

MAINDEC-11-D52A

RF11 DISK DATA

(DATA PORTION)

```

000001      BIT0=1
000002      BIT1=2
000004      BIT2=4
000010      BIT3=10
000020      BIT4=20
000040      BIT5=40
000100      BIT6=100
000200      BIT7=200
000400      BIT8=400
001000      BIT9=1000
002000      BIT10=2000
004000      BIT11=4000
010000      BIT12=10000
020000      BIT13=20000
040000      BIT14=40000
100000      BIT15=100000
;
;
;
104403      WRITE=TRAP+3
104407      WRCHECK=TRAP+7
104405      READ=TRAP+5

000000      ,=0
000100      ,REPT 100

```

```

0 0000 000002      HALT
0 0002 000000      HALT
0 0004 000006      HALT
0 0006 000000      HALT
0 0010 000012      HALT
0 0012 000000      HALT
0 0014 000016      HALT
0 0016 000000      HALT
0 0020 000022      HALT
0 0022 000000      HALT
0 0024 000026      HALT
0 0026 000000      HALT
0 0030 000032      HALT
0 0032 000000      HALT
0 0034 000036      HALT
0 0036 000000      HALT
0 0040 000042      HALT
0 0042 000000      HALT
0 0044 000046      HALT
0 0046 000000      HALT
0 0050 000052      HALT
0 0052 000000      HALT
0 0054 000056      HALT
0 0056 000000      HALT
0 0060 000062      HALT
0 0062 000000      HALT

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000064	000066	,+2
000066	000000	HALT
000070	000072	,+2
000072	000000	HALT
000074	000076	,+2
000076	000000	HALT
000100	000102	,+2
000102	000000	HALT
000104	000106	,+2
000106	000000	HALT
000110	000112	,+2
000112	000000	HALT
000114	000116	,+2
000116	000000	HALT
000120	000122	,+2
000122	000000	HALT
000124	000126	,+2
000126	000000	HALT
000130	000132	,+2
000132	000000	HALT
000134	000136	,+2
000136	000000	HALT
000140	000142	,+2
000142	000000	HALT
000144	000146	,+2
000146	000000	HALT
000150	000152	,+2
000152	000000	HALT
000154	000156	,+2
000156	000000	HALT
000160	000162	,+2
000162	000000	HALT
000164	000166	,+2
000166	000000	HALT
000170	000172	,+2
000172	000000	HALT
000174	000176	,+2
000176	000000	HALT
000200	000202	,+2
000202	000000	HALT
000204	000206	,+2
000206	000000	HALT
000210	000212	,+2
000212	000000	HALT
000214	000216	,+2
000216	000000	HALT
000220	000222	,+2
000222	000000	HALT
000224	000226	,+2
000226	000000	HALT
000230	000232	,+2
000232	000000	HALT
000234	000236	,+2
000236	000000	HALT
000240	000242	,+2

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000242 000000 HALT
000244 000246 ,+2
000246 000000 HALT
000250 000252 ,+2
000252 000000 HALT
000254 000256 ,+2
000256 000000 HALT
000260 000262 ,+2
000262 000000 HALT
000264 000266 ,+2
000266 000000 HALT
000270 000272 ,+2
000272 000000 HALT
000274 000276 ,+2
000276 000000 HALT
000300 000302 ,+2
000302 000000 HALT
000304 000306 ,+2
000306 000000 HALT
000310 000312 ,+2
000312 000000 HALT
000314 000316 ,+2
000316 000000 HALT
000320 000322 ,+2
000322 000000 HALT
000324 000326 ,+2
000326 000000 HALT
000330 000332 ,+2
000332 000000 HALT
000334 000336 ,+2
000336 000000 HALT
000340 000342 ,+2
000342 000000 HALT
000344 000346 ,+2
000346 000000 HALT
000350 000352 ,+2
000352 000000 HALT
000354 000356 ,+2
000356 000000 HALT
000360 000362 ,+2
000362 000000 HALT
000364 000366 ,+2
000366 000000 HALT
000370 000372 ,+2
000372 000000 HALT
000374 000376 ,+2
000376 000000 HALT
000020 000020 ,=20
000020 010626 XWAIT
000022 000000 0
000030 000030 ,=30
000030 012160 ENTRP
000032 000340 340
000034 006146 DISK
000036 000340 340

```

;BACKGROUND TEST VECTOR

;TTY VECTOR

;DISK CALLING VECTOR

000200  
00200 000167 000710  
00204 006240  
00206 000200

,=200  
JMP START  
DKINT  
200  
  
;STATIC ROUTINES  
,=300

;DISK INTERRUPT VECTOR  
;DISK PRIORITY

000300

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000600 000600      ,=600
000167 001156    JMP      ADT2      ;CHECK THAT WHEN A
;WORD IS WRITTEN IT
;DOES NOT ALTER ADJACENT
;WORDS
;
000604 000167 002076    JMP      ADT3      ;WRITE EACH WORD ADDR ON ITSELF AND
;READ BACK TO COMPARE
;
000610 000167 002446    JMP      ADT4      ;TRACK SELECTION TEST
;
000614 000167 003070    JMP      ADT5      ;LOOK AHEAD TEST
;
000620 000167 003274    JMP      SPIRAL    ;SPIRAL TEST
;
000624 000167 003640    JMP      XSPIRAL   ;SPIRAL TEST EXTENSION
;
000630 000167 004600    JMP      RANEX     ;RANDOM ADDRESS, DATA AND
;WORD COUNT TEST
;
000634 000167 007466    JMP      EXTMEN    ;WRITE/WRITE CHECK DISK WITH
;EXTENDED MEMORY
;
000640 000167 010062    JMP      PFT1      ;DISK WRITE POWER FAIL TEST
;
000644 000167 010322    JMP      PFT2      ;DISK WRITE CHECK POWER FAIL TEST
;
;***MAINTENANCE ROUTINES***
;
000650 000167 010650    JMP      SELWC     ;LOAD WORD COUNT REG,
;WITH SWITCH REGISTER
;
000654 000167 010654    JMP      SELCMA    ;LOAD CURRENT MEMORY ADDR
;REG, WITH SWITCH REGISTER
;
000660 000167 010660    JMP      SELDAR    ;LOAD DISK ADDR, REGISTER
;WITH SWITCH REGISTER
;
000664 000167 010664    JMP      SELDAE    ;LOAD DISK ADDR, EXT,

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000670 000167 010670

JMP SELDBR

); WITH SWITCH REGISTER  
);  
); LOAD DATA BUFFER REGISTER  
); WITH SWITCH REGISTER  
);

000674 000167 010674

JMP MOVLK

); MOVE CONTENTS OF LOOK  
); AHEAD REGISTER INTO DATA LIGHTS  
);

000700 000167 010702

JMP SELDCS

); LOAD DISK CONTROL REGISTER  
); WITH SWITCH REGISTER  
);

000704 000167 010746

JMP STAMP

); ENABLE READ AMPLIFIERS  
); TO TRACK SELECTED  
); FROM SWITCH REGISTER  
);  
);

);  
);  
);  
);  
);

); IRF11 DATA TEST  
); VECTORS USED IN PROGRAM  
); #1 LOC 204 DISK INTERRUPT  
); #2 LOC 30 EMT (TELETYPE OUTPUT)  
); #3 LOC 34 TRAP (DISK HANDLERS)  
); #4 LOC 14 TRACE TRAP (USED IN BACKGROUND TEST)  
); #5 LOC 20 IOT TRAP (USED IN CALLING BACKGROUND TEST)

001000

.=1000





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001106 000000  
001110 000000  
001112 000000

WORK1: 0  
WORK2: 0  
WORK3: 0

001114	005005			START:	RESET		ICLEAR THE WORLD
001116	012706	001000			MOV #1000,%6		ISET UP STACK
001122	012777	000340	177652		MOV #340,%CSR		ILOCK UP INTERRUPT LEVELS
001130	005167	177706			CLR FLAG		ICLEAR PROGRAM FLAG
001134	005067	177710			CLR TRACK		ICLEAR TRACK REGISTERS
001140	005067	177706			CLR DMA		ICLEAR DAR REGISTERS
001144	005067	177704			CLR PATNU		ICLEAR PATTEN COUNT
001150	012767	001000	177706		MOV #1000,SWRDCI		ISET UP STANDARD WORD COUNT
001156	016767	177702	177662		MOV SWRDCI,WRDCT		
001164	005777	177610			TST @SR		
001170	100405				BMI CONM		IOPERATE UNDER PROGRAM CONTROL
001172	052767	070000	177642		BIS #70000,FLAG		
001200	000167	000464			JMP ADTST		
				ENTER OPERATOR	CONVERSATION MODE		
001204	104001			CONMI	EMT +1		IASK ABOUT DATA TEST ONLY
001206	013264				CON1		
001210	004767	011234			JSR %7,ALPHA		IWAIT FOR ANSWER
001214	022767	000153	011426		CMP #153,TEXBUF		IWAIT FOR YES
001222	001003				BNE ,+10		IWAIT FOR NO
001224	052767	002000	177610		BIS #BIT10,FLAG		
001232	104001				EMT +1		
001234	013306				CON2		IWAIT FOR MULTI DISK MODE
001236	004767	011206			JSR %7,ALPHA		IWAIT FOR ANSWER
001242	022767	000153	011400		CMP #153,TEXBUF		IWAIT FOR YES
001250	001026				BNE DATTES		IWAIT FOR NOT ENTER STATIC TEST
001252	052767	004000	177562		BIS #BIT11,FLAG		IWAIT FOR SET FLAG TO ENTER STATIC TEST
001260	104001			DSKDR:	EMT +1		
001262	013326				CON3		
001264	004767	011150			JSR %7,NOCHA		
001270	102767	000001	011352		SUB #1,TEXBUF		
001276	022767	000010	011344		CMP #10,TEXBUF		
001304	101765				BLOS DSKDR		
001306	016767	011336	177562		MOV TEXBUF,DSKNOR		
001314	006167	177556			ROL DSKNOR		
001320	006167	177552			ROL DSKNOR		
001324	000420				BR ASKWC		
001326	104001			DATTES:	EMT +1		
001330	013357				CON4		IWAIT FOR UNIT NUMBER
001332	004767	011102			JSR %7,NOCHA		IWAIT FOR NO,
001336	022767	000010	011304		CMP #10,TEXBUF		IIS NO = 0>10
001344	101770				BLOS DATTES		IWAIT FOR NO
001346	000241				CLC		
001350	006167	011274			ROL TEXBUF		
001354	006167	011270			ROL TEXBUF		
001360	056767	011264	177454		BIS TEXBUF,FLAG		
001366	104001			ASKWC:	EMT +1		
001370	013370				CON5		IWAIT FOR OPTIONAL WORD COUNT
001372	004767	011052			JSR %7,ALPHA		IWAIT FOR ANSWER
001376	022767	000153	011244		CMP #153,TEXBUF		
001404	001021				BNE OPDAR		IWAIT FOR OPTIONAL DAR
001406	104001			WCCON:	EMT +1		
001410	013407				CON6		IWAIT FOR LENGTH OF WC
001412	004767	011022			JSR %7,NOCHA		
001416	005767	011226			TST TEXBUF		

001422	001771			BEQ	WCCON	
001424	022767	001001	011216	CMP	#1001,TEXBUF	IS WORD COUNT>1000
001432	101765			BLOS	WCCON	YES ASK FOR COUNT AGAIN
001434	016767	011210	177422	MOV	TEXBUF,SWRDC	OPERATING WORD COUNT
001442	016767	177416	177376	MOV	SWRDC,WRDCT	
001450	104001			OPDAR: EMT	+1	
001452	013434			CON7		ASK ABOUT OPTIONAL DAR
001454	004767	010760		JSR	X7,NOCHA	
001460	022767	004000	011162	CMP	#4000,TEXBUF	3777 MAX DAR ADDR
001466	101770			BLOS	OPDAR	
001470	016767	011154	177354	MOV	TEXBUF, DMA	TEMP DAR REGISTER

