

DQ11

TRIAL PROGRAM
MD-11-DZDQG-A

EP-DZDQG-A-DL-A
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FICHE 1 OF 1

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The microfiche card contains a grid of frames. The first column contains 15 frames of data, likely representing a sequence of operations or a list of items. The second column contains 15 frames of diagrams or flowcharts, which appear to be related to the data in the first column. The third column contains 15 frames, which are mostly blank or contain very faint information. The data in the first column includes various alphanumeric strings and symbols, possibly representing a code or a list of identifiers. The diagrams in the second column show a flow of information or a sequence of steps, with arrows and boxes indicating the flow. The overall layout is typical of a microfiche card used for data storage and retrieval.

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IDENTIFICATION

PRODUCT CODE: MAINDEC-11-DZDQG-A-D
PRODUCT NAME: DQ11 TRIAL PROGRAM (PARAMETER INPUT)
DATE: JUNE 1973
MAINTAINER: DIAGNOSTICS
AUTHOR: JOHN EGOLF

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MAYNARD MASSACHUSETTS 01754

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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 SMD7=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 SMD7 MUST BE SET (=1) WHEN ALL THE DIAGNOSTICS ARE INITIALLY STARTED!

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*

(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)	000214	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

(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

(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


```

(2)                                     ;STANDARD INTERRUPT VECTORS
(2)
(2)
(2) 000024 000024 . =24 PFAIL ;POWER FAIL HANDLER
(2) 000026 000316 340 ;SERVICE AT LEVEL 7
(2) 000030 000340 32
(2) 000032 000000 HALT
(2) 000034 003164 TRPSRV ;GENERAL HANDLER DISPATCH SERVICE
(2) 000036 000340 340 ;SERVICE AT LEVEL 7
(2) 000200 000200 . =200
(2) 000137 001600 JMP .START ;GO TO START OF PROGRAM
(2)
(2) 001200 001200 . =1200
(2)
(2)                                     ;INDIRECT POINTERS TO TELETYPE VECTORS AND REGISTERS
(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
(2)
(2)                                     ;PROGRAM CONTROL PARAMETERS
(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
(2)
(2)                                     ;PROGRAM VARIABLES
(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) 001416 000001
(2) 001420 000001
(2) 001424 000001
(2) 001428 000001
(2) 001432 000001
(2) 001436 000001
(2) 001440 000001
(2) 001444 000001
(2) 001448 000001
(2) 001452 000001
(2) 001456 000001
(2) 001460 000001
(2) 001464 000001
(2) 001468 000001
(2) 001472 000001
(2) 001476 000001
(1) 001500 000001
(1) 001502 000001
(1) 001504 000001
(1) 001506 000000
(1) 001510 000000
(1) 001600 001600

```

```

D0ST03: .BLKM 1
D0CR04: .BLKM 1
D0ST04: .BLKM 1
D0CR05: .BLKM 1
D0ST05: .BLKM 1
D0CR06: .BLKM 1
D0ST06: .BLKM 1
D0CR07: .BLKM 1
D0ST07: .BLKM 1
D0CR10: .BLKM 1
D0ST10: .BLKM 1
D0CR11: .BLKM 1
D0ST11: .BLKM 1
D0CR12: .BLKM 1
D0ST12: .BLKM 1
D0CR13: .BLKM 1
D0ST13: .BLKM 1
D0CR14: .BLKM 1
D0ST14: .BLKM 1
D0CR15: .BLKM 1
D0ST15: .BLKM 1
D0CR16: .BLKM 1
D0ST16: .BLKM 1
D0CR17: .BLKM 1
D0ST17: .BLKM 1
D0ACTV: .BLKM 1
SAVACT: .BLKM 1
D0NUM: .BLKM 1
D0CSR: 0
D0STAT: 0
.=1600

