

/  
/  
/  
/

PDP-15 SYSTEM EXERCISER  
MAINDEC-15-DAQAA-A-LA  
MAINTAINER: DIAGNOSTIC GROUP  
PART 1 MONITOR

TITLE RESIDENT MONITOR FOR SYSTEM EXERCISER  
 /COPYRIGHT DIGITAL EQUIPMENT CORPORATION  
 /MAYNARD, MASS, 5-5-72 ED HILTON

```

00000 /
      ,ABS
00000 ,LOC 0
00000 /
00000 0
00001 707702 EEM
00002 040004 DAC SAVAC
00003 740040 HLT
00004 000000 SAVAC 0
  
```

```

00020 /
00020 000000 CALTRP ,LOC 20
00021 740040 XX
  
```

```

707764 EBA=707764
707702 EEM=707702
707541 DTCA=707541
707544 DTXA=707544
707545 DTLA=707545
707552 DTRA=707552
707561 DTEF=707561
707572 DTRB=707572
707601 DTDF=707601
700311 KSF=700311
700312 KRB=700312
700401 TSF=700401
700402 TCF=700402
700406 TLS=700406
001402 TYPEI=1402
000023 SRCH=23
000024 BLKNUM=24
000027 CHAR=27
  
```

```

00103 /
      ,LOC 103
/START HERE, CALL SYSTEM MONITOR,
  
```

```

00103 740000 NOP /INSERT FOR MULTICORE BOOTSTRAP
  
```

/THIS WILL BE CHANGED TO A PROGRAM COUNTER IF A MULTICORE BOOT IS USED,  
 /IF AN OLD BOOTSTRAP IS USED, THE NOP WON'T HURT ANYTHING,

```

00104 741000 SKP /SKIP OVER THE POINTER USED BY THE BOOTSTRAP
00105 000103 103 /BOOTSTRAP POINTER TO START OF SYSTST
00106 200116 LAC SYSGO+2 /THIS CODE IS NECESSARY BECAUSE
00107 040001 DAC 1 /BOOTSTRAP LOADS FROM LOCATION 100 UP TO 17777
00110 201015 LAC (040004
00111 040002 DAC 2
00112 201016 LAC (HLT
00113 040021 DAC 21
      ,EJECT
  
```

```

00114 703302  SYSGO  CAF
00115 707764      EBA
00116 707702      EEM
00117 600122      JMP      ,+3
/
/MONITOR CALL (CONTROL C)
/
00120 705514  GETMON  ISA+10      /DISABLE API SYSTEM
00121 100260      JMS      CNTRLG     /PRINT +C,
00122 705514      ISA+10
00123 100514      JMS      CRLF
00124 201017      LAC      (SYSMN=1+400000
00125 100460      JMS      TSIXBT     /SYSTST
00126 100453      JMS      TPREFX
/
/PROGRAM IS RUNNING HERE BECAUSE MONITOR IS ACTIVE
/
00127 100253  BEGIN  JMS      WAIT      /CHECK TO SEE WHAT PROGRAM IS WANTED,
00130 541020      SAD      (215)
00131 600161      JMP      BEG,4
00132 040027      DAC      CHAR
00133 541021      SAD      (203)      /CONTROL C? NOBODY SHOULD TYPE
00134 600120      JMP      GETMON     /CONTROL 'C' WITH MONITOR ALREADY ACTIVE!
00135 541022      SAD      (377)
00136 741000      SKP
00137 600144      JMP      BEG,2
00140 760334      LAW      334
00141 100522      JMS      TYPONE
00142 140027      DZM      CHAR
00143 600127      JMP      BEGIN
/
00144 541023  BEG,2  SAD      (201)
00145 741000      SKP
00146 600153      JMP      BEG,3
00147 100271      JMS      UPAROW
00150 760301      LAW      301
00151 100522  BEG,1  JMS      TYPONE
00152 600127      JMP      BEGIN
/
00153 541024  BEG,3  SAD      (204)
00154 741000      SKP
00155 600127      JMP      BEGIN
00156 100271      JMS      UPAROW
00157 760304      LAW      304
00160 600151      JMP      BEG,1
,EJECT