01476	104001			OPPAT:	EMT	+1	
01500	013447				CON8		ASK ABOUT DATA PATTERNS
01502	004767	010732			JSR	%7,NOCHA	
01506	022767	000023	011134		CMP	#23,TEXBUF	TEST FOR CORRECT NO
01514	101770				BLOS	OPPAT	ASK AGAIN
01516	022767	000022	011124		CMP	#22,TEXBUF	
01524	001414				BEQ	OPWRT	DATA PATTERN UNDER PROGRAM CONTROL
01526	052767	100000	177306		BIS	#BIT15,FLAG	SET PROGRAM FLAG
01534	016767	011110	177312		MOV	TEXBUF, PATNU	OPERATOR WANTS TO SELECT DATA
01542	000241				CLC		
01544	006167	177304			ROL	PATNU	
01550	042767	070000	177264		BIC	#70000,FLAG	CLEAR OP MODE BITS IN FLAG
01556	104001			OPWRT:	EMT	+1	
01560	013472				CON9		ASK ABOUT WRITE
01562	004767	010662			JSR	%7,ALPHA	
01566	022767	000153	011054		CMP	#153,TEXBUF	TEST FOR YES
01574	001003				BNE	OPWCK	ASK ABOUT WRITE CHECK
01576	052767	040000	177236		BIS	#BIT14,FLAG	YES SET FLAG BIT
01604	104001			OPWCK:	EMT	+1	
01606	013502				CON10		ASK ABOUT WRITE CHECK
01610	004767	010634			JSR	%7,ALPHA	
01614	022767	000153	011026		CMP	#153,TEXBUF	TEST FOR YES ANSWER
01622	001003				BNE	OPRD	GO ASK ABOUT READ
01624	052767	020000	177210		BIS	#BIT13,FLAG	YES SET FLAG BIT
01632	104001			OPRD:	EMT	+1	
01634	013520				CON11		ASK ABOUT READ
01636	004767	010606			JSR	%7,ALPHA	
01642	022767	000153	011000		CMP	#153,TEXBUF	TEST FOR YES ANSWER
01650	001003				BNE	CHKFLG	
01652	052767	010000	177162		BIS	#BIT12,FLAG	SET FLAG TO READ
01660	032767	070000	177154	CHKFLG:	BIT	#70000,FLAG	
01666	001733				BEQ	OPWRT	
01670	032767	004000	177144	AOTST:	BIT	#BIT11,FLAG	ARE WE IN MULTI DISK MODE
01676	001423				BEQ	EXMFLG	BRANCH IF NO,
01700	104001				EMT	+1	
01702	013204				MES11		
01704	016767	177132	010524		MOV	FLAG,ACNVX	
01712	006067	010520			ROR	ACNVX	
01716	006067	010514			ROR	ACNVX	
01722	042767	177770	010506		BIC	#177770,ACNVX	FETCH DISK #
01730	004567	010422			JSR	%5,CONV	
01734	012436				ACNVX		
01736	013216				MES12		
01740	000001				1		
01742	104001				EMT	+1	
01744	013216				MES12		
01746	032767	002000	177066	EXMFLG:	BIT	#BIT10,FLAG	TEST FOR DATA TEST ONLY
01754	001402				BEQ	,*6	DO COMPLETE TEST
01756	000167	003074			JMP	DATAT	DO DATA TEST ONLY

```

;***ADDRESS ADT2***
;
;IN THIS TEST WRITE TRACK ZERO WITH ZERO'S
;THEN WRITE ALL ONES IN AN ADDRESS
;CHECK IF WRITING ONES IN THAT ADDRESS ALTERED
;ANY OTHER ADDRESS IN THE TRACK
;FOLLOW THIS PROCEDURE FOR ADDRESSES 0 TO 3777
;
;
ADT2:  MOV     #1000,%6           ;SET UP STACK
      MOV     #2000,WRDCT       ;SET UP WORD COUNT
      MOV     #OUTBUF,BUF       ;SET UP CURRENT ADDRESS
      MOV     PATNU,SAVE
      CLR     PATNU
      CLR     TRACK
      CLR     DMA
      JSR     %5,PASEL          ;SET UP DATA BUFFER
      MOV     SAVE,PATNU
;***WRITE DISK ADDR, 0 TO 1777 WITH ZEROES ****
RFADT: BIS     #BIT8,@DCS
      WRITE
      TSTB    @DCS              ;TEST FOR READY
      BPL     ,-4
      TST     @DCS              ;TEST FOR ERROR
      BPL     RFADTX-6
      MOV     #1,ERCOUNT        ;ERROR OCCURRED
      MOV     @DCS,WORK1        ;FETCH DCS REGISTER
      MOV     @DAR,WORK
      DEC     WORK
ER1:   JSR     %5,STAER1        ;REPORT ERROR OCCURED
;***WRD1=CONTROL STATUS REG, AT THE THE TIME OF THE ERROR ****
;***WRD2=DISK ADDR, AT THE TIME OF THE ERROR ****
      BR      RFADT             ;LOOP ON ERROR
      MOV     #2000,DMA
;***WRITE DISK ADDR, 2000 TO 3777 WITH ZEROES ****
RFADTX: BIS    #BIT8,@DCS      ;CLEAR THE DISK
      WRITE
      TSTB    @DCS              ;TEST FOR READY
      BPL     ,-4
      TST     @DCS              ;TEST FOR ERROR
      BPL     RFRD-4
      MOV     @DAR,WORK
      DEC     WORK
      MOV     @DCS,WORK1        ;FETCH DCS REGISTER
      MOV     #2,ERCOUNT        ;SETUP ERROR COUNT
      JSR     %5,STAER1        ;REPORT DISK ERROR
;***WRD1=DISK CONTROL STATUS REG, AT THE TIME OF THE ERROR ****
;***WRD2=DISK ADDR, REG AT THE TIME OF THE ERROR ****
      BR      RFADTX           ;LOOP ON ERROR
      CLR     SAV1
RFRD:  CLR     SAVE

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01762	012706	001000	
01766	012767	002000	177052
01774	012767	013534	177054
02002	016767	177046	177060
02010	005067	177040	
02014	005067	177030	
02020	005067	177026	
02024	004567	005360	
02030	016767	177034	177016
02036	052777	000400	176750
02044	104403		
02046	105777	176742	
02052	100375		
02054	005777	176734	
02060	100016		
02062	012767	000001	176776
02070	017767	176720	177010
02076	017767	176720	177000
02104	005367	176774	
02110	004567	007770	
02114	000750		
02116	012767	002000	176726
02124	052777	000400	176662
02132	104403		
02134	105777	176654	
02140	100375		
02142	005777	176646	
02146	100016		
02150	017767	176646	176726
02156	005367	176722	
02162	017767	176620	176716
02170	012767	000002	176670
02176	004567	007702	
02202	000750		
02204	005067	176662	
02210	005067	176654	

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002214 012727 177777 177777 W0NWDI MOV #-1,-1
002222 012767 002220 176626 MOV #W0NWD+4,BUF
002230 012767 000001 176610 MOV #1,WRDCT
002236 016767 176630 176606 MOV SAV1,DMA
002244 052777 000400 176542 BIS #BIT8,@DCS
002252 104403 WRITE
002254 105777 176534 TSTB @DCS ;TEST FOR READY
002260 100375 BPL ,-4
002262 005777 176520 TST @DCS ;TEST FOR ERROR
002266 100014 BPL SUADB ;BRANCH IF NO CONTROL ERROR
002270 017767 176520 176610 MOV @DCS,WORK1
002276 016767 176570 176600 MOV SAV1,WORK
002304 012767 000003 176554 MOV #3,ERCOUNT ;SETUP ERROR COUNT
002312 004567 007566 ER3: JSR %5,STAER1 ;REPORT ERROR
;****WRD1=DISK CONTROL STATUS AT THE TIME OF THE ERROR****
;****WRD2=DISK ADDR, IN ERROR WHEN TRYING TO WRITE ALL ONES ****
002316 000736 BR W0NWD ;RE-WRITE WORD
002320 005767 176544 SUADB: TST SAVE
002324 001415 BEQ CHKZER
002326 022767 002000 176536 CMP #2000,SAV1
002334 101015 BHI WRCADT
002336 016700 176530 BUFINDI: MOV SAV1,%0
002342 006100 ROL %0
002344 042700 174001 BIC #174001,%0
002350 012760 177777 013534 MOV #-1,OUTBUF(0)
002356 000404 BR WRCADT
002360 022767 002000 176504 CHKZERI: CMP #2000,SAV1
002366 101363 BHI BUFINDI
002370 052777 000400 176416 WRCADTI: BIS #BIT8,@DCS
002376 012767 002000 176442 MOV #2000,WRDCT ;SETUP WORD COUNT
002404 012767 013534 176444 MOV #OUTBUF,BUF ;SETUP CURRENT ADDR
002412 016767 176452 176432 MOV SAVE,DMA ;SETUP DISK ADDRESS
002420 104407 WRCHECK
002422 105777 176366 TSTB @DCS ;CHECK FOR READY
002426 100375 BPL ,-4
002430 005777 176360 TST @DCS ;TEST FOR ERROR
002434 100030 BPL CHKBUF ;BRANCH NO DISK ERROR
002436 017767 176352 176442 MOV @DCS,WORK1
002444 016767 176422 176432 MOV SAV1,WORK
002452 005367 176426 DEC WORK
002456 012767 000004 176402 ER4: MOV #4,ERCOUNT ;SET UP ERCOUNT
002464 004567 007414 ER4: JSR %5,STAER1 ;REPORT ERROR
002470 017767 176320 007740 MOV @DAR,ACNVX ;SET UP DISK ADDR, FOR REPORT
002476 004567 007654 JSR %5,CONV
002502 012436 ACNVX
002504 013065 MES4
002506 000006 6
002510 104001 EMT +1
002512 013065 MES4
;****WRD1=DISK CONTROL STATUS REG, AT THE TIME OF THE ERROR ****
;****WRD2=DISK ADDR, IN ERROR DURING WRITE CHECK ****
;****WRD ADDR.=ADDR, WHICH CONTAINS ALL ONES ****
002514 000725 BR WRCADT

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002516 016700 176350      CHKBUFF MOV SAV1,%0
002522 006100          ROL    %0
002524 042700 174001      BIC    #174001,%0
002530 005760 013534      CLR    OUTBUF(0)
002534 005767 176330      TST    SAVE
002540 001004          BNE    ZEROAD          ;RE=WRITE ADDRESS TO ZERO
002542 012767 002000 176320  MOV    #2000,SAVE
002550 000663          BR     SUADB
002552 005067 176312      ZEROAD CLR    SAVE          ;
002556 016767 176310 176266  MOV    SAV1,QMA        ;SETUP DISK ADDRESS
002564 005027 000000      CLR    #0              ;SET UP DATA
002570 012767 002566 176260  MOV    #,-2,BUF        ;SETUP CURRENT ADDRESS
002576 012767 000001 176242  MOV    #1,WROCT        ;SETUP WORD COUNT
002604 104403          WRITE
002606 105777 176202      TSTB   @DCS            ;CHECK FOR READY
002612 100375          BPL    #-4
002614 005777 176174      TST    @DCS            ;TEST FOR ERROR
002620 100014          BPL    INADT
002622 012767 000005 176236  MOV    #5,ERCOUNT
002630 017767 176160 176250  MOV    @DCS,WORK1
002636 017767 176160 176240  MOV    @DAR,WORK
002644 004567 007234      ER5:  JSR    %5,STAER1
;****WRD1=CONTROL STATUS REG, AT THE TIME OF THE ERROR ****
;****WRD2=DISK ADDR, AT THE TIME OF THE ERROR ****
002650 000740          BR     ZEROAD          ;LOOP ON ERROR
002652 022767 003777 176212  INADTI CMP    #3777,SAV1
002660 001404          BEQ    LP2ADT          ;LAST ADDR, CHECKED
002662 005267 176204      INC    SAV1
002666 000167 177316      JMP    RFRD           ;CHECK NEXT ADDRESS
002672 032777 004000 176100  LP2ADTI BIT  #BIT11,@SR
002700 001402          BEQ    .+6
002702 000167 177054      JMP    ADT2           ;BIT 11 SET LOOP ON TEST
;
;
;

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)
)***** ADDRESS TEST *****
)
)WRITE EACH UNIQUE ADDRESS ON ITSELF FOR TRACK 0
)THEN READ IT BACK AND COMPARE FOR THE
)CORRECT DATA
)
)
002706 005067 176140 ADT3I CLR DMA ;CLEAR ACTIVE REG
002712 005067 176132 CLR TRACK
002716 005067 176162 CLR WORK
002722 005067 176160 CLR WORK1
002726 012706 001000 MOV #1000,%6 ;SETUP STACK
002732 012767 013534 176116 MOV #OUTBUF,BUF ;SET UP CURRENT ADDRESS
002740 012767 002000 176100 MOV #2000,WRDCT ;SET UP WORD COUNT
002746 012700 013534 MOV #OUTBUF,%0 ;FILL BUFFER WITH COUNT
002752 016720 176126 INADB: MOV WORK,(0)+
002756 005267 176122 INC WORK ;+1 COUNT
002762 022700 017534 CMP #OUTBUF+4000,%0
002766 001371 BNE INADB ;SET UP NEXT WORD
002770 016767 176110 176072 MOV WORK,SAVE
002776 052777 000400 176010 WRABF: BIS #BITS,@DCS ;CLEAR THE DISK WORLD
003004 104403 WRITE ;WRITE
003006 105777 176002 TSTB @DCS ;IS THE CONTROL READY
003012 100375 BPL ,-4 ;CONTROL READY
003014 005777 175774 TST @DCS ;IS THERE AN ERROR
003020 100011 BPL TFBL ;NO ERROR
003022 017767 175766 176054 MOV @DCS,WORK ;FETCH CONTENTS OF CONTROL REG
003030 012767 000006 176030 MOV #6,ERCOUNT ;SET UP ERROR COUNT
003036 004567 007002 ER6: JSR %5,STAER ;REPORT CONTROL ERROR
)*****WRD1=DISK CONTROL STATUS REG, AT THE TIME OF THE ERROR ****
003042 000755 BR WRABF ;RE-WRITE DATA
003044 016767 176020 176032 TFBL: MOV SAVE,WORK
003052 062767 002000 175772 ADD #2000,DMA
003060 022767 004000 176016 CMP #4000,WORK ;HAVE WE WRITTEN ALL OF TRACK 0
003066 001327 BNE INADB-4
003070 005067 176010 CLR WORK
003074 005067 175752 CLR DMA
003100 005067 176002 CLR WORK1
003104 052777 000400 175702 RDTON: BIS #BITS,@DCS ;CLEAR THE DISK
003112 104405 READ
003114 105777 175674 TSTB @DCS ;IS THE CONTROL READY
003120 100375 BPL ,-4 ;YES THE CONTROL IS READY
003122 005777 175666 TST @DCS ;IS THERE AN ERROR
003126 100011 BPL ADCMP ;NO ERROR
003130 012767 000007 175730 MOV #7,ERCOUNT ;SET UP ERROR COUNT
003136 017767 175652 175740 MOV @DCS,WORK ;FETCH CONTROL REG,
003144 004567 006674 ER7: JSR %5,STAER ;REPORT CONTROL ERROR
)*****WRD1=DISK CONTROL STATUS REG, AT THE TIME OF THE ERROR ****
003150 000755 BR RDTON ;RE-READ
003152 012767 013534 175710 ADCMPI MOV #OUTBUF,SAVE