```

```

;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
(2) 001606 012706 001200
(2) 001612 012737 003216 000024
(2) 001620 012702 001400
(2) 001624 005022
(2) 001626 022702 001600
(2) 001632 001374
(2) 001634 012702 001400
(2) 001640 104400
(2) 001642 003352
(2) 001644 005000
(2) 001646 012701 000005
(2) 001652 005200
(2) 001654 001376
(2) 001656 005301
(2) 001660 001374
(1) 001662 005777 177314

```

```

.START: MOV 8340,PS ;LOCK OUT INTERRUPTS
MOV 8STACK,SP ;SET UP STACK
MOV 8.PFAIL,824 ;SET UP POWER FAIL VECTOR
CLEAR: MOV 81400,R2
CLR (R2)+
CMP 81600,R2
BNE CLEAR
MOV 81400,R2
TYPE
MTITLE
CLR R0
MOV 85,R1
INC R0,-2
BNE R1,-2
DEC R1,-6
BNE R1,-6
155: TST 8TKOBR

```


Line	Address	Value	Label	Operation	Parameters
(1)	001666	104400		TYPE	
(1)	001670	003730		MNUM	
(1)	001672	012705	000003	MOV	#3, R5
(1)	001676	005037	001504	CLR	DQNUM
(1)	001702	105777	177272	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	#BIT7, R3
(1)	001732	022703	000015	CMF	#15, R3
(1)	001736	001423		BEQ	125
(1)	001740	032703	000110	BIT	#110, R3
(1)	001744	001015		BNE	135
(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	115
(1)	002000	104400		TYPE	
(1)	002002	004033		MERR1	
(1)	002004	000726		BR	155
(1)	002006	005737	001504	TST	DQNUM
(1)	002012	001772		BEQ	135
(1)	002014	023727	001504 000020	CMF	DQNUM, #20
(1)	002022	101366		BHI	135
(1)	002024	013705	001504	MOV	DQNUM, R5
(1)	002030	005037	001500	CLR	DQACTV
(1)	002034	012737	000001 001216	MOV	#1, TEMP1
(1)	002042	052737	000001 001500	BIS	#BIT0, DQACTV
(1)	002050	005305		DEC	R5
(1)	002052	001403		BEQ	D0
(1)	002054	006137	001500	ROL	DQACTV
(1)	002060	000765		BR	165
(1)	002062	013737	001500 001502	MOV	DQACTV, SAVACT
(1)	002070	104400		TYPE	
(1)	002072	004100		MINFO	
(1)	002074	104405		CONVERT	
(1)	002076	004752		XNUM	
(2)	002100	104401		INSTR	
(2)	002102	003552		MVECTOR	
(2)	002104	104403		PARAM	
(2)	002106	000300		300	
(2)	002110	000770		770	
(2)	002112	001266		DQAVEC	
(2)	002114	001	.BYTE	1	
(2)	002115	001	.BYTE	1	
(2)	002116	104401		INSTR	
(2)	002120	003574		MREGAD	
(2)	002122	104403		PARAM	
(2)	002124	160000		160000	
(2)	002126	164000		164000	