```

00161	100514	BEG,4	JMS	CRLF	
00162	200027		LAC	CHAR	
00163	541025		SAD	(301)	/A?
00164	741000		SKP		/PRINT USER PROGRAM CORE MAP
00165	600172		JMP	,+5	
00166	100275		JMS	RDPROG	
00167	000003	BLKA	3		
00170	777500	WCA	777500		
00171	001100		1100		
			/		
00172	541026		SAD	(314)	/L?
00173	741000		SKP		/GO TO LOADER PROGRAM
00174	600201		JMP	,+5	
00175	100275		JMS	RDPROG	
00176	000010	BLKB	10		
00177	775400	WCB	775400		
00200	001100		1100		
			/		
00201	541027		SAD	(330)	/X?
00202	741000		SKP		/EXECUTE ACTLST, IF EMPTY, GO TO CHAIN MODE
00203	600210		JMP	,+5	
00204	100275		JMS	RDPROG	
00205	000005	BLKC	5		
00206	776400	WCC	776400		
00207	001400		1400		
			/		
00210	541030		SAD	(320)	/P?
00211	741000		SKP		/MODIFY PARAMETERS OF PROGRAMS IN ACTLST
00212	600217		JMP	,+5	
00213	100275		JMS	RDPROG	
00214	000004	BLKD	4		
00215	777500	WCD	777500		
00216	001100		1100		
			/		
00217	541023		SAD	(201)	/CONTROL A?
00220	741000		SKP		/ADD PROGRAMS FROM PTR TO DT0
00221	600226		JMP	,+5	
00222	100275		JMS	RDPROG	
00223	000022	BLKE	22		
00224	776400	WCE	776400		
00225	001100		1100		
			,EJECT		

00226	541024		SAD	(204)	/CONTROL D?
00227	741000		SKP		/DELETE PROGRAMS FROM DT0
00230	600235		JMP	,+5	
00231	100275		JMS	RDPROG	
00232	000025	BLKF	25		
00233	776400	WCF	776400		
00234	001100		1100		
			/		
00235	541031		SAD	(304)	/D?
00236	741000		SKP		/LIST DIRECTORY ON TELEPRINTER
00237	600244		JMP	,+5	
00240	100275		JMS	RDPROG	
00241	000002	BLKG	2		
00242	777500	WCG	777500		
00243	001100		1100		
			/		
00244	760277		LAW	277	/UNIDENTIFIED CHARACTER
00245	100522		JMS	TYPONE	/TYPE "?"
00246	600126		JMP	BEGIN=1	
			/		
00247	100275	CHAIN	JMS	RDPROG	/CHAIN OPERATION, GET CHAIN OPERATING SYSTEM
00250	000015		15		
00251	775400		775400		
00252	001400		1400		
			/		
00253	000000	WAIT	0		
00254	700311		KSF		
00255	600254		JMP	,=1	
00256	700312		KRB		
00257	620253		JMP*	WAIT	
			/		
00260	000000	CNTRLC	0		
00261	200263		LAC	,+2	
00262	040275		DAC	RDPROG	
00263	440275		ISZ	RDPROG	
00264	600263		JMP	,=1	
00265	100271		JMS	UPAROW	
00266	760303		LAW	303	
00267	100522		JMS	TYPONE	
00270	620260		JMP*	CNTRLC	
			/		
00271	000000	UPAROW	0		
00272	760336		LAW	336	
00273	100522		JMS	TYPONE	
00274	620271		JMP*	UPAROW	
			,EJECT		

00275	000000	RDPROG	Ø		
00276	140027		DZM	CHAR	
00277	220275		LAC*	RDPROG	/GET BLOCK NUMBER
00300	040024		DAC	BLKNUM	
00301	440275		ISZ	RDPROG	
00302	220275		LAC*	RDPROG	/GET WORD COUNT OF
00303	040316		DAC	READ+2	/NON-RESIDENT PROGRAM
00304	440275		ISZ	RDPROG	
00305	777777		LAW	=1	
00306	360275		TAD*	RDPROG	
00307	040317		DAC	READ+3	/CURRENT ADDRESS
00310	100314		JMS	READ	
00311	220275		LAC*	RDPROG	
00312	040275		DAC	RDPROG	
00313	620275		JMP*	RDPROG	