```

```

003160 027767 175704 175720 CMPNEXI CMP @SAVE,WORK1 ;IS THE ADDRESS CORRECT
003166 001410 BEQ INCCMP ;COMPARE NEXT WORD
003170 017767 175674 175706 MOV @SAVE,WORK ;FETCH LOAD ADDRESS
003176 012767 000010 175662 MOV #10,ERCOUNT ;SET UP ERROR COUNT
003204 004567 006674 ER10I JSR %5,STAER1 ;REPORT COMPARISON ERROR
;****WRD1=DISK ADDR, WANTED ****
;****WRD2=DISK ADDR, RECEIVED ****
003210 062767 000002 175652 INCCMPI ADD #2,SAVE
003216 005267 175664 INC WORK1
003222 022767 017534 175640 CMP #OUTBUF*4000,SAVE ;IS IT THE LAST ADDR INBUF
003230 001353 BNE CMPNEX ;COMPARE NEXT WORD
003232 022767 004000 175646 CMP #4000,WORK1 ;IS IT THE LAST ADDR, OF TRACK
003240 001404 BEQ LPADT3
003242 062767 002000 175602 ADD #2000,DMA ;SET UP FOR NEXT BUFFER
003250 000715 BR RDTDN ;GO READ BUFFER
003252 032777 004000 175520 LPADT3I BIT #BIT11,@SR ;LOOP ON TEST?
003260 001212 BNE ADT3 ;YES BIT 11 SET IN SR
;
;
;
;
;RF11 TRACK SELECTION TEST
;
;WRITE THE FIRST AND LAST ADDRESS OF EACH TRACK
;WITH THE OCTAL VALUE OF EACH TRACK
;BITS 0 THRU 6 EQUAL THE TRACK NUMBER
;BIT 15 RESET EQUALS ADDR 0 OF THE TRACK
;BIT 15 SET EQUALS ADDR 3777 OF THE TRACK
;
;AFTER WRITING THE DISK READ EACH ADDRESS
;AND COMPARE DATA FOR THE CORRECT VALUE
;
003262 005067 175564 ADT4I CLR DMA ;CLEAR WORK REGISTERS
003266 005067 175556 CLR TRACK
003272 005067 010236 CLR OUTBUF
003276 012706 001000 MOV #1000,%6 ;SETUP STACK
003302 052777 004000 175504 BIS #BIT8,@DCS ;CLEAR THE DISK WORLD
003310 012767 013534 175540 MOV #OUTBUF,BUF ;SET CURRENT ADDRESS
003316 012767 000001 175522 MOV #1,WRDCT ;SET UP WORD COUNT
003324 104403 INSWTI WRITE ;GO WRITE
003326 105777 175462 TSTB @DCS ;IS READY SET
003332 100375 BPL , -4 ;YES! WAIT FOR NOT BUSY
003334 005777 175454 TST @DCS ;TEST FOR ERROR
003340 100011 BPL TSTTK ;NO ERROR GO ON
003342 012767 000011 175516 MOV #11,ERCOUNT ;SET UP ERROR COUNT
003350 017767 175440 175526 MOV @DCS,WORK ;REPORT CONTENTS OF DCS REG
003356 004567 006462 ER11I JSR %5,STAER ;REPORT ERROR OCCURRED
;****WRD1=DISK CONTROL STATUS REG, AT THE TIME OF THE ERROR ****
003362 000760 BR INSWT ;GO RE-WRITE
003364 022767 100177 010142 TSTTKI CMP #100177,OUTBUF ;TEST FOR LAST ADDR,
003372 001427 BEQ INSRD ;GO READ THE DATA
003374 032767 100000 010132 BIT #BIT15,OUTBUF ;IS IT ADDR ZERO
003402 001007 BNE MVNEM ;NO

```

003404	052767	100000	010122		BIS	#BIT15,OUTBUF	YES! SET UP FOR LAST ADDR
003412	062767	003777	175432		ADD	#3777,DMA	SET UP FOR LAST ADDR
003420	000741				BR	INSWT	GO WRITE
003422	042767	100000	010104	MVNEM1	BIC	#BIT15,OUTBUF	SET UP FOR ADDR ZERO
003430	005267	010100			INC	OUTBUF	INC, TO NEXT TRACK
003434	062767	000001	175410		ADD	#1,DMA	INC, BAR
003442	103330				BCC	INSWT	GO WRITE NO CARRY TO DAE
003444	005267	175400			INC	TRACK	INC, DAE REG,
003450	000725				BR	INSWT	GO WRITE

]  
 IREAD THE FIRST AND LAST ADDRESS OF EACH TRACK  
 IAND VERIFY IT HAS THE CORRECT DATA

003452	005067	175374		INSRD:	CLR	DMA		ICLEAR WORK REG.
003456	005067	175366			CLR	TRACK		
003462	005067	175402			CLR	SAVE		
003466	052777	000400	175320		BIS	#BIT8,@DCS		ICLEAR THE DISK WORLD
003474	012767	015534	175354		MOV	#INBUF,BUF		ISET UP CURRENT ADDR
003502	012767	000001	175336		MOV	#1,WROCT		ISET UP WORD COUNT
003510	104405			RDTKS:	READ			IREAD DATA
003512	105777	175276			TSTB	@DCS		ICHECK FOR READY
003516	100375				BPL	,-4		ICONTROL NOT READY
003520	005777	175270			TST	@DCS		IS THERE AN ERROR
003524	100011				BPL	CMPDTK		INO ERROR
003526	012767	000012	175332		MOV	#12,ERCOUNT		ISET UP ERROR COUNT
003534	017767	175254	175342		MOV	@DCS,WORK		IFETCH CONTENTS OF DCS
003542	004567	006276		ER12:	JSR	%5,STAER		IREPORT CONTROL ERROR
								I****WRD1=DISK CONTROL STATUS REG. AT THE TIME OF THE ERROR ****
003546	000760				BR	RDTKS		IJO RE=READ
003550	026767	175314	011756	CMPDTK:	CMP	SAVE,INBUF		IS DATA CORRECT
003556	001413				BEQ	CMNETK		IYES SETUP FOR NEXT WORD
003560	016767	175304	175320		MOV	SAVE,WORK1		ICORRECT ADDRESS
003566	016767	011742	175310		MOV	INBUF,WORK		INCORRECT DATA
003574	012767	000013	175264		MOV	#13,ERCOUNT		ISET UP ERROR COUNT
003602	004567	006276		ER13:	JSR	%5,STAER1		IREPORT SELECTION ERROR
								I****WRD1=TRACK ADDR. WANTED ****
								I****WRD2=TRACK ADDR. RECEIVED ****
003606	022767	100177	175254	CMNETK:	CMP	#100177,SAVE		IS IT THE LAST ADDR
003614	001427				BEQ	LPTSK		IEND OF TEST
003616	032767	100000	175244		BIT	#BIT15,SAVE		IS IT ADDR 0 OF THE TRACK
003624	001414				BEQ	ZRBIT		INO! SETUP FOR LAST ADDR
003626	042767	100000	175234		BIC	#BIT15,SAVE		ISET UP FOR ADDR ZERO
003634	005267	175230			INC	SAVE		INC FOR TRACK NO.
003640	062767	000001	175204		ADD	#1,DMA		ISET UP DAR
003646	103320				BCC	RDTKS		IGO READ NEXT TRACK ADDR
003650	005267	175174			INC	TRACK		INC TRACK
003654	000715				BR	RDTKS		IGO READ
003656	052767	100000	175204	ZRBIT:	BIS	#BIT15,SAVE		ISET UP FOR LAST ADDR
003664	062767	003777	175160		ADD	#3777,DMA		ISET UP FOR LAST WORD
003672	000706				BR	RDTKS		IGO READ LAST ADDR OF TK
003674	032777	014000	175076	LPTSK:	BIT	#BIT11,@SR		IS BIT 11 SET IN SR
003702	001402				BEQ	,+6		IYES LOOP ON TEST
003704	000167	177352			JMP	ADT4		

```

;
;RF11 LOOK AHEAD TEST
;WRITE ONE WORD UPON RECEIPT OF
;NOT READY READ THE LOOK AHEAD
;REGISTER IT SHOULD CONTAIN THE
;ADDRESS +1
;
003710 005067 175130 ADT5: CLR DMA ;CLEAR REGISTERS
003714 005067 175130 CLR TRACK
003720 005067 175144 CLR SAVE
003724 012706 001000 MOV #1000,X6 ;SETUP STACK
003730 012767 000001 175110 MOV #1,WRDCT ;SET UP FOR ONE WORD X-FER
003736 012767 013534 175112 MOV #OUTBUF,BUF ;SET UP CURRENT ADDRESS
003744 052777 000400 175042 WRADT5: BIS #BIT0,@DCS ;CLEAR THE DISK
003752 104403 WRITE ;WRITE
003754 017767 175052 175122 MOV @ADS,WORK ;FETCH LOOK AHEAD
003762 105777 175026 TSTB @DCS ;IS THE CONTROL BUSY
003766 100372 BPL .-12 ;CONTROL STILL BUSY
003770 005777 175020 TST @DCS ;IS THERE AN ERROR
003774 100011 BPL LPADT5 ;NO DISK ERRORS
003776 012767 000014 175062 MOV #14,ERCOUNT ;SET UP ERROR COUNT
004004 017767 175004 175072 MOV @DCS,WORK ;FETCH DCS FOR REPORT
004012 004567 006026 ER14: JSR X5,STAER ;REPROT CONTROL ERROR
;****WRD1=DISK CONTROL REG AT THE TIME OF THE ERROR ****
004016 000752 BR WRADT5 ;LOOP ON ERROR
004020 016767 175020 175060 LPADT5: MOV DMA,WORK1 ;IS LOOK AHEAD CORRECT
004026 026767 175054 175050 CMP WORK1,WORK
004034 001416 BEQ INCADS ;LOOK AHEAD OK
004036 005367 175042 DEC WORK ;COMPARE FOR ADDRESS+1
004042 026767 175040 175034 CMP WORK1,WORK
004050 001410 BEQ INCADS ;BRANCH IF EQUAL
004052 005267 175026 INC WORK
004056 012767 000015 175002 MOV #15,ERCOUNT
004064 004567 006014 ER15: JSR X5,STAER1 ;REPORT LOOK AHEAD INCORRECT
;****WRD1=DISK ADDR, WANTED FROM LOOK AHEAD REG, ****
;****WRD2=DISK ADDR, RECEIVED FROM DISK LOOK AHEAD REG, ****
004070 000725 BR WRADT5 ;LOOP ON ERROR
004072 022767 003777 174752 INCADS: CMP #3777,DMA ;IS IT THE LAST ADDR.
004100 001403 BEQ XLPADT5 ;LAST ADDRESS EXIT
004102 005267 174744 INC DMA ;+1 DMA
004106 000716 BR WRADT5 ;CHECK NEXT ADDRESS
004110 032777 004000 174662 XLPADT5: BIT #BIT11,@SR ;LOOP ON TEST
004116 001274 BNE ADT5 ;YES LOOP ON TEST BIT 11 SET