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Line	Address	Instruction	Comments	Label	Operation
(2)	002130	001270			DORCSR
(2)	002132	001			1
(2)	002134	001			1
(1)	002134	013722	001270		MOV DORCSR, (R2)+
(1)	002140	042737	177000	001266	BIC #177000, DORVEC
(1)	002146	013712	001266		MOV DORVEC, (R2)
(2)	002150	104401			INSTR
(2)	002154	004325			MBA
(2)	002158	104406			SETFLG
(2)	002166	001274			BAFLG
(1)	002166	105737	001274		TSTB BAFLG
(1)	002166	001402			BEQ 15
(1)	002170	052712	010000		BIS #BIT12, (R2)
(1)	002174	000240		15:	NOP
(2)	002176	104401			INSTR
(2)	002200	004273			MAX
(2)	002202	104406			SETFLG
(2)	002204	001276			000FLG
(1)	002206	105737	001276		TSTB 000FLG
(1)	002212	001402			BEQ 25
(1)	002214	052712	001000		BIS #BIT9, (R2)
(1)	002220	000240		25:	NOP
(2)	002222	104401			INSTR
(2)	002224	004206			MAB
(2)	002226	104406			SETFLG
(2)	002230	001302			ABFLG
(1)	002232	105737	001302		TSTB ABFLG
(1)	002236	001402			BEQ 35
(1)	002240	052712	002000		BIS #BIT10, (R2)
(1)	002244	000240		35:	NOP
(2)	002246	104401			INSTR
(2)	002250	004363			MBB
(2)	002252	104406			SETFLG
(2)	002254	001303			BBFLG
(1)	002256	105737	001303		TSTB BBFLG
(1)	002262	001402			BEQ 45
(1)	002264	052712	020000		BIS #BIT13, (R2)
(1)	002270	000240		45:	NOP
(2)	002272	104401			INSTR
(2)	002274	004464			MACTV
(2)	002276	104406			SETFLG
(2)	002300	001275			ACTFLG
(1)	002302	105737	001275		TSTB ACTFLG
(1)	002306	001402			BEQ 55
(1)	002310	052712	004000		BIS #BIT11, (R2)
(1)	002314	000240		55:	NOP
(2)	002316	104401			INSTR
(2)	002320	004421			MJUMP
(2)	002322	104406			SETFLG
(2)	002324	001300			JUMFLG
(1)	002326	105737	001300		TSTB JUMFLG
(1)	002332	001402			BEQ 65
(1)	002334	052712	040000		BIS #BIT14, (R2)
(1)	002340	000240		65:	NOP
(2)	002342	104401			INSTR
(2)	002344	004553			MSYNC

(2)	002346	104406			SETFLG	
(2)	002350	001277			SYNFLG	
(1)	002352	105737	001277		TSTB	SYNFLG
(1)	002356	001402			BEQ	7S
(1)	002360	052712	100000		BIS	#BIT15, (R2)
(1)	002364			7S:		
(1)	002364	023737	001216	001504	CMP	TEMP1, DQNUM
(1)	002372	001405			BEQ	ENDPA
(1)	002374	005237	001216		INC	TEMP1
(1)	002400	005722			TST	(R2)+
(1)	002402	000137	002062		JMP	DO
(1)	002406	104400			ENDPA:	TYPE
(1)	002410	004633			MTHNK	
(1)	002412	000000			HALT	
(1)	002414	000137	000200		JMP	200
(2)						
(2)						
(2)						
(2)	002420	017605	000000		.TYPE:	MOV 0(SP), R5
(2)	002424	062716	000002		ADD	#2, (SP)
(2)	002430	105715			1S:	TSTB (R5)
(2)	002432	001406			BEQ	3S
(2)	002434	105777	176544		2S:	TSTB @TPCSR
(2)	002440	100375			BPL	2S
(2)	002442	112577	176540		MOVB	(R5)+, @TPDBR
(2)	002446	000770			BR	1S
(2)	002450	000002			3S:	RTI
(2)						
(2)						
(2)						
(2)						
(2)						
(2)	002452	017637	000000	002466	.INSTR:	MOV 0(SP), MSG
(2)	002460	062716	000002		ADD	#2, (SP)
(2)	002464	104400			.INST1:	TYPE
(2)	002466	000000			.MSG:	0
(2)	002470	012704	004760		MOV	@INBUF, R4
(2)	002474	012703	000007		MOV	#7, R3
(2)	002500	105777	176474		1S:	TSTB @TKCSR
(2)	002504	100375			BPL	1S
(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	2S:	MOVB @TKDBR, @TPDBR
(2)	002532	105777	176446		TSTB	@TPCSR
(2)	002536	100375			BPL	2S
(2)	002540	005303			DEC	R3
(2)	002542	001356			BNE	1S
(2)	002544	104400			.INSTE:	TYPE
(2)	002546	003630			MOVM	
(2)	002550	000745			BR	.INST1
(2)	002552	000002			INSTR2:	RTI
(2)						
(2)						
(2)						
(2)						
(2)						
(2)						
(2)						
(2)	002554	011605			.PARAM:	MOV (SP), R5
(2)	002556	012537	002730		MOV	(R5)+, LOLIM

