               ; PROCESSOR WILL TRAP HERE WHEN POWER IS RESTORED

(2) 003254 013706 001244      RESTAR: MOV      SAVSP, SP      ; RESTORE STACK POINTER
(2) 003260 012605              MOV      (SP)+, R5      ; RESTORE R0-R5
(2) 003262 012604              MOV      (SP)+, R4
(2) 003264 012603              MOV      (SP)+, R3
(2) 003266 012602              MOV      (SP)+, R2
(2) 003270 012601              MOV      (SP)+, R1
(2) 003272 012600              MOV      (SP)+, R0
(2) 003274 012737 003216 000024 MOV      #.PFAIL, 24      ; SET UP FOR POWER FAILURE
(2) 003302 012737 000340 177776 MOV      #340, PS
(2) 003310 012706 001200      MOV      #STACK, SP
(2) 003314 005037 004776      CLR      TEMP
(2) 003320 005237 004776      INC      TEMP
(2) 003324 001375              BNE      .-4
(2) 003326 104404              CONVRT
(2) 003330 003342              PFTAB
(2) 003332 104400              TYPE
(2) 003334 003612              MPFAIL
(2) 003336 000177 175646      JMP      @RETURN
(2) 003342 000001              PFTAB: 1
(2) 003344 000006 000002      6, 2
(2) 003350 000207              RETURN
(2) 003352 017435 005015 042012 MTITLE: .ASCII <35><37><15><12><12>/DQ11 TRIAL PROGRAM /<15><12>
(2) 003404 005015 043101 042524 .ASCII <15><12>/AFTER LOADING PARAMETERS/<15><12>
(2) 003440 005015 043111 052440 .ASCII <15><12>/IF USING XXDP MEDIUM/<15><12>
(2) 003470 005015 042523 020124 .ASCII <15><12>/SET SW07=1 DO NOT RE BOOT/<15><12>
(2) 003525 015 053012 041505 MVECTO: .ASCII <15><12>/VECTOR ADDRESS-/
(2) 003547 015 041412 047117 MREGAD: .ASCII <15><12>/CONTROL REGISTER ADDRESS-/
(2) 003603 040 037440 000 MQM: .ASCII / ? /
(2) 003607 015 000012 MCRLF: .ASCII <15><12>
(2) 003612 020040 047520 042527 MPFAIL: .ASCII / POWER FAILURE, PROGRAM RESTART AT TEST IN PROGRESS/
(2) 003677 015 051012 000 MR: .ASCII <15><12>/R/
(2) 003704 003704 .EVEN
(1) 003704 005015 054524 042520 MNUM: .ASCII <15><12>/TYPE IN NUMBER OF DQ11'S IN SYSTEM.(INPUT OCTAL NUMBERS)01-20: /

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(1) 004007 015 044412 053116 MERR1: .ASCIZ <15><12>/INVALID ANSWER PLEASE INPUT AGAIN!/
(1) 004054 005015 050012 042514 MINFO: .ASCIZ <15><12><12>/PLEASE SUPPLY THE INFORMATION FOR DQ11 NUMBER: /
(1) 004137 015 042012 020117 MVRC: .ASCIZ <15><12>/DO YOU HAVE VRC?/
(1) 004162 005015 051511 040440 MAB: .ASCIZ <15><12>/IS AB OPTION INSTALLED?/
(1) 004214 005015 051511 053040 MCA: .ASCIZ <15><12>/IS VRC OPTION INSTALLED?/
(1) 004247 015 044412 020123 MAX: .ASCIZ <15><12>/IS VRC SET FOR ODD VRC?/
(1) 004301 015 044412 020123 MBA: .ASCIZ <15><12>/IS THE BA OPTION INSTALLED?/
(1) 004337 015 044412 020123 MBB: .ASCIZ <15><12>/IS THE BB OPTION INSTALLED?/
(1) 004375 015 044412 020123 MJUMP: .ASCIZ <15><12>/IS THE TEST JUMPER ON THE CABLE?/
(1) 004440 005015 044527 046114 MACTV: .ASCIZ <15><12>/WILL DQ11 GO ACTIVE ON THE FIRST NON-SYNC CHARACTER?/
(1) 004527 015 044412 020123 MSYNC: .ASCIZ <15><12>/IS THE DQ11 JUMPERED FOR TWO SYNC CHARACTERS?/
(1) 004607 015 005012 044124 MTHNK: .ASCII <15><12><12>/THANK YOU FOR THE INFORMATION./
(1) 004650 005015 054412 052517 .ASCIZ <15><12><12>/YOU MAY NOW PROCEED WITH THE DIAGNOSTICS./
(1) 004726 004726 .EVEN
(1) 004730 000001 XNUM: 1
(1) 004732 002 002 .BYTE 2,2
(2) 004732 001216 TEMP1
(2) ;BUFFERS FOR INPUT-OUTPUT
(2) 004734 000000 INBUF: 0
(2) 004776 004776 .=. +40
(2) 004776 000000 TEMP: 0
(2) 005040 005040 .=. +40