```

SPIRAL TESTS

WRITE THE LAST WORD OF TRACK ZERO  
 AND THE FIRST WORD OF TRACK ONE  
 USING ONE WORD X-PERS  
 DATE = 52525

```

004120 052777 000400 174666 SPIRAL1 BIS #BIT8,DCS ;CLEAR THE DISK
004126 012777 000340 174646 MOV #340,DCSR ;LOCK UP PROCESSING
004134 012706 001000 MOV #1000,%6 ;SETUP STACK
004140 012767 000001 174700 MOV #1,WRDCT ;SET WORD COUNT TO 1
004146 005067 174676 CLR TRACK
004152 012767 003777 174672 MOV #3777,DMA ;LAST WORD OF TRACK ZERO
004160 012767 052525 007346 MOV #52525,OUTBUF ;SET UP DATA
004166 012767 013534 174662 MOV #OUTBUF,BUF
004174 104403 WRITE ;WRITE LAST ADDR TK ZERO
004176 015777 174612 TSTB @DCS ;TEST FOR READY
004202 100375 BPL ,-4 ;CONTROL STILL BUSY
004204 005777 174604 TST @DCS
004210 100011 BPL SPIL1
004212 012767 000016 174646 MOV #16,ERCOUNT
004220 017767 174570 174656 MOV @DCS,WORK
004226 004567 005612 ER161 JSR %5,STAER
;****WRD1=DISK CONTROL STATUS REG. AT THE TIME OF THE ERROR ****
004232 000732 BR SPIRAL
004234 005267 174612 SPIL1: INC DMA
004240 104403 WRITE ;WRITE FIRST ADDR, TK 1
004242 015777 174546 TSTB @DCS ;WAIT FOR READY
004246 100375 BPL ,-4 ;CONTROL STILL BUSY
004250 005777 174540 TST @DCS
004254 100011 BPL SPIL2
004256 012767 000017 174602 MOV #17,ERCOUNT
004264 017767 174524 174612 MOV @DCS,WORK
004272 004567 005546 ER171 JSR %5,STAER
;****WRD1=DISK CONTROL STATUS REG. AT THE TIME OF THE ERROR ****
004276 000710 BR SPIRAL
004300 005267 174542 SPIL2: INC WRDCT ;SET UP FOR TWO WORD X-FER
004304 012767 003777 174540 MOV #3777,DMA ;START AT ADDR 3777
004312 012767 015534 174536 MOV #INBUF,BUF ;
004320 104405 READ ;READ DATA
004322 015777 174466 TSTB @DCS ;TEST FOR READY
004326 100375 BPL ,-4 ;CONTROL STILL BUSY
004330 005777 174460 TST @DCS
004334 100011 BPL SPIL3
004336 012767 000020 174522 MOV #20,ERCOUNT
004344 017767 174444 174532 MOV @DCS,WORK
004352 004567 005466 ER201 JSR %5,STAER
;****WRD1=DISK CONTROL STATUS REG. AT THE TIME OF THE ERROR ****
004356 000660 BR SPIRAL
004360 022767 052525 011146 SPIL3: CMP #52525,INBUF ;CMP ADDR DAR 3777
004366 001414 BEQ CMPX1 ;COMPARE SECOND WORD
004370 012767 000021 174470 MOV #21,ERCOUNT ;SETUP ERROR COUNT
004376 016767 011132 174500 MOV INBUF,WORK ;INCORRECT DATA
004404 012767 052525 174474 MOV #52525,WORK1 ;CORRECT DATA
004412 004567 005466 ER211 JSR %5,STAER1 ;REPORT ADDR 377 HAE BAD DATA
;****WRD1=THE DATA THAT SHOULD HAVE BEEN IN ADDR: 3777****
    
```

```

004416 000640          ;****WRD2=THE DATA READ FROM ADDR, 3777****
004420 022767 052525 011110 CMPX1:  BR      SPIRAL      ;LOOP ON ERROR
004426 001414          ;          #52525,INBUF+2 ;COMPARE NEXT WORD
004430 012767 000022 174430          BEQ      LPSP11     ;BRANCH IF DATA OK
004436 012767 052525 174442          MOV      #22,ERCOUNT ;SETUP ERROR COUNT
004444 016767 011066 174432          MOV      #52525,WORK1 ;CORRECT DATA
004452 004567 025426          MOV      INBUF+2,WORK ;DATA READ FROM ADDR0 TK1
ER22:  JSR      X5,STAER1  ;REPORT ERROR
;****WRD1=THE DATA THAT SHOULD BE IN ADDR, 0 OF TRACK 1 ****
;****WRD2=THE DATA READ FROMADDR,0 OF TRACK 1 ****
004456 000620          BR      SPIRAL      ;LOOP ON ERROR
004460 032777 004000 174312 LPSP11: BIT      #BIT11,*SR ;LOOP ON TEST?
004466 001214          BNE     SPIRAL      ;YES BIT 11 SET IN SR

```





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004736 104405  
004740 105777 174050  
004744 100375  
004746 005777 174042  
004752 100011  
004754 012767 000026 174104  
004762 017767 174026 174114  
004770 004567 005050

ER261

\*\*\*\*\*WRD1=DISK CONTROL STATUS REG. AT THE TIME OF THE ERROR \*\*\*\*  
BR XSPIRAL

READ  
TSTB @DCS  
BPL .-4  
TST @DCS  
BPL X4SPIL  
MOV #26,ERCOUNT  
MOV @DCS,WORK  
JSR X5,STAER  
BR XSPIRAL

IRREAD DATA  
ITEST FOR READY  
ICONTROL STILL BUSY  
ITEST FOR ERROR  
IBRANCH IF NO ERROR  
ISET UP ERROR COUNT  
IREPORT CONTROL REG.  
IREPORT ERROR  
ILOOP ON ERROR

004774 000635



005252	012777	000340	173522	DSKRD	MOV	#340,CSR	
005260	004567	002674			JSR	X5,ZBUF	ICLEAR BUFFER
005264	005267	173552			INC	FLAG	
005270	104505				READ	+100	IREAD * INT ENABLE
005272	032777	001000	173500		BIT	#BIT9,SR	IFIND OUT HOW TO WAIT FOR INT.
005300	001002				BNE	RDWAIT	IWAIT WITH WAIT INSTRUCTION
005302	000404				IOT		
005304	000404				BR	ELH	
005306	016777	173526	173466	RDWAIT	MOV	PRIORITY,CSR	ISET UP PRIORITY
005314	000001				WAIT		IWAIT FOR FLAG
005316	032777	010000	173454	ELHI	BIT	#BIT12,SR	
005324	001002				BNE	ADRD	
005326	004567	002314			JSR	X5,COMPARE	ICOMPARE OUTBUFFER TO INBUFFER
005332	004567	002642		ADRD	JSR	X5,OVRFLO	ITEST FOR EXTRA DATE BREAKS
005336	016767	173500	173540		MOV	FLAG,WORK	ICHECK DISK RE-READ COUNT
005344	042767	177774	173532		BIC	#177774,WORK	IDO 3 RE-READS,
005352	022767	000003	173524		CMP	#3,WORK	
005360	001334				BNE	DSKRD	IDO ANOTHER RE-READ
005362	032777	000400	173410	REHI	BIT	#BIT8,SR	
005370	001232				BNE	DATAT	
005372	004767	001440			JSR	X7,DISBUF	IGO SET UP DISK BUFFER,
005376	000642				BR	LDAT	
005400	005767	173436		MSTRI	TST	FLAG	
005404	100002				BPL	,+6	IUNDER PROGRAM CONTROL
005406	000167	000530			JMP	EXTPP	IOPERATOR SELECTED PATTERN
005412	062767	000002	173434		ADD	#2,PATNU	IINC PATTERN INDEX
005420	022767	000044	173426		CMP	#44,PATNU	
005426	001213				BNE	DATAT	I NOT LAST PATTERN EXIT
005430	005067	173420			CLR	PATNU	I LAST PATTERN EXIT

```

;
;THIS IS A RANDOM DATA, RANDOM ADDRESS
;AND RANDOM WORD COUNT
;
;WORD COUNT CAN BE EQUAL TO OR LESS THAN 1000 WORDS
;
005434 012767 177000 173440 RANEX: MOV #-1000,PASSC
005442 012706 001000 MOV #1000,X6
005446 042767 001000 173366 BIC #BIT9,FLAG
005454 012767 005742 173416 MOV #RANER,HRDR ;SET UP FOR HARD ERROR
005462 016777 173352 173312 MOV PRIORITY,CSR ;SET PRIORITY TO LEVEL 5
005470 012767 000003 173406 WRLG: MOV #3,WORK ;GENERATE RANDOM WORD
005476 012701 013534 MOV #OUTBUF,X1
005502 004567 001746 JSR X5,RANDOM
005506 042767 177000 006020 BIC #177000,OUTBUF ;MASK FOR WORD LENGTH=1K
005514 001765 BEQ WRLG
005516 016767 006012 173322 MOV #OUTBUF,WRDCT ;SET UP WORD COUNT
005524 016767 006006 173320 MOV #OUTBUF+2,DMA ;SET UP DAR
005532 066767 173310 173312 ADD WRDCT,DMA
005540 103753 BCS WRLG
005542 016767 005770 173302 MOV #OUTBUF+2,DMA
005550 042767 177774 005762 BIC #177774,OUTBUF+4
005556 016767 005756 173264 MOV #OUTBUF+4,TRACK ;SET UP DAE
005564 016767 173256 173312 MOV #WRDCT,WORK ;GENERATE RANDOM
005572 012701 013534 MOV #OUTBUF,X1 ;DATA BUFFER
005576 004567 001652 JSR X5,RANDOM
005602 012767 013534 173246 MOV #OUTBUF,BUF
005610 052777 000400 173176 BIS #BIT8,DCS ;CLEAR THE DISK
005616 104503 WRITE +100 ;WRITE DATA
005620 032777 001000 173152 BIT #BIT9,SR
005626 001002 BNE .+6
005630 000004 IOT
005632 000404 BR .+12
005634 016777 173200 173140 MOV PRIORITY,CSR
005642 000001 WAIT
005644 104507 WRCHECK +100 ;WRITE CHECK DATA
005646 032777 001000 173124 BIT #BIT9,SR
005654 001002 BNE .+6
005656 000004 IOT
005660 000404 BR .+12
005662 016777 173152 173112 MOV PRIORITY,CSR
005670 000001 WAIT
005672 012767 015534 173156 MOV #INBUF,BUF ;SET UP BUFFER
005700 004567 002254 JSR X5,ZBUF ;CLEAR BUFFER AREA
005704 104505 READ +100 ;READ DATA
005706 032777 001000 173064 BIT #BIT9,SR
005714 001002 BNE .+6
005716 000004 IOT
005720 000404 BR .+12
005722 016777 173112 173052 MOV PRIORITY,CSR
005730 000001 WAIT
005732 004567 001710 JSR X5,COMPARE ;COMPARE OUT BUFFER TO IN BUFFER
005736 004567 002236 JSR X5,OVRFLO ;TEST FOR EXTRA DATA BREAKS
005742 032767 001000 173072 RANER: BIT #BIT9,FLAG ;CHECK FOR ERROR