; CONVERT ASCII STRING TO OCTAL


```

(2) 002562 012537 002732
(2) 002566 012537 002734
(2) 002572 112537 002736
(2) 002576 112537 002737
(2) 002602 010516
(2) 002604 005005
(2) 002606 012704 004760
(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) 002664 020537 002732
(2) 002670 101373
(2) 002672 020537 002730
(2) 002676 103770
(2) 002700 133705 002736
(2) 002704 001365
(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 002737
(2)
(2)
(2) 002740 104400
(2) 002742 003634
(2) 002744 017601 000000
(2) 002750 062716 000002
(2) 002754 012137 003110
(2) 002760 112137 003112
(2) 002764 112137 003113

```

```

MOV (R5)+,HILIM
MOV (R5)+,DEVADR
MOVB (R5)+,LOBITS
MOVB (R5)+,ADRCNT
MOV R5,(SP)
PARAM1: CLR R5
MOV @INBUF,R4
CMPB #15,(R4)
BEQ PARERR
IS: CMPB (R4),#60
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 IS
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
IS: MOV DEVADR,R4
MOV R5,(R4)+
ADD #2,R5
DECB ADRCNT
BNE IS
RTI
LOLIM: 0
HILIM: 0
DEVADR: 0
LOBITS: 0
ADRCNT=LOBITS+1
;CONVERT OCTAL NUMBER TO ASCII AND OUTPUT TO TELEPRINTER
.CONVR: TYPE
MCRLF
.CHVRT: MOV @2(SP),R1
ADD #2,(SP)
MOV (R1)+,WRDCNT
IS: MOVB (R1)+,CHRCNT
MOVB (R1)+,SPACNT

```



```

(2) 003166 162716 000002 SUB      #2, (SP)          ;=PC OF TRAP
(2) 003172 017616 000000 MOV      @ (SP), (SP)    ;GET TRP
(2) 003176 006316 TRPOK:  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) 003216 010046 .PFAIL: MOV     R0, -(SP) ;SAVE R0-R5 ON PROCESSOR STACK
(2) 003220 010146 MOV     R1, -(SP)
(2) 003222 010246 MOV     R2, -(SP)
(2) 003224 010346 MOV     R3, -(SP)
(2) 003226 010446 MOV     R4, -(SP)
(2) 003230 010546 MOV     R5, -(SP)
(2) 003232 013746 000024 MOV     24, -(SP)
(2) 003236 010637 001244 MOV     SP, SAVSP      ;SAVE STACK POINTER
(2) 003242 012737 003254 000024 MOV     #RESTART, 24 ;SET UP FOR POWER UP TRAP
(2) 003250 000000 HALT                                ;HALT ON POWER DOWN NORMAL
(2) 003252 000777 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 005022 CLR      TEMP
(2) 003320 005237 005022 INC      TEMP
(2) 003324 001375 BNE
(2) 003326 104404 CONVRT
(2) 003330 003342 PFTAB
(2) 003332 104400 TYPE
(2) 003334 003637 MPFAIL
(2) 003336 000177 175646 JMP      @RETURN
(2) 003342 000001 PFTAB:  1
(2) 003344 000006 000002          6, 2
(2) 003350 000207 RETURN
(2) 003352 017436 005015 042012 MTITLE: .ASCII <35><37><15><12><12>/0011 TRIAL PROGRAM /<15><12>
(2) 003404 005015 047504 054440 .ASCII <15><12>/DO YOU PROMISE TO TELL THE TRUTH;/
(2) 003447 015 052012 042510 .ASCII <15><12>/THE WHOLE TRUTH AND NOTHING BUT/
(2) 003510 005015 044124 020105 .ASCII <15><12>/THE TRUTH SO HELP YOU PDP-11?/<15><12>
(2) 003552 005015 042526 052103 MVECTO: .ASCII <15><12>/VECTOR ADDRESS-/
(2) 003574 005015 047503 052116 MREGAD: .ASCII <15><12>/CONTROL REGISTER ADDRESS-/
(2) 003630 020040 000077 MCM: .ASCII / ?/
(2) 003634 005015 000 MCRLF: .ASCII <15><12>
(2) 003637 040 050040 053517 MPFAIL: .ASCII / POWER FAILURE, PROGRAM RESTART AT TEST IN PROGRESS/
(2) 003724 005015 000122 MR: .ASCII <15><12>/R/
(2) .EVEN
  