/
   
/DECTAPE HANDLER, PRIOR TO ENTERING; BLKNUM MUST BE
   
/LOADED WITH STARTING BLOCK NUMBER, READ/WRITE +2 IS WORD COUNT
   
/READ/WRITE +3 IS CURRENT ADDRESS =1, THEN JMS READ/WRITE
   
/ERRORS WILL BE REPORTED AS STATUS A XXXXXX STATUS B YYYYYY,
   
/EXIT TO MONITOR

00314	000000	READ	Ø		
00315	100360		JMS	SEARCH	
00316	000000		Ø		/WORD COUNT
00317	000000		Ø		/CURRENT ADDRESS =1
00320	200316		LAC	READ+2	
00321	040060		DAC	30	
00322	200317		LAC	READ+3	
00323	040061		DAC	31	
00324	201062		LAC	(013000	
00325	100360		JMS	GO	
00326	741100		SPA		
00327	600421		JMP	DTERR	
00330	707555		DTLA+10		
00331	620314		JMP*	READ	
00332	000000	WRITE	Ø		
00333	100360		JMS	SEARCH	
00334	000000		Ø		/WORD COUNT
00335	000000		Ø		/CURRENT ADDRESS=1
00336	200334		LAC	WRITE+2	
00337	040060		DAC	30	
00340	200335		LAC	WRITE+3	
00341	040061		DAC	31	
00342	201063		LAC	(015000	
00343	100360		JMS	GO	
00344	741100		SPA		
00345	600421		JMP	DTERR	
00346	707555		DTLA+10		
00347	620332		JMP*	WRITE	
			.EJECT		

```

00350 000000 GO 0
00351 707544 DTXA
00352 707573 DTEF!DTRB
00353 751000 SKP!CLA
00354 620350 JMP* GO
00355 707601 DTDF
00356 600352 JMP =4
00357 620350 JMP* GO
/
00360 000000 SEARCH 0
00361 707555 DTLA+10
00362 140030 DZM 30
00363 201034 LAC (SRCH /SET UP WORD COUNT AND CURRENT ADDRESS
00364 040031 DAC 31 /FOR SEARCHING REVERSE, NORMAL MODE,
00365 440360 ISZ SEARCH
00366 440360 ISZ SEARCH
00367 201035 LAC (061000
00370 100350 SRCHA JMS GO
00371 741100 SPA
00372 600414 JMP SRCHB /ERROR, CHECK FOR REVERSE END ZONE
00373 200023 LAC SRCH
00374 500451 AND K1777
00375 740001 CMA
00376 340024 TAD BLKNUM /GO THREE BLOCKS PAST DESIRED BLOCK
00377 341036 TAD (=2 /GOING BACKWARDS THEN TURN AROUND
00400 751100 SPA!CLA /AND SEARCH FORWARD NORMAL MODE UNTIL
00401 600370 JMP SRCHA /DESIRED BLOCK APPEARS,
00402 201037 LAC (040000 /CHANGE DIRECTION BIT
00403 100350 SRCHC JMS GO
00404 741100 SPA
00405 600421 JMP DTERR
00406 200023 LAC SRCH
00407 500451 AND K1777
00410 540024 SAD BLKNUM
00411 620360 JMP* SEARCH
00412 750000 CLA
00413 600403 JMP SRCHC
00414 501040 SRCHB AND (100000
00415 741200 SNA
00416 600421 JMP DTERR
00417 201041 LAC (060000
00420 600403 JMP SRCHC
,EJECT