```

005750	001430			BEQ	EXRAX	
005752	042767	001000	173062	BIC	#BIT9,FLAG	
005760	004567	004372		JSR	X5,CONV	
005764	001052			DMA		
005766	012771			MES1		
005770	000006			6		
005772	004567	004360		JSR	X5,CONV	
005776	001050			TRACK		
006000	013005			MES1A		
006002	000002			2		
006004	004567	004340		JSR	X5,CONV	
006010	001046			WRDCT		
006012	013050			MES3		
006014	000004			4		
006016	104000			EMT+0		
006020	012755			HED6		
006022	013005			MES1A		
006024	012771			MES1		
006026	013050			MES3		
006030	177777			-1		
006032	005267	173044		EXRAX: INC	PASSC	I HAVE WE DONE IT 1000 TIMES
006036	001214			BNE	WRLC	I BRANCH IF NO
006040	032777	004000	172732	BIT	#BIT11,SR	I LOOP ON TEST
006046	001402			BEQ	.*6	I BRANCH IF YES
006050	000167	177360		JMP	RANEX	

```

;
;CHECK FOR MULTI DISK MODE
;IF IN MULTI DISK MODE REPORT "END"
;IF LAST DISK ON SYSTEM HAS BEEN
;EXERCISED.
;
;

```

006054	005067	172772		CLR	DMA	
006060	005067	172764		CLR	TRACK	
006064	032767	004000	172750	BIT	#BIT11,FLAG	;ARE WE IN MULTI DISK MODE
006072	001416			BEQ	REPOEN	;REPORT "END"
006074	016767	172742	173002	MOV	FLAG,WORK	;WHAT DISK ARE WE ON
006102	042767	177743	172774	BIC	#177743,WORK	;IF LAST DISK ON SYSTEM
006110	026767	172770	172760	CMP	WORK,OSKNOR	;REPORT END
006116	001404			BEQ	REPOEN	;REPORT "END" LAST DISK
006120	062767	000004	172714	ADD	#4,FLAG	;INC. DISK NO.
006126	000405			BR	EXTPP	;EXERCISE DISK
006130	104001			REPOENI	EMT	+1
006132	013527			END		;REPORT END OF PASS
006134	042767	000034	172700	BIC	#34,FLAG	
006142	000167	173522		EXTPPI	JMP	ADTST ;RECYCLE

```

;
;ENTER DISK HANDLER BY THE TRAP INSTRUCTION
;ARGUMENT TO TRAP INSTRUCTION IS TWO ORDER
;BYTE OF THE CONTROL REGISTER.
;
;

```

006146	016705	172654		DISKI	MOV	DBR,%5	;SET UP TO LOAD DISK REG
006152	016745	172672			MOV	TRACK,=(5)	;LOAD TRACK NUMBER
006156	016767	172660	172720		MOV	FLAG,WORK	;SET UP DISK NO.
006164	042767	177743	172712		BIC	#177743,WORK	;MASK FORM PROGRAM FLAG
006172	056715	172706			BIS	WORK,(5)	;LOAD UNIT INTO DAE
006176	016745	172650			MOV	DMA,=(5)	;LOAD WORD ADDRESS
006202	016745	172650			MOV	BUF,=(5)	;SET UP CURRENT ADDRESS
006206	016745	172634			MOV	WRDCT,=(5)	;LOAD WORD COUNT
006212	005115				COM	(5)	;SET UP TWO'S COMPLEMENT
006214	005215				INC	(5)	
006216	011604				MOV	(6),%4	
006220	014467	172660			MOV	=(4),WORK	
006224	042767	177600	172652		BIC	#177600,WORK	;MASK FUNCTION BITS
006232	016745	172646			MOV	WORK,=(5)	;LOAD FUNCTION REG.
006236	000002				RTI		;RETURN FROM TRAP

```

;
;
;
;
;
;
;
;
;
;
;RF11 DISK INTERRUPT HANDLER
;ROUTINE CONTINUES ON ERRORS
;
;

```

006240	042777	000020	172534	DKINTI	BIC	#BIT4,%CSR	;CLEAR TRACE BIT
006246	005777	172542			TST	%DCS	;TEST FOR ERROR
006252	100162				BPL	INTEXT	;BRANCH IF NO ERROR
006254	052767	001000	172560		BIS	#BIT9,FLAG	;SET ERROR BIT

006262	017767	172530	172614
006270	042767	177700	172606
006276	004567	004054	
006302	001104		
006304	013005		
006306	000002		
006310	104001		
006312	012667		
006314	017767	172474	172562
006322	042767	177700	172554
006330	022767	000004	172546
006336	001015		
006340	016767	172476	172536
006346	042767	177774	172530
006354	004567	003776	
006360	001104		
006362	013221		
006364	000001		
006366	104001		
006370	013221		

MOV	0DAE,WORK	IREPORT ERROR
BIC	#177700,WORK	IMASK ADDRESS EXT, BITS,
JSR	X5,CONV	ICONVERT TO ASCII
WORK		
MES1A		
2		
EMT+1		
HED2		
MOV	0DCS,WORK	ITEST FOR READ
BIC	#177770,WORK	
CMP	#4,WORK	
BNE	DELMES	IF READING REPORT WHICH READ
MOV	FLAG,WORK	
BIC	#177774,WORK	
JSR	X5,CONV	
WORK		
MES13		
1		
EMT+1		
MES13		

```

006372 017767 172424 172504 DELMES1 MOV @DAR,WORK ;SET UP LOWER 16 BITS OF ADDR,
006400 005367 172500 DEC WORK
006404 004567 003746 JSR X5,CONV ;CONVERT TO ASCII
006410 001104 WORK
006412 012771 MES1
006414 000006 6
006416 104000 EMT+0
006420 013005 MES1A
006422 012771 MES1
006424 177777 =1
006426 017767 172362 172450 MOV @DCS,WORK ;SET UP STATUS
006434 004567 003719 JSR X5,CONV
006440 001104 WORK
006442 013015 MES2
006444 000006 6
006446 104001 EMT+1
006450 013015 MES2
006452 032777 040000 172334 BIT #BIT14,@DCS ;TEST FOR HARD ERROR
006460 001435 BEQ SOFTER ;GO AND CONTINUE SOFT ERROR
006462 017767 172336 172414 MOV @DAE,WORK ;FETCH ERROR EXT, BITS
006470 000367 172410 SWAB WORK
006474 042767 177400 172402 BIC #177400,WORK
006502 004567 003650 JSR X5,CONV ;CONVERT TO ASCII
006506 001104 WORK
006510 013031 MES2A
006512 000003 3
006514 104000 EMT+0
006516 012736 HED5A
006520 013031 MES2A
006522 177777 =1
006524 052777 000400 172262 BIS #BIT8,@DCS ;CLEAR THE DISK
006532 012706 001000 MOV #1000,X6
006536 032777 002000 172234 BIT #BIT10,@SR ;HALT ON ERROR
006544 001401 BEQ .+4
006546 000000 HALT ;YES HALT BIT 10 SET IN SR
006550 000177 172324 JMP @HRDR ;EXIT HARD ERROR
006554 005777 172236 SOFTER: TST @WC ;CHECK FOR X-FER DONE
006560 001417 BEQ INTEXT ;EXIT FROM ROUTINE
006562 032777 001000 172210 BIT #BIT9,@SR
006570 001402 BEQ .+6
006572 162716 000002 SUB #2,(6) ;X-FER NOT DONE SET UP FOR RETURN
006576 032777 002000 172174 BIT #BIT10,@SR ;HALT ON ERROR
006604 001401 BEQ .+4
006606 000000 HALT ;YES HALT BIT10 SET IN SR
006610 052777 000001 172176 BIS #BIT0,@DCS ;SET GO AND CONTINUE
006616 000002 RTI ;RETURN TO WAIT INSTR,
;
;
006620 032777 020000 172152 INTEXT: BIT #BIT13,@SR ;HALT ON COMPLETION FLAG
006626 001401 BEQ .+4
006630 000000 HALT ;YES BIT 13 SET IN SR HALT
006632 032777 001000 172140 BIT #BIT9,@SR
006640 001002 BNE .+6
006642 012706 000774 MOV #774,X6 ;RESET STACK

```



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006646 000002

RTI

EXIT

```

;
;
;
;
;ROUTINE TO SET UP DAR AND DAE
;FROM SR AND CONVERSATION
;ENTER FROM JSR %5,OPDSEL
;OPDSEL BIT #BIT7,@SR ;DOES SR CONTAIN TRACK #
006650 032777 000200 172122 BNE .+4
006656 001301 RTS %5
006660 000205 MOV @SR,WORK ;FETCH SR
006662 017767 172112 172214 ROR WORK
006670 006067 172210 ROR WORK
006674 006067 172204 ROR WORK
006700 006067 172200 ROR WORK
006704 006067 172174 ROR WORK
006710 006067 172170 ROR WORK
006714 042767 177774 172162 BIC #17774,WORK ;MASK AIGL ORDER 2 BITS
006722 016767 172156 172120 MOV WORK,TRACK
006730 017767 172044 172146 MOV @SR,WORK
006736 006167 172142 ROL WORK
006742 006167 172136 ROL WORK
006746 006167 172132 ROL WORK
006752 006167 172126 ROL WORK
006756 006167 172122 ROL WORK
006762 006167 172116 ROL WORK
006766 006167 172112 ROL WORK
006772 006167 172106 ROL WORK
006776 006167 172102 ROL WORK
007002 006167 172076 ROL WORK
007006 006167 172072 ROL WORK
007012 042767 003777 172064 BIC #003777,WORK
007020 042767 174000 172024 BIC #174000,DMA
007026 006767 172052 172016 ADD WORK,DMA ;SET UP LOWER 16 BITS OF ADDRESS
007034 000205 RTS %5 ;EXIT

```

```

ROUTINE TO SETUP DISK BUFFERS
ADD WORD COUNT TO STARTING DISK ADDRESSES
COMPARE CALCULATED ADDRESS TO TERMINATING ADDRESS
DISBUFI ADD WRDCT,DMA JADD WORD COUNT TO LOWER 16 BITS
          BCC COMDAR
          INC TRACK JOVERFLOW ADD ONE TO TRACK
          CMP DMA,@DAR JCOMPARE LOWER 16 BITS
          BEQ CMDAE
          BIS #BIT6,FLAG
          J
          CMDAE: MOV @DAE,WORK1 JFETCH EXT, ADDR BITS
          BIC #177740,WORK1 JMASK TRACK AND DISK ADDR
          MOV FLAG,WORK JSET UP DISK ADDRESS
          BIC #177743,WORK
          ADD TRACK,WORK
          BIC #177740,WORK
          CMP WORK,WORK1 JARE THEY EQUAL
          BNE ERADR JERROR IN DAE REG
          TSTB FLAG JCHECK FOR LAST DISK BUFFER
          BPL EXTCME
          CLR DMA JCLEAR LOWER 16 BITS
          CLR TRACK JCLEAR EXT, ADDR, BITS
          BIC #200,FLAG
          ADD #2,(6) JINC STOCK POINTER
          MOV SWRDCT,WRDCT
          BR EXTDR JEXIT
          EXTCME: BIC #177774,WORK1 JMASK EXT, TRACK BITS
          CMP #3,WORK1 JCOMPARE FOR LAST TRACK
          BNE AKH JNOT LAST TRACK EXIT
          MOV @DAR,WORK JFETCH LOWER 16 BITS OF ADDRESS
          ADD WRDCT,WORK JWILL DISK OVERFLOW
          BCC AKH
          BIS #200,FLAG
          MOV @DAR,WRDCT JDISK WILL OVERFLOW
          COM WRDCT JSET UP NEW WORD COUNT
          INC WRDCT JMAKE TWO'S COMP,
          AKH: MOV @DAE,TRACK
          BIC #177774,TRACK JMASK TRACK BITS
          MOV @DAR,DMA JLOWER 16 BITS OF ADDRESS
          BIT #BIT6,FLAG JREPORT ADDRESS ERROR
          BNE ,+4
          EXTDR: RTS X7 JEXIT
          ERADR: JSR X5,CONV JCONVERT DMA REG COUNT TO ASCII
          DMA
          MES1
          6
          JSR X5,CONV JCONVERT TRACK REG COUNT TO ASCII
          WORK1
          MES1A
          2
          EMT +0 JREPORT ERROR
          HED4

```

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007350	013005		
007352	012771		
007354	177777		
007356	042767	000100	171456
007364	005067	171462	
007370	005067	171454	
007374	032777	002000	171376
007402	001401		
007404	000000		
007406	000207		