```


K02

TRIAL MACY11 27(732) 26-OCT-76 10:09 PAGE 24
 DZDQGA.P11 DQ11 MANUAL PARAMETER INPUT PROGRAM.

(1)	003730	005015	054524	042520	MNUM: .ASCIZ <15><12>/TYPE IN NUMBER OF DQ11'S IN SYSTEM.(INPUT OCTAL NUMBERS)0
(1)	004033	015	044412	053116	MERR1: .ASCIZ <15><12>/INVALID ANSWER PLEASE INPUT AGAIN!/ /
(1)	004100	005015	050012	042514	MINFO: .ASCIZ <15><12><12>/PLEASE SUPPLY THE INFORMATION FOR DQ11 NUMBER: /
(1)	004163	015	042012	020117	MVRC: .ASCIZ <15><12>/DO YOU HAVE VRC?/ /
(1)	004206	005015	051511	040440	MAB: .ASCIZ <15><12>/IS AB OPTION INSTALLED?/ /
(1)	004240	005015	051511	053040	MCA: .ASCIZ <15><12>/IS VRC OPTION INSTALLED?/ /
(1)	004273	015	044412	020123	MAX: .ASCIZ <15><12>/IS VRC SET FOR ODD VRC?/ /
(1)	004325	015	044412	020123	MBA: .ASCIZ <15><12>/IS THE BA OPTION INSTALLED?/ /
(1)	004363	015	044412	020123	MAB: .ASCIZ <15><12>/IS THE BB OPTION INSTALLED?/ /
(1)	004421	015	044412	020123	MJUMP: .ASCIZ <15><12>/IS THE TEST JUMPER ON THE CABLE?/ /
(1)	004464	005015	044527	046114	MACTV: .ASCIZ <15><12>/WILL DQ11 GO ACTIVE ON THE FIRST NON-SYNC CHARACTER?/ /
(1)	004553	015	044412	020123	MSYNC: .ASCIZ <15><12>/IS THE DQ11 JUMPERED FOR TWO SYNC CHARACTERS?/ /
(1)	004633	015	005012	044124	MTHNK: .ASCII <15><12><12>/THANK YOU FOR THE INFORMATION./
(1)	004674	005015	054412	052517	.ASCIZ <15><12><12>/YOU MAY NOW PROCEED WITH THE DIAGNOSTICS./
(1)		004752			.EVEN
(1)	004752	000001			XNUM: 1
(1)	004754	002	002		.BYTE 2,2
(1)	004756	001216			TEMP1
(2)					;BUFFERS FOR INPUT-OUTPUT
(2)					
(2)	004760	000000			INBUF: 0
(2)		005022			=.+40
(2)	005022	000000			TEMP: 0
(2)		005064			=.+40
(2)	005064	000000			MDATA: 0
(2)		005126			=.+40
(2)		000001	03300		.END