(2) 005040 000000 MDATA: 0
(2) 005102 .=. +40
(2) 000001 .END

```

ABFLG	001302	1#
ACTFLG	001275	1#
ADRCNT=	002737	1#*
BAFLG	001274	1#
BBFLG	001303	1#
BINWRD	003114	1#*
BIT0 =	000001	1#
BIT1 =	000002	1#
BIT10 =	002000	1#
BIT11 =	004000	1#
BIT12 =	010000	1#
BIT13 =	020000	1#
BIT14 =	040000	1#
BIT15 =	100000	1#
BIT2 =	000004	1#
BIT3 =	000010	1#
BIT4 =	000020	1#
BIT5 =	000040	1#
BIT6 =	000100	1#
BIT7 =	000200	1#
BIT8 =	000400	1#
BIT9 =	001000	1#
CAFLG	001301	1#
CHRCNT	003112	1#*
CLEAR	001624	1#
CNVERT=	104405	1#
CONVRT=	104404	1#
DEVADR	002734	1#*
DO	002062	1#
DQACTV	001500	1#*
DQCR00	001400	1#
DQCR01	001404	1#
DQCR02	001410	1#
DQCR03	001414	1#
DQCR04	001420	1#
DQCR05	001424	1#
DQCR06	001430	1#
DQCR07	001434	1#
DQCR10	001440	1#
DQCR11	001444	1#
DQCR12	001450	1#
DQCR13	001454	1#
DQCR14	001460	1#
DQCR15	001464	1#
DQCR16	001470	1#
DQCR17	001474	1#
DQCSR	001506	1#
DQNUM	001504	1#*
DQRCSR	001270	1#
DQRVEC	001266	1#*
DQSTAT	001510	1#
DQST00	001402	1#
DQST01	001406	1#
DQST02	001412	1#
DQST03	001416	1#
DQST04	001422	1#

DQST05	001426	1#
DQST06	001432	1#
DQST07	001436	1#
DQST10	001442	1#
DQST11	001446	1#
DQST12	001452	1#
DQST13	001456	1#
DQST14	001462	1#
DQST15	001466	1#
DQST16	001472	1#
DQST17	001476	1#
ENDPA	002406	1#
HILIM	002732	1#*
INBUF	004734	1#
INSTER=	104402	1#
INSTR =	104401	1#
INSTR2	002552	1#
JMPFLG	001304	1#
JUMFLG	001300	1#
LIGHTS=	177570	1#
LIMITS	002664	1#
LOBITS	002736	1#*
LOLIM	002730	1#*
MAB	004162	1#
MACTV	004440	1#
MAX	004247	1#
MBA	004301	1#
MBB	004337	1#
MCA	004214	1#
MCRLF	003607	1#
MDATA	005040	1#
MERR1	004007	1#
MINFO	004054	1#
MJUMP	004375	1#
MNUM	003704	1#
MPFAIL	003612	1#
MQM	003603	1#
MR	003677	1#
MREGAD	003547	1#
MSYNC	004527	1#
MTHNK	004607	1#
MTITLE	003352	1#
MVECTO	003525	1#
MVRC	004137	1#
NEXT	001212	1#
ODDFLG	001276	1#
PARAM =	104403	1#
PARAM1	002604	1#
PARERR	002660	1#
PFTAB	003342	1#
POPRO =	012600	1#
POP1SP=	005726	1#
POP2SP=	022626	1#
PS =	177776	1#*
PUSHRO=	010046	1#
PUSHIS=	005746	1#

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 CZDQGB.P11 28-DEC-77 13:17 CROSS REFERENCE TABLE -- USER SYMBOLS

SEQ 0021

PUSH2S=	024646	1#
RESTAR	003254	1#
RETURN	001210	1#
SAVACT	001502	1#*
SAVPC	001246	1#
SAVR0	001230	1#
SAVR1	001232	1#
SAVR2	001234	1#
SAVR3	001236	1#
SAVR4	001240	1#
SAVR5	001242	1#
SAVSP	001244	1#*
SETFLG=	104406	1#
SPACNT=	003113	1#*
STACK =	001200	1#
SWR =	177570	1#
SYNFLG	001277	1#
TEMP	004776	1#*
TEMP1	001216	1#*
TEMP2	001220	1#
TEMP3	001222	1#
TEMP4	001224	1#
TEMP5	001226	1#
TKCSR	001200	1#
TKDBR	001202	1#
TPCSR	001204	1#
TPDBR	001206	1#*
TRPOK	003176	1#
TSTNO	001214	1#
TYPE =	104400	1#
VRCFLG	001272	1#
WRDCNT	003110	1#*
XNUM	004726	1#
SY =	000007	1#
.	005102	1#
.CNVRT	002744	1#
.CONVR	002740	1#
.INSTE	002544	1#
.INSTR	002452	1#
.INST1	002464	1#
.MSG	002466	1#*
.PARAM	002554	1#
.PFAIL	003216	1#
.SETFL	003116	1#
.START	001600	1#
.TRPSR	003164	1#
.TRPTA	001250	1#
.TYPE	002420	1#

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CZDQGB.P11 28-DEC-77 13:17 CROSS REFERENCE TABLE -- MACRO NAMES

SEQ 0022

DQEND	1#
DQFRNT	1#
HLT	1#
\$BUFFE	1#
\$CATCH	1#
\$CONVR	1#
\$GETFL	1#
\$GETPA	1#
\$HEADE	1#
\$INSTR	1#
\$MSG	1#
\$PARAM	1#
\$PFAIL	1#
\$SETFL	1#
\$SETVE	1#
\$START	1#
\$SYMB0	1#
\$TRAPS	1#
\$TRPDE	1#
\$TRPSR	1#
\$TYPE	1#
\$VARIA	1#

. ABS. 005102 000

ERRORS DETECTED: 0

CZDQGB,CZDQGB/SOL/CRF=CZDQGB.P11
RUN-TIME: 1 2 .2 SECONDS
RUN-TIME RATIO: 69/4=14.9
CORE USED: 9K (17 PAGES)