MES1A	
MES1	
-1	
BIC	#BIT6,FLAG
CLR	DMA
CLR	TRACK
BIT	#BIT10,@SR
BEQ	,+4
HALT	
RTS	X7

!DISK ADDRESS ERROR RE-START PROG.  
!HALT ON ERROR  
!SWITCH 10 SET IN SR HALT



007604

.EVEN

007604 000000  
 007606 177777  
 007610 134510  
 007612 043267  
 007614 100000  
 007616 107070  
 007620 070707  
 007622 052525  
 007624 125252  
 007626 177737  
 007630 004102  
 007632 136363  
 007634 063636  
 007636 000001  
 007640 100005  
 007642 000520  
 007644 030303

IRF11 DATA PATTERNS

PAT01 0  
 PAT11 177777  
 PAT21 134510  
 PAT31 043267  
 PAT41 100000  
 PAT51 107070  
 PAT61 070707  
 PAT71 052525  
 PAT101 125252  
 PAT111 177737  
 PAT121 004102  
 PAT131 136363  
 PAT141 063636  
 PAT151 000001  
 PAT161 100005  
 PAT171 000520  
 PAT201 030303

PAT21 RANDOM DATA

DATA COMPARISON ROUTINE

IF AN ERROR OCCURS BETWEEN THE OUT-BUFFER AND  
 THE IN-BUFFER AN ERROR WILL BE REPORTED IN THE  
 FOLLOWING MANNER

DATA ERROR XX DAE XXXXXX DAR XXXXXX GOOD DATA XXXXXX BAD DATA

007646 005067 171230  
 007652 012767 013534 171210  
 007660 012767 013534 171204  
 007666 027777 171176 171176  
 007674 001016  
 007676 005267 171206  
 007702 026767 171140 171200  
 007710 001407  
 007712 062767 000002 171150  
 007720 062767 000002 171144  
 007726 000757  
 007730 000205

COMPARE CLR WORK2 WORD COUNT  
 MOV #OUTBUF,SAVE ;SET UP OUTBUFFER POINTER  
 MOV #INBUF,SAV1 ;SET UP IN BUFFER POINTER  
 WRDCMPI CMP @SAVE,@SAV1 ;COMPARE BUFFERS  
 BNE WDERR ;WORD IN ERROR  
 WRDINCI INC WORK2 ;+1 WORD COUNT  
 CMP WRDCT,WORK2 ;IS COMPLETE BUFFER CHECKED  
 BEQ ADAM ;EXIT ROUTINE  
 ADD #2,SAVE  
 ADD #2,SAV1  
 BR WRDCMP ;COMPARE NEXT WORD  
 ADAMI RTS X5 ;EXIT THIS ROUTINE

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007566 010421  
007570 005367 171310  
007574 001327  
007576 000205  
007600 000000  
007602 000000

MOV X4,(1)+  
DEC WORK  
BNE RANDOM  
EXGEN: RTS X5  
LONUM: 0  
HINUM: 0  
;  
;  
;  
;  
;  
;  
;

;HOLD HINUM FOR PROGRAM

;RETURN T PROGRAM

007732	052767	001000	171102	WDERRI	BIS	#BIT9,FLAG	ISSET ERROR BIT
007740	016767	171106	171136		MOV	DMA,WORK	IFETCH STARTING DISK ADDR
007746	016767	171076	171132		MOV	TRACK,WORK1	
007754	066767	171130	171122		ADD	WORK2,WORK	ICALCULATE FAILING ADDR
007762	103002				BCC	,+6	ISHOULD DAE BE INCREMENTED
007764	005267	171116			INC	WORK1	
007770	016767	171046	171114		MOV	FLAG,WORK3	
007776	042767	177743	171106		BIC	#177743,WORK3	
010004	056767	171102	171074		BIS	WORK3,WORK1	
010012	004567	002340			JSR	X5,CONV	ICONVERT WORD ADDR TO ASCII
010016	001104				WORK		
010020	012771				MES1		
010022	000006				6		
010024	004567	002326			JSR	X5,CONV	ICONVERT TRACK ADDR TO ASCII
010030	001106				WORK1		
010032	013005				MES1A		
010034	000002				2		
010036	017767	171026	171040		MOV	@SAVE,WORK	IFETCH GOOD DATA
010044	004567	002300			JSR	X5,CONV	ICONVERT GOOD DATA TO ASCII
010050	001104				WORK		
010052	013106				MES5		
010054	000006				6		
010056	017767	171010	171020		MOV	@SAV1,WORK	IFETCH BAD DATA
010064	004567	002260			JSR	X5,CONV	ICONVERT TO ASCII
010070	001104				WORK		
010072	013126				MES6		
010074	000006				6		
010076	016767	170740	171000		MOV	FLAG,WORK	IWHICH READ THE
010104	042767	177774	170772		BIC	#177774,WORK	IERROR OCCURRED ON
010112	004567	002240			JSR	X5,CONV	
010116	001104				WORK		
010120	013221				MES13		
010122	000001				1		
010124	104000				EMT	+0	IPRINT MESSAGE
010126	012654				HED1		
010130	013221				MES13		
010132	013005				MES1A		
010134	012771				MES1		
010136	013106				MES5		
010140	013126				MES6		
010142	177777				-1		
010144	032777	002000	170626		BIT	#BIT10,@SR	IHALT ON ERROR
010152	001401				BEQ	,+4	IYES HALT BIT 10 SET IN SR
010154	000000				HALT		IGO COMPARE NEXT WORD
010156	000647				BR	WRDINC	

;  
;  
;  
;  
;  
;  
;



```

)
;ROUTINE TO ZERO DATA INPUT BUFFER
;ZERO BUFFER BEFORE READING
)
)
010160 012704 015534 ZBUF1 MOV #INBUF,%4 ;FETCH START OF INBUFFER
010164 020427 017534 NZUF1 CMP %4,#INBUF+2000 ;IS THE ROUTINE COMPLETE
010170 001001 BNE CLEAR ;ZERO NEXT WORD
010172 000205 RTS %5 ;EXIT ROUTINE
010174 005024 CLEAR1 CLR (4)+ ;CLEAR THE WORD
010176 000772 BR NZUF
)
)
)
)
;ROUTINE TO TEST FOR ADDITIONAL DATA TRANSFERS
;ANY DATA TRANSFERRED AFTER WORD COUNT OVERFLOW IS AN ERROR
)
)
010200 016704 170642 OVRFL01 MOV WRDCT,%4 ;ADD WORD COUNT
010204 006104 ROL %4
010206 062704 015534 CHWRD1 ADD #INBUF,%4
010212 020427 017534 CHWRD1 CMP %4,#INBUF+2000 ;IS TEST COMPLETE
010216 001001 BNE CKNEX ;CHECK NEXT WORD
010220 000205 RTS %5 ;TEST IS COMPLETE
010222 005724 CKNEX1 TST (4)+ ;TEST FOR ZERO WORD
010224 001772 BEQ CHWRD ;WORD IS ZERO
010226 052767 001000 170606 BIS #BIT9,FLAG ;SET ERROR BIT
010234 010467 002176 MOV %4,ACNVX
010240 162767 000002 002170 SUB #2,ACNVX
010246 004567 002104 JSR %5,CONV ;CONVERT 1 OCTAL TO ASCII
010252 012436 ACNVX ;ADDRESS
010254 013065 MES4
010256 000006 6
010260 010467 002152 MOV %4,ACNVX
010264 162767 000002 002144 SUB #2,ACNVX
010272 017767 002140 002136 MOV @ACNVX,ACNVX
010300 004567 012052 JSR %5,CONV ;CONVERT OCTAL TO ASCII
010304 012436 ACNVX ;DATA
010306 013126 MES6
010310 000006 6
010312 104000 EMT +0 ;CALL TYPE OUT ROUTINE
010314 012704 HED3
010316 013065 MES4
010320 013126 MES6
010322 177777 =1
010324 000732 BR CHWRD ;FETCH NEXT WORD
)
)
)
)
)

```

EXTENDED MEMORY EXERCISER  
 THE PROGRAM DETERMINES HOW MUCH MEMORY  
 IS ON THE SYSTEM THEN IT  
 GENERATES A RANDOM BUFFER THAT SIZE  
 AND WRITES AND WRITE CHECKS THE DATA

```

010326 052777 000400 170460 EXTMEN: BIS #BIT8,@DCS ;CLEAR THE DISK
010334 012777 000340 170440 MOV #340,@CSR ;LOCK UP PRIORITY LEVELS
010342 012706 001000 MOV #1000,%6
010346 012767 010420 167430 MOV #MAXREF,4 ;SET UP I/O BUS TRAP
010354 012767 000340 167424 MOV #340,6
010362 012767 017446 170500 MOV #17446,SAVE ;SET UP FOR 4K
010370 005777 170474 EXREF: TST @SAVE ;REFERENCE MEMORY
010374 022767 177446 170466 CMP #177446,SAVE ;TEST FOR GREATER THAN 28K
010402 001002 BNE ,+6 ;BRANCH IF LESS THAN 32K
010404 000400 HALT
010406 000404 BR MAXREF ;LAST REFERENCE MADE TO I/O REG.
010410 002767 020000 170452 ADD #20000,SAVE ;SET UP FOR NEXT MEMORY REF.
010416 000764 BR EXREF ;GO REFERENCE MEMORY
    
```

ENTER HERE WHEN I/O BUS ERROR OCCURS

```

010420 012767 000006 167356 MAXREF: MOV #6,4 ;RESTORE I/O BUS TRAP
010426 005167 167354 CLR 6
010432 012706 001000 MOV #1000,%6
010436 162767 020000 170424 SUB #20000,SAVE ;
010444 162767 013534 170416 SUB #OUTBUF,SAVE ;SET UP NEW WORD COUNT
010452 016767 170412 170404 MOV SAVE,SWRDCT
010460 006467 170400 ROR SWRDCT
010464 016767 170374 170354 MOV SWRDCT,WRDCT
010472 012777 000200 170302 MOV #BIT7,@CSR ;SET UP PRIORITY LEVEL
010500 012767 010516 170372 MOV #NEWBUF,HRDR ;SET UP FOR HARD ERROR
010506 005167 170340 CLR DMA
010512 005067 170332 CLR TRACK
010516 016767 170324 170360 NEWBUF: MOV WRDCT,WORK ;SET UP FOR RANDOM BUFFER
010524 012701 013534 MOV #OUTBUF,%1
010530 004567 176720 JSR %5,RANDOM ;NEW DATA BUFFER GENERATED
010534 012767 013534 170314 MOV #OUTBUF,BUF
010542 104503 WRITE+100 ;WRITE BUFFER
010544 052777 001000 170226 BIT #BIT9,@SR
010552 001002 BNE ,+6
010554 000404 IOT
010556 000404 BR ,+12
010560 016777 170254 170214 MOV PRIORITY,@CSR
010566 000001 WAIT
010570 104507 WRCHECK+100 ;WRITE CHECK DATA
010572 032777 001000 170200 BIT #BIT9,@SR
010600 001002 BNE ,+6
010602 000404 IOT
010604 000404 BR ,+12
010606 016777 170226 170166 MOV PRIORITY,@CSR
010614 000001 WAIT
010616 004767 176214 JSR %7,DISBUF ;SET UP NEW DISK BUFFER
010622 000735 BR NEWBUF ;GO WRITE NEW BUFFER
    
```

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010624 000730

BR NEWBUF-10

DISK COMPLETE START AGAIN

```

;
;BACKGROUND TEST FOR INTERRUPTS
;
010626 012767 010724 167160 XWAIT: MOV #RTIX,14 ;SET UP TRACE TRAP
010634 005067 167156 CLR 16
010640 012767 177000 170226 MOV #-1000,PASS ;SET UP TIME BASE
010646 052777 000020 170126 BIS #BIT4,%CSR ;SET TRACE BIT
010654 005027 000000 CLR #0
010660 005267 177772 XINCW: INC XINCW-2
010664 105767 177766 TSTB XINCW-2
010670 100373 BPL XINCW
010672 005267 170176 INC PASS
010676 001401 BEQ ,+4
010700 000765 BR XINCW-4
;REPORT BACKGROUND TEST TIMED OUT
010702 012777 000340 170072 MOV #340,%CSR
010710 042777 000020 170064 BIC #BIT4,%CSR ;CLEAR TRACE BIT
010716 104001 EMT+1
010720 013231 TIMO
010722 000000 HALT
;
010724 000002 RTIX: RTI

```

```

;RF11 POWER FAIL TEST "1
;   DISK ZERO
;   WRITE COMPLETE DISK WITH 125252 PATTERN
;   REPORT "OK"
;START WRITING THE SAME PATTERN
;WHEN POWER FAIL OCCURS ABORT TRANSFER
;SETUP NEW ENTRY POINT AND HALT
;
;POWER UP AND WRITE CHECK THE DISK FOR ERRORS
;
;***ONLY ONE ERROR IS CONSIDERED ACCEPTABLE***
;
;