TRIAL MACY11 27(732) 26-OCT-76 10:09 PAGE 26
 DZDAGA.P11 CROSS REFERENCE TABLE -- USER SYMBOLS

ABFLG	001302	18
ACTFLG	001275	18
ADRCNT=	002737	18*
BAFLG	001274	18
BBFLG	001303	18
BINWRD	003114	18*
BIT0	= 000001	18
BIT1	= 000002	18
BIT10	= 002000	18
BIT11	= 004000	18
BIT12	= 010000	18
BIT13	= 020000	18
BIT14	= 040000	18
BIT15	= 100000	18
BIT2	= 000004	18
BIT3	= 000010	18
BIT4	= 000020	18
BIT5	= 000040	18
BIT6	= 000100	18
BIT7	= 000200	18
BIT8	= 000400	18
BIT9	= 001000	18
CAFLG	001301	18
CHRCNT	003112	18*
CLEAR	001624	18
CNVERT=	104405	18
CONVRT=	104404	18
DEVADR	002734	18*
DO	002052	18
DQACTV	001500	18*
DQCR00	001400	18
DQCR01	001404	18
DQCR02	001410	18
DQCR03	001414	18
DQCR04	001420	18
DQCR05	001424	18
DQCR06	001430	18
DQCR07	001434	18
DQCR10	001440	18
DQCR11	001444	18
DQCR12	001450	18
DQCR13	001454	18
DQCR14	001460	18
DQCR15	001464	18
DQCR16	001470	18
DQCR17	001474	18
DQCSR	001506	18
DQNUM	001504	18*
DQCSR	001270	18
DQVEC	001266	18*
DQSTAT	001510	18
DQST00	001402	18
DQST01	001406	18
DQST02	001412	18
DQST03	001416	18
DQST04	001422	18

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 DZDQGA.P11 CROSS REFERENCE TABLE -- USER SYMBOLS

DOST05	001426	10
DOST06	001432	10
DOST07	001436	10
DOST10	001442	10
DOST11	001446	10
DOST12	001452	10
DOST13	001456	10
DOST14	001462	10
DOST15	001466	10
DOST16	001472	10
DOST17	001476	10
ENDPA	002406	10
HILIM	002732	10*
INBUF	004760	10
INSTR=	104402	10
INSTR =	104401	10
INSTR2	002552	10
JMPFLG	001304	10
JUNFLG	001300	10
LIGHTS=	177570	10
LIMITS	002664	10
LOBITS	002736	10*
LOLIM	002730	10*
MAB	004206	10
MACTV	004464	10
MAX	004273	10
MBA	004325	10
MBB	004363	10
MCA	004240	10
MCRLF	003634	10
MDATA	005064	10
MERR1	004033	10
MINFO	004100	10
MJUMP	004421	10
MNUM	003730	10
MPFAIL	003637	10
MGM	003630	10
MR	003724	10
MREGAD	003574	10
MSYNC	004553	10
MTHNK	004633	10
MTITLE	003352	10
MVECTO	003552	10
MVRC	004163	10
NEXT	001212	10
ODDFLG	001276	10
PARAM =	104403	10
PARAM1	002604	10
PARERR	002660	10
PC =	000007	10
PFTAB	003342	10
POPPO =	012600	10
POP1SP=	005726	10
POP2SP=	022626	10
PS =	177776	10*
PUSHRO=	010046	10