```

```

00421 707552 DTERR DTRA
00422 040025 DAC 25
00423 707572 DTRB
00424 040026 DAC 26
00425 707555 DTLA+10
00426 201042 LAC (DTERA=1+400000
00427 100460 JMS TSIXBT
00430 200025 LAC 25
00431 100540 JMS PSOD
00432 201043 LAC (DTERB=1
00433 100460 JMS TSIXBT
00434 200026 LAC 26
00435 100540 JMS PSOD
00436 600122 JMP GETMON+2

```

```

/IF YOU'RE HERE, DECTAPE FOULED UP,
/GO BACK TO MONITOR,

```

```

00437 042440 DTERA ,SIXBT !DT ERR A=@!
00440 052222
00441 404001
00442 750000
00443 400275 DTERB ,SIXBT ! B=@!
00444 000000
00445 233123 SYSMN ,SIXBT !SYSTST V10@!
00446 242324
00447 402661
00450 040000
00451 001777 K1777 1777
00452 000000 K1 0

```

```

/TYPE MONITOR PREFIX CR,LF,S

```

```

00453 000000 TPREFX 0
00454 100514 JMS CRLF
00455 760244 LAW 244 /S
00456 100522 JMS TYPONE
00457 620453 JMP* TPREFX
,EJECT

```



/TYPE MESSAGES PACKED IN ,SIXBT FORMAT

```

00460 000000 TSIXBT 0
00461 745100 CLL!SPA
00462 744002 STL
00463 501044 AND (377777
00464 040010 DAC 10
00465 745400 SZL!CLL
00466 100514 JMS CRLF
00467 777775 TYPE LAW 53
00470 040540 DAC PSOD
00471 220010 LAC* 10
00472 744010 RCL
00473 100533 JMS LROT6
00474 040514 DAC CRLF
00475 501045 AND (77
00476 741200 SNA
00477 620460 JMP* TSIXBT
00500 341046 TAD (=40
00501 741102 SPA!CML
00502 600506 JMP ,+4
00503 341047 TAD (240
00504 100522 JMS TYPONE
00505 600510 JMP ,+3
00506 341050 TAD (340
00507 100522 JMS TYPONE
00510 200514 LAC CRLF
00511 440540 ISZ PSOD
00512 600473 JMP TYPE+4
00513 600467 JMP TYPE

```

/TERMINATE TYPEOUT ON ZERO CHARACTER,(0),

/SKIP IF CHARACTER &gt;37

/SKIP IF 3RD CHARACTER

/EXECUTE CARRIAGE RETURN, LINE FEED,

```

00514 000000 CRLF 0
00515 760215 LAW 215
00516 100522 JMS TYPONE
00517 760212 LAW 212
00520 100522 JMS TYPONE
00521 620514 JMP* CRLF
,EJECT

```

```

00522 000000 TYPONE 0
00523 700406 TLS
00524 700314 IORS
00525 741100 SPA
00526 601402 JMP TYPE1 /TYPE1 IS IN THE OPERATING SYSTEM
00527 700401 TSF
00530 600527 JMP I=1
00531 700402 TCF
00532 620522 JMP* TYPONE
/
/ROTATE AC SIX POSITIONS LEFT
/
00533 000000 LROT6 0
00534 742010 RTL
00535 742010 RTL
00536 742010 RTL
00537 620533 JMP* LROT6
/
00540 000000 PSOD 0
00541 040022 DAC 22
00542 777772 LAW -6
00543 040533 DAC LROT6
00544 200022 LAC 22
00545 744010 RCL
00546 740010 ROT3 RAL
00547 742010 RTL
00550 040022 DAC 22
00551 501051 AND (000007
00552 341052 TAD (260
00553 100522 JMS TYPONE
00554 200022 LAC 22
00555 440533 ISZ LROT6
00556 600546 JMP ROT3
00557 620540 JMP* PSOD
/
00560 000000 UPREFX 0 /TYPE USER PREFIX (*)
00561 100514 JMS CRLF
00562 760252 LAW 252
00563 100522 JMS TYPONE
00564 620560 JMP* UPREFX
EJECT