```

010726	012706	001000		PFT1:	MOV	#1000,%6	;SET UP STACK
010732	004767	000404			JSR	X7,POWFAL	;WRITE 125252 ON DISK
010736	052777	000400	170050	PFWAT:	BIS	#BIT8,@DCS	;CLEAR DISK
010744	005067	170102			CLR	DMA	
010750	005067	170074			CLR	TRACK	
010754	012767	010736	170116		MOV	#PFWAT,HRDER	;SET UP FOR HARD ERROR
010762	012767	011120	167034		MOV	#DOWN,24	;SET UP POWER FAIL VEC.
010770	012767	000340	167030		MOV	#340,26	
010776	104503			MYBYWR:	WRITE	+100	
011000	032777	001000	167772		BIT	#BIT9,@SR	
011006	001002				BNE	,*6	
011010	000404				IOT		
011012	000404				BR	,*12	
011014	016777	170020	167760		MOV	PRIORITY,@CSR	
011022	000001				WAIT		
011024	004767	176006			JSR	X7,DISBUF	;SET UP NEW DISK BUFFER
011030	000762				BR	MYBYWR	
011032	000741				BR	PFWAT	

```

;ROUTINE TO CHECK DATA AFTER POWER FAIL
;
UPCHKI: BIS #BIT8,@DCS ;CLEAR THE DISK
        CLR DMA
        CLR TRACK
        MOV #UPCHK,HRDER ;SET UP FOR HARD ERROR
CHKDAT: WRCHECK +100
        BIT #BIT9,@SR
        BNE ,*6
        IOT
        BR ,*12
        MOV PRIORITY,@CSR
        WAIT
        JSR X7,DISBUF ;SET UP NEW DISK BUFFER
        BR CHKDAT
        JMP PFWAT ;GO WAIT FOR ANOTHER
                    ;POWER FAIL

```

```

;
;POWER DOWN ROUTINE
;ABORT DISK AND HALT
;
;
011120 052777 000400 167666 DOWNI BIS #BIT8,@DCS ;ABORT DISK
011126 012767 011130 166670 MOV #UP,24 ;SET POWER FAIL VECTOR
011134 000000 HALT
;
011136 012767 011120 166660 UP! MOV #DOWN,24
011144 012706 001000 MOV #1000,%6
011150 012767 177324 167726 MOV #-300,WORK ;SET UP TWENTY SECOND TIMER
011156 000005 TIMCNT! RESET
011160 05267 167720 INC WORK ;*1 TIMER
011164 001374 BNE TIMCNT! ;TWO SECONDS NOT UP GO WAIT
011166 000167 177642 JMP UPCHK ;GO CHECK DISK
;
;
;
;
;POWER FAIL TEST #2
;DISK ZERO
;WRITE COMPLETE DISK WITH 125252 PATTERN
;REPORT "OK"
;WRITE CHECK DISK AND WAIT FOR POWER FAIL
;WHEN POWER COMES BACK WRITE CHECK DISK AGAIN
;AND CHECK FOR ERRORS
;***NO ERRORS SHOULD OCCUR,***
;
;DO NOT CREATE ANOTHER POWER FAIL UNTIL
;THE ADDRESS REGISTER HAS COMPLETELY CYCLED
;THROUGH,
;
011172 012706 001000 PFT2! MOV #1000,%6 ;SET UP STACK
011176 004767 000140 JSR %7,POWFAL ;WRITE 125252 ON DISK
011202 005067 167644 PWRFL! CLR DMA
011206 005067 167630 CLR TRACK
011212 012767 011202 167660 MOV #PWRFL,HRDR ;SET UP HARD ERROR
011220 012767 011272 166576 MOV #PWRDN,24 ;SET UP POWER FAIL VEC.
011226 012767 000340 166572 MOV #340,26
011234 104507 CHKDSK! WRCHECK +100
011236 032777 001000 167534 BIT #BIT9,@SR
011244 001002 BNE .*6
011246 000004 IOT ;WAIT IN BACKGROUND
011250 000404 BR ,*12
011252 016777 167562 167522 MOV PRIORITY,@CSR
011260 000001 WAIT
011262 004767 175550 JSR %7,DISBUF ;CHECK NEXT BUFFER
011266 000762 BR CHKDSK
011270 000744 BR PWRFL

```

```

)
;ROUTINE TO ABORT DISK DURING POWER FAIL
)
011272 052777 000400 167514 PWRDN: BIS #BIT8,@DCS ;CLEAR THE DISK
011300 012767 011310 166516 MOV #PWRUP,24 ;SET UP RESTART
011306 000000 HALT

)
011310 012767 011272 166506 PWRUP: MOV #PWRDN,24 ;RESET POWER FAIL VECTOR
011316 012706 001000 MOV #1000,%6
011322 012767 177324 167554 MOV #-300,WORK ;SET UP TWENTY SECOND TIMER
011330 000005 XTIMCNT: RESET
011332 005267 167540 INC WORK ;+1 TIMER
011336 001374 BNE XTIMCNT ;TWO SECONDS NOT UP GO WAIT
011340 000720 BR PWRFL ;GO CHECK DISK

)
)
)
)
;ROUTINE TO WRITE THE COMPLETE DISK
;WITH 125252 PATTERN
;WRITE CHECK AND REPORT ERRORS IF THEY
;OCCUR
;REPORT "OK" AT COMPLETION
011342 052777 000400 167444 POWFAL: BIS #BIT8,@DCS ;CLEAR THE DISK
011350 011667 167526 MOV (6),PASSC
011354 012706 001000 MOV #1000,%6
011360 012767 000020 167466 MOV #20,PATNU ;SET UP PATTERN
011366 005567 167460 CLR DMA
011372 005067 167452 CLR TRACK
011376 012767 002000 167460 MOV #2000,SWRDCT ;SETUP WORD COUNT
011404 016767 167454 167434 MOV SWRDCT,WRDCT
011412 004567 175772 JSR %5,PASEL ;GENERATE DATA BUFFER
011416 012767 013534 167432 MOV #OUTBUF,BUF ;SET UP CURRENT ADDRESS
011424 012767 011342 167446 MOV #POWFAL,HRDR
011432 104503 WRDNW: WRITE +100
011434 032777 001000 167336 BIT #BIT9,@SR ;CHECK ON HOW TO WAIT
011442 001002 BNE .+6
011444 000004 IOT ;BACKGROUND TEST
011446 000404 BR .+12
011450 016777 167364 167324 MOV PRIORITY,@CSR
011456 000001 WAIT
011460 104507 WRCHECK +100
011462 032777 001000 167310 BIT #BIT9,@SR ;
011470 001002 BNE .+6
011472 000004 IOT
011474 000404 BR .+12
011476 016777 167336 167276 MOV PRIORITY,@CSR
011504 000001 WAIT
011506 004767 175324 JSR %7,DISBUF ;SET UP NEW DISK BUFFER
011512 000747 BR WRDNW ;WRITE NEW BUFFER
011514 104001 EMT +1
011516 013257 OK
011520 000177 167356 JMP @PASSC

```







```

;
;ROUTINE TO REPORT ERROR COUNT AND CONTENTS OF ONE REGISTER
;
012044 004567 000300 STAER: JSR      %5,CONV      ;CONVERT OCTAL TO ASCII
012050 001104                WORK                ;DATA TO BE CONVERTED
012052 013152                MES10             ;ADDRESS OF MESSAGE
012054 000006                6
012056 004567 000274 JSR      %5,CONV      ;CONVERT OCTAL TO ASCII
012062 001066                ERCOUNT          ;ERROR COUNT TO BE CONVERTED
012064 012740                HED5             ;ADDRESS OF MESSAGE
012066 000003                3
012070 104000                EMT      +0      ;REPORT MESSAGE
012072 012736                HED5A
012074 012740                HED5
012076 013152                MES10
012100 177777                -1
012102 000205                RTS      %5      ;EXIT ROUTINE
;
;ROUTINE TO REPORT ERROR COUNT AND THE CONTENTS OF TWO REGISTERS
;
;
;
012104 004567 000246 STAER1: JSR      %5,CONV      ;CONVERT OCTAL TO ASCII
012110 001104                WORK                ;DATA TO BE CONVERTED
012112 013152                MES10             ;ADDRESS OF MESSAGE
012114 000006                6
012116 004567 000234 JSR      %5,CONV      ;CONVERT OCTAL TO ASCII
012122 001106                WORK1             ;DATA TO BE CONVERT
012124 013167                MES10A           ;ADDRESS OF MESSAGE
012126 000006                6
012130 004567 000222 JSR      %5,CONV      ;CONVERT OCTAL TO ASCII
012134 001066                ERCOUNT          ;ERROR COUNT TO BE CONVERTED
012136 012740                HED5             ;ADDRESS OF MESSAGE
012140 000003                3
012142 104000                EMT      +0      ;REPORT MESSAGE
012144 012736                HED5A
012146 012740                HED5
012150 013152                MES10
012152 013167                MES10A
012154 177777                -1
012156 000205                RTS      %5      ;EXIT ROUTINE
;
;
;ROUTINE TO DECODE EMT CALLS
;EMT+1=TYPE ONE LINE OF TEXT
;EMT+0=TYPE A SERIES OF LINES
012160 011600 104001 EMTRP: MOV      (6),%0
012162 022740                CMP      #EMT+1,-(0) ;WAS THE CALL EMT+1
012166 001056                BNE     TYP        ;NO! TYPE A SERIES OF LINES OF TEXT
012170 000400                BR      TYP        ;YES TYPE ONE LINE OF TEXT

```

```

;SUBROUTINE TO OUTPUT ASCII MESSAGE ON TELETYPE PRINTER,
012172 011600          TYP1:  MOV    @%6,%0          ;GET ADDRESS THAT CONTAINS MESSAGE ADDRESS
012174 062716 000002    ADD    #2,@%6          ;SET UP EXIT,
012200 011000          MOV    @%0,%0          ;ADDRESS OF MESSAGE TO R0,
012202 112067 000114    TYP1:  MOVVB  (0)+,TYPDAT    ;GET CHARACTER
012206 122767 000100 000106  CMPB  #100,TYPDAT    ;CHECK FOR "@" CHARACTER
012214 001001          BNE    TYP1          ;CRANCH IF NOT "@",
012216 000002          RTI                    ;TERMINATOR CHAR. DONE. EXIT,
012220 122767 000045 000074  TYP1:  CMPB  #49,TYPDAT    ;CHECK FOR "%",
012226 001422          BEQ    TYP1          ;BRANCH IF "%",
012230 122767 000042 000064  CMPB  #42,TYPDAT    ;NOT "%", CHECK FOR "#",
012236 001423          BEQ    TYP1          ;BRANCH IF "#",
012240 004767 000002    JSR    %7,TYPD          ;TYPE CHAR IN TYPDAT
012244 000756          BR     TYP1
012246 032777 040000 166524  TYP1:  BIT   #BIT14,@SR
012254 001006          BNE    TYP1          ;OUTPUT CHARACTER TO PRINTER
012256 116777 000040 166520  MOVVB TYPDAT,@TPB    ;WAIT FOR DONE FLAG,
012264 105777 166520    TSTB  @TPS
012270 100375          BPL   .-4
012272 000207          TYEXIT: RTS          ;EXIT
012274 112767 000015 000020  TYP1:  MOVVB #15,TYPDAT    ;MOVE CARRIAGE RETURN CODE TO TYPDAT
012302 004767 177740    JSR    %7,TYPD          ;GO TYPE CHAR,
012306 112767 000012 000006  TYP1:  MOVVB #12,TYPDAT    ;MOVE LF CODE TO TYPDAT,
012314 004767 177726    JSR    %7,TYPD          ;GO TYPE CHAR,
012320 000730          BR     TYP1
012322 000000          TYPDAT: 0

;SUBROUTINE TO OUTPUT A SERIES OF ASCII MESSAGES ON TELETYPE PRINTER
012324 011600          TYP1:  MOV    @%6,%0          ;GET ADDRESS THAT CONTAINS MESSAGE ADDRESS
012326 062716 000002    ADD    #2,@%6          ;UPDATE TO NEXT MESSAGE ADDRESS
012332 011067 000014    MOV    @%0,TYPSB    ;ADDRESS OF MESSAGE TO TYPSB
012336 022767 177777 000006  CMP   #-1,TYPSB    ;CHECK FOR TERMINATOR
012344 001001          BNE    TYP1          ;BRANCH IF NOT TERMINATOR,
012346 000002          RTI                    ;TERMINATOR, EXIT
012350 104001          TYP1:  EMT   +1          ;CALL ON TYP SUB TO TYPE MESSAGE
012352 000000          TYP1:  0          ;ADDRESS OF MESSAGE GOES HERE
012354 000763          BR     TYP1          ;GO PROCESS NEXT MESSAGE

;
;
;
;
;OCTAL TO ASCII CONVERT ROUTINE
;
;ENTER ROUTINE AS FOLLOWS
;JSR%5,CONV
;ADDR#=ADDRESS OF NUMBER TO BE CONVERTED
;ADDR BYTE=LSB OF WHERE ASCII IS GOING
;ASCII#=THE NUMBER OF ASCII CHAR. TO BE CONVERTED
;
;
;
CONV1: MOV    @(%5)+,ACNVX    ;VALUE OF # TO BE CONVERTED
        MOV    (%5)+,%1     ;ASCII ADDR
        MOV    (%5)+,%2     ;# OF ASCII CHAR
        ADD    %2,%1