PUSH15=	005746	10
PUSH25=	024646	10
RESTAR	003254	10
RETURN	001210	10
R0	=X000000	10*
R1	=X000001	10*
R2	=X000002	10*
R3	=X000003	10*
R4	=X000004	10*
R5	=X000005	10*
SAVACT	001502	10*
SAVPC	001246	10
SAVR0	001230	10
SAVR1	001232	10
SAVR2	001234	10
SAVR3	001236	10
SAVR4	001240	10
SAVR5	001242	10
SAVSP	001244	10*
SETFLG=	104406	10
SP	=X000006	10*
SPACNT=	003113	10*
STACK	= 001200	10
SMR	= 177570	10
SYNFLG	001277	10
TEMP	005022	10*
TEMP1	001216	10*
TEMP2	001220	10
TEMP3	001222	10
TEMP4	001224	10
TEMP5	001226	10
TKCSR	001200	10
TKDBR	001202	10
TPCSR	001204	10
TPDBR	001206	10*
TRPOK	003176	10
TSTNO	001214	10
TYPE	= 104400	10
VRCFLG	001272	10
WRDCNT	003110	10*
XNUM	004752	10
SY	= 000007	10
.	= 005126	10
.CNVRT	002744	10
.CONVR	002740	10
.INSTE	002544	10
.INSTR	002452	10
.INST1	002464	10
.MSG	002466	10*
.PARAM	002554	10
.PFAIL	003216	10
.SETFL	003116	10
.START	001600	10
.TRPSR	003164	10
.TRPTA	001250	10
.TYPE	002420	10

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DZDGA.P11 CROSS REFERENCE TABLE -- MACRO NAMES

COMMEN	10
DOEND	10
DOFRNT	10
ENDCOM	10
ESCAPE	10
GETPRI	10
GETSWR	10
HLT	10
MULT	10
NEWST	10
POP	10
PUSH	10
REPORT	10
SETPRI	10
SETUP	10
SKIP	10
SLASH	10
STARS	10
SSGU	10
TYPBIN	10
TYPDEC	10
TYPNAM	10
TYPNUM	10
TYPPCS	10
TYPCT	10
TYPTXT	10
SEUFFE	10
SCATCH	10
SCONVR	10
SETEL	10
SETPA	10
SEADE	10
SINSTR	10
SMSC	10
SPARM	10
SPAIL	10
SETEL	10
SETEV	10
ESTART	10
ESYMB	10
STRAPS	10
STRPDE	10
STRPSR	10
STYPE	10
SVARIA	10
SESCA	10
SEMENT	10
SESKIP	10
.EQUAT	10
.HEADE	10
.KTL	10
.SETUP	10
.SWHI	10
.SACT1	10
.SAPT8	10
.SAPTH	10

.SPTY	18
.SASTA	18
.SCATC	18
.SCHTA	18
.SOB2D	18
.SOB2D	18
.SDIV	18
.SEOP	18
.SERRO	18
.SERRT	18
.SHULT	18
.SPOME	18
.SRAND	18
.SRDFE	18
.SRDOC	18
.SREAO	18
.SR2AZ	18
.SSAVE	18
.SSB2D	18
.SSB2D	18
.SSCOP	18
.SSIZE	18
.SSUPR	18
.STRAP	18
.STYPB	18
.STYPD	18
.STYPE	18
.STYPO	18
.S40CA	18
.1170	18

ADD
ASL
ASR
BEQ
BGT
BHI
BIC
BICB
BIS
BISB
BIT
BITB
BLO
BLT
BNE
BPL
BR
BR
BR
CCC
CLR
CLRB
CMP
CMPB
DEC
DECB
ENT
HLT
INC
JMP
MOV
MOVB
NOP
RETURN
ROL
RTI
SUB
TRAP
TST
TSTB
.ASCII
.ASCIZ
.BLKH
.BYTE
.ENABL
.END
.EQUIV
.EVEN
.IRP
.LIST
.MACRO
.NLIST
.PAGE
.REH
.REPT
.SBTTL
.TITLE

E03

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DZDQGA.P11 CROSS REFERENCE TABLE -- PERMANENT SYMBOLS

ERRORS DETECTED: 0
DEFAULT GLOBALS GENERATED: 0

* DZDQGA.SEO/SOL/CRF/ML:TOC/PAGNUM=SYSMAC.CO,DZDQGA.P11
RUN-TIME: 23 26 1 SECONDS
RUN-TIME RATIO: 192/51=3.7
CORE USED: 36K (71 PAGES)