```

/MONITOR COMMUNICATION TABLES

/  
 /THE DIRECTORY IS 121 (DECIMAL) LOCATIONS LONG,  
 /EACH PROGRAM ENTERED WILL HAVE FOUR LOCATIONS  
 /ASSIGNED TO IT, THEY ARE TWO WORDS FOR THE TITLE  
 /IN ,SIXBT, A STARTING BLOCK NUMBER, AND THE TOTAL  
 /WORD COUNT, THIS ALLOW 30 (DECIMAL) PROGRAMS  
 /TO BE ENTERED ON TAPE,

,REPT 171

DIRECT 0

00565	000000	
00566	000000	*R
00567	000000	*R
00570	000000	*R
00571	000000	*R
00572	000000	*R
00573	000000	*R
00574	000000	*R
00575	000000	*R
00576	000000	*R
00577	000000	*R
00600	000000	*R
00601	000000	*R
00602	000000	*R
00603	000000	*R
00604	000000	*R
00605	000000	*R
00606	000000	*R
00607	000000	*R
00610	000000	*R
00611	000000	*R
00612	000000	*R
00613	000000	*R
00614	000000	*R
00615	000000	*R
00616	000000	*R
00617	000000	*R
00620	000000	*R
00621	000000	*R
00622	000000	*R
00623	000000	*R
00624	000000	*R
00625	000000	*R
00626	000000	*R
00627	000000	*R
00630	000000	*R
00631	000000	*R
00632	000000	*R
00633	000000	*R
00634	000000	*R
00635	000000	*R
00636	000000	*R
00637	000000	*R

00640	000000	*R
00641	000000	*R
00642	000000	*R
00643	000000	*R
00644	000000	*R
00645	000000	*R
00646	000000	*R
00647	000000	*R
00650	000000	*R
00651	000000	*R
00652	000000	*R
00653	000000	*R
00654	000000	*R
00655	000000	*R
00656	000000	*R
00657	000000	*R
00660	000000	*R
00661	000000	*R
00662	000000	*R
00663	000000	*R
00664	000000	*R
00665	000000	*R
00666	000000	*R
00667	000000	*R
00670	000000	*R
00671	000000	*R
00672	000000	*R
00673	000000	*R
00674	000000	*R
00675	000000	*R
00676	000000	*R
00677	000000	*R
00700	000000	*R
00701	000000	*R
00702	000000	*R
00703	000000	*R
00704	000000	*R
00705	000000	*R
00706	000000	*R
00707	000000	*R
00710	000000	*R
00711	000000	*R
00712	000000	*R
00713	000000	*R
00714	000000	*R
00715	000000	*R
00716	000000	*R
00717	000000	*R
00720	000000	*R
00721	000000	*R
00722	000000	*R
00723	000000	*R
00724	000000	*R

00725	000000	*R
00726	000000	*R
00727	000000	*R
00730	000000	*R
00731	000000	*R
00732	000000	*R
00733	000000	*R
00734	000000	*R
00735	000000	*R
00736	000000	*R
00737	000000	*R
00740	000000	*R
00741	000000	*R
00742	000000	*R
00743	000000	*R
00744	000000	*R
00745	000000	*R
00746	000000	*R
00747	000000	*R
00750	000000	*R
00751	000000	*R
00752	000000	*R
00753	000000	*R
00754	000000	*R
00755	000000	*R

.EJECT

/THE FOLLOWING IS THE SYSTEM LINK TABLE,  
 /IN THIS TABLE WILL BE THE ADDRESSES OF THE USER PROGRAMS,  
 /THE WILL BE ENTERED BY THE LOADER AND USED BY THE OPERATING  
 /SYSTEM FOR FINDING THE USER PROGRAMS,

/  
 ,REPT 37  
 SLINK 0

00756	000000	
00757	000000	*R
00760	000000	*R
00761	000000	*R
00762	000000	*R
00763	000000	*R
00764	000000	*R
00765	000000	*R
00766	000000	*R
00767	000000	*R
00770	000000	*R
00771	000000	*R
00772	000000	*R
00773	000000	*R
00774	000000	*R
00775	000000	*R
00776	000000	*R
00777	000000	*R
01000	000000	*R
01001	000000	*R
01002	000000	*R
01003	000000	*R
01004	000000	*R
01005	000000	*R
01006	000000	*R
01007	000000	*R
01010	000000	*R
01011	000000	*R
01012	000000	*R
01013	000000	*R
01014	000000	*R

,EJECT

,END SYSGO

01015	000114	
01015	040004	*L
01016	740040	*L
01017	400444	*L
01020	000215	*L
01021	000203	*L
01022	000377	*L
01023	000201	*L
01024	000204	*L
01025	000301	*L
01026	000314	*L
01027	000330	*L
01030	000320	*L
01031	000304	*L
01032	013000	*L
01033	015000	*L
01034	020023	*L
01035	061000	*L
01036	777776	*L
01037	040000	*L
01040	100000	*L
01041	060000	*L
01042	400436	*L
01043	000442	*L
01044	377777	*L
01045	000077	*L
01046	777740	*L
01047	000240	*L
01050	000340	*L
01051	000007	*L
01052	000260	*L

SIZE=01053

NO ERROR LINES

BEGIN	00127	BEG,1	00151	BEG,2	00144	BEG,3	00153
BEG,4	00161	BLKA	00167	BLKB	00176	BLKC	00205
BLKD	00214	BLKE	00223	BLKF	00232	BLKG	00241
BLKNUM	000024	CALTRP	00020	CHAIN	00247	CHAR	000027
CNTRLC	00260	CRLF	00514	DIRECT	00565	DTCA	707541
DTDF	707601	DTEF	707561	DTERA	00437	DTERB	00443
DTERR	00421	DTLA	707545	DTRA	707552	DTRB	707572
DTXA	707544	EBA	707764	EEM	707702	GETMON	00120
GO	00350	KRB	700312	KSF	700311	K1	00452
K1777	00451	LROT6	00533	PSOD	00540	RDPROG	00275
READ	00314	ROT3	00546	SAVAC	00004	SEARCH	00360
SLINK	00756	SRCH	000023	SRCHA	00370	SRCHB	00414
SRCHC	00403	SYSGO	00114	SYSTEMN	00445	TCF	700402
TLS	700406	TPREFX	00453	TSF	700401	TSIXBT	00460
TYPE	00467	TYPEI	001402	TYPQNE	00522	UPAROW	00271
UPREFX	00560	WAIT	00253	WCA	00170	WCB	00177
WCC	00206	WCD	00215	WCE	00224	WCF	00233
WCG	00242	WRITE	00332				



SAVAC	00004	CALTRP	00020	SRCH	00023	BLKNUM	00024
CHAR	00027	SYSGO	00114	GETMON	00120	BEGIN	00127
BEG,2	00144	BEG,1	00151	BEG,3	00153	BEG,4	00161
BLKA	00167	WCA	00170	BLKB	00176	WCB	00177
BLKC	00205	WCC	00206	BLKD	00214	WCD	00215
BLKE	00223	WCE	00224	BLKF	00232	WCF	00233
BLKG	00241	WCG	00242	CHAIN	00247	WAIT	00253
CNTRLC	00260	UPAROW	00271	RUPROG	00275	READ	00314
WRITE	00332	GO	00350	SEARCH	00360	SRCHA	00370
SRCHC	00403	SRCHB	00414	DTERR	00421	DTERA	00437
DTERB	00443	SYSMN	00445	K1777	00451	K1	00452
TPREFX	00453	TSIXBT	00460	TYPE	00467	CRLF	00514
TYPONE	00522	LROT6	00533	PSOD	00540	ROT3	00546
UPREFX	00560	DIRECT	00565	SLINK	00756	TYPEI	001402
KSF	700311	KRB	700312	TSF	700401	TCF	700402
TLS	700406	DTCA	707541	DTXA	707544	DTLA	707545
DTRA	707552	DTEF	707561	DTRB	707572	DTUF	707601
EEM	707702	EBA	707764				