```

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012370 016703 000042          ACVNI  MOV      ACNVX,%3
012374 042703 177770          BIC      #177770,%3      ;ISOLATE LEAST SIGNIFICANT OCTAL#
012400 062703 000060          ADD      #60,%3        ;SET UP ASCII#
012404 110341          MOVB     %3,-(1)       ;STORE ASCII CHAR
012406 042767 000007 000022        BIC      #7,ACNVX
012414 006067 000016          ROR      ACNVX        ;ROTATE OCTAL#
012420 006067 000012          ROR      ACNVX
012424 006067 000006          ROR      ACNVX
012430 005302          DEC      %2          ;-1 FROM ASCII CHAR COUNT
012432 001356          BNE      ACVN
012434 000205          RTS      %5          ;EXIT # CONVERTED
012436 000000          ACNVX:  0          ;WORK REGISTER
;
;
;
;ROUTINE TO HANDLE KEYBOARD CONVERSATION
;ROUTINE ACCEPTS NUM, OR ALPHA CHARACTERS
;
012440 012767 000040 000204  NOCHA:  MOV      #40,TSTCH      ;SET UP FOR NUM, CHAR,
012446 000403          BR       TYST
012450 012767 000100 000174  ALPHA:  MOV      #100,TSTCH  ;SET UP FOR ALPHA CHAR
012456 012777 000340 166316  TYST:   MOV      #340,CSR  ;LOCK UP INTERRUPTS
012464 005067 000160          CLR      TEXTBUF      ;CLEAR TEXT BUFFER REG
012470 105777 166316          TSTFLG: TSTB     @TKS     ;CHECK FOR FLAG
012474 100375          BPL     TSTFLG
012476 017777 166304 166300        MOV      @TKB,@TPB    ;CHARACTER IN BUFFER
012504 105777 166300          TSTB     @TPS         ;ECHO CHARACTER
012510 100375          BPL     ,-4
012512 022777 000377 166266        CMP      #377,@TKB    ;CHECK FOR RUB-OUT
012520 001014          BNE     CKCH         ;EXIT IF NOT RUB-OUT
012522 104001          EMT     +1
012524 013150          MES8
012526 042767 000007 000114        BIC      #7,TEXTBUF
012534 006067 000110          ROR     TEXTBUF
012540 006067 000104          ROR     TEXTBUF
012544 006067 000100          ROR     TEXTBUF
012550 000747          BR      TSTFLG
012552 022777 000215 166226  CKCH:   CMP      #215,@TKB    ;GO WAIT FOR NEW CHAR,
012560 001001          BNE     ,+4         ;CHECK FOR CARRIAGE RETURN
012562 000207          RTS     %7         ;EXIT DELIMITER TYPED
012564 036777 000062 166214        BIT     TSTCH,@TKB
012572 001003          BNE     CHOK
012574 104 01          EMT     +1
012576 013146          MES7
012600 000733          BR      TSTFLG
012602 017767 166200 166274  CHOK:   MOV      @TKB,WORK    ;WAIT FOR CORRECT CHAR,
012610 042767 177770 166266        BIC      #177770,WORK
012616 000241          CLC
012620 006167 000024          ROL     TEXTBUF
012624 000241          CLC
012626 006167 000016          ROL     TEXTBUF
012632 000241          CLC
012634 006167 000010          ROL     TEXTBUF
012640 066767 166240 000002        ADD     WORK,TEXTBUF  ;ADD CHARACTER

```

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0111

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012646 000710

BR TSTFLG

JWAIT FOR NEW CHARACTER

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0111 PAGE 37

012650 000000  
012652 000000

TEXBUF: 0  
TSTCH: 0

;  
;  
;  
;  
;  
; ERROR MESSAGE HEADERS  
;

012654 045  
012655 104  
012656 101  
012657 124  
012660 101  
012661 040  
012662 105  
012663 122  
012664 122  
012665 040  
012666 100

;  
; ,EVEN  
HED1: ,ASCII /XDATA ERR #/

012667 045  
012670 123  
012671 124  
012672 101  
012673 124  
012674 125  
012675 123  
012676 040  
012677 105  
012700 122  
012701 122  
012702 040  
012703 100

;  
;  
HED2: ,ASCII /XSTATUS ERR #/

012704 045  
012705 105  
012706 130  
012707 124  
012710 122  
012711 101  
012712 040  
012713 102  
012714 113  
012715 123  
012716 040  
012717 100

;  
;  
HED3: ,ASCII /XEXTRA BKS #/

012720	045
012721	104
012722	113
012723	040
012724	101
012725	104
012726	104
012727	122
012730	040
012731	105
012732	122
012733	122
012734	040
012735	100

HED4: ,ASCII /XOK ADDR ERR #/

012736	045
012737	100

HED5A: ,ASCII /X#/

012740	040
012741	040
012742	040
012743	040
012744	105
012745	122
012746	122
012747	040
012750	103
012751	116
012752	124
012753	040
012754	100

HED5: ,ASCII / ERR CNT #/

012755	045
012756	122
012757	101
012760	116
012761	105
012762	130
012763	040
012764	105
012765	122
012766	122
012767	040
012770	100

HED6: ,ASCII /XRANEX ERR #/

MESSAGE TRAILERS

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0111 PAGE 37-2

012771 040  
012772 040  
012773 040  
012774 040  
012775 040  
012776 040  
012777 040  
013000 104  
013001 101  
013002 122  
013003 040  
013004 100

;  
MES1: ,ASCII / DAR \*/

013005 040  
013006 040  
013007 040  
013010 104  
013011 101  
013012 105  
013013 040  
013014 100

;  
;  
MES1A: ,ASCII / DAE \*/

013015 040  
013016 040  
013017 040  
013020 040  
013021 040  
013022 040  
013023 040  
013024 104  
013025 103  
013026 123  
013027 040  
013030 100

;  
;  
MES2: ,ASCII / DCS \*/

013031 040  
013032 040  
013033 040  
013034 040  
013035 040  
013036 040  
013037 040  
013040 110  
013041 122  
013042 104  
013043 040  
013044 105

;  
MES2A: ,ASCII / HRD ERR\*/



013045 122  
013046 122  
013047 100

)  
)  
)  
MES31 ,ASCII / WRD CNT@/

013050 040  
013051 040  
013052 040  
013053 040  
013054 040  
013055 127  
013056 122  
013057 104  
013060 040  
013061 103  
013062 116  
013063 124  
013064 100

)  
)  
)  
MES41 ,ASCII / WRD ADDR,@/

013065 040  
013066 040  
013067 040  
013070 040  
013071 040  
013072 040  
013073 040  
013074 127  
013075 122  
013076 104  
013077 040  
013100 101  
013101 104  
013102 104  
013103 122  
013104 056  
013105 100

)  
)  
)  
MES51 ,ASCII / GD DATA @/

013106 040  
013107 040  
013110 040  
013111 040  
013112 040  
013113 040  
013114 040  
013115 107  
013116 104  
013117 040  
013120 104

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013121	101
013122	124
013123	101
013124	040
013125	100

;  
;  
;

013126 040  
 013127 040  
 013130 040  
 013131 040  
 013132 040  
 013133 040  
 013134 040  
 013135 102  
 013136 104  
 013137 040  
 013140 104  
 013141 101  
 013142 124  
 013143 101  
 013144 040  
 013145 100

MES6: ,ASCII / BD DATA 0/

013146 077  
 013147 100

;  
 ;  
 ;  
 M0MES7: ,ASCII /70/

013150 057  
 013151 100

;  
 ;  
 ;  
 ;  
 MES8: ,ASCII /0/

013152 040  
 013153 040  
 013154 040  
 013155 040  
 013156 040  
 013157 040  
 013160 040  
 013161 127  
 013162 122  
 013163 104  
 013164 061  
 013165 040  
 013166 100

;  
 ;  
 MES10: ,ASCII / WRD1 0/

013167 040  
 013170 040  
 013171 040  
 013172 040  
 013173 040  
 013174 040

;  
 ;  
 MES10A: ,ASCII / WRD2 0/

013175 040  
013176 127  
013177 122  
013200 104  
013201 062  
013202 040  
013203 100

013204 045  
013205 125  
013206 116  
013207 111  
013210 124  
013211 040  
013212 116  
013213 117  
013214 056  
013215 100

;  
MES111 .ASCII /%UNIT NO,0/

013216 040  
013217 040  
013220 100

;  
;  
MES121 .ASCII / 0/

013221 040  
013222 040  
013223 122  
013224 105  
013225 101  
013226 104  
013227 040  
013230 100

;  
;  
MES131 .ASCII / READ 0/

013231 045  
013232 103  
013233 120  
013234 125  
013235 040  
013236 102  
013237 113  
013240 107  
013241 122  
013242 116  
013243 104  
013244 040  
013245 124  
013246 111  
013247 115  
013250 105

;  
;  
TIM01 .ASCII /%CPU BKGRND TIMED OUT0/

013251 104  
013252 040  
013253 117  
013254 125  
013255 124  
013256 100

013257 045  
013260 117  
013261 113  
013262 041  
013263 100

;  
;  
OK1 ,ASCII /XOK!@/

CONVERSATION TEXT

013264 045  
013265 104  
013266 101  
013267 124  
013270 101  
013271 040  
013272 124  
013273 105  
013274 123  
013275 124  
013276 040  
013277 117  
013300 116  
013301 114  
013302 131  
013303 077  
013304 040  
013305 100

;  
;  
CON1 ,ASCII /XDATA TEST ONLY? @/

013306 045  
013307 115  
013310 125  
013311 114  
013312 124  
013313 111  
013314 040  
013315 104  
013316 113  
013317 040  
013320 115  
013321 117  
013322 104

;  
;  
;  
CON2 ,ASCII /XMULTI DK MODE?@/

013323 105  
013324 077  
013325 100

013326 045  
013327 043  
013330 040  
013331 117  
013332 106  
013333 040  
013334 104  
013335 113  
013336 123  
013337 040  
013340 061  
013341 040  
013342 124  
013343 117  
013344 040  
013345 061  
013346 060  
013347 040  
013350 117  
013351 103  
013352 124  
013353 101  
013354 114  
013355 077  
013356 100

;  
;  
CON3: ,ASCII /%# OF DKS 1 TO 10 OCTAL?@/

013357 045  
013360 105  
013361 130  
013362 056  
013363 040  
013364 104  
013365 113  
013366 077  
013367 100

;  
;  
CON4: ,ASCII /%EX. DK?@/

013370 045  
013371 117  
013372 120  
013373 124  
013374 040  
013375 127  
013376 122  
013377 104  
013400 040

;  
;  
CON5: ,ASCII /%OPT WRD CNT? @/

013401 103  
013402 116  
013403 124  
013404 077  
013405 040  
013406 100

;  
;  
CON6: ,ASCII /XLENGTH (1 TO 1000)?@/

013407 045  
013410 114  
013411 105  
013412 116  
013413 107  
013414 124  
013415 110  
013416 040  
013417 050  
013420 061  
013421 040  
013422 124  
013423 117  
013424 040  
013425 061  
013426 060  
013427 060  
013430 060  
013431 051  
013432 077  
013433 100

;  
;  
CON7: ,ASCII /XWRD ADDR?@/

013434 045  
013435 127  
013436 122  
013437 104  
013440 040  
013441 101  
013442 104  
013443 104  
013444 122  
013445 077  
013446 100

;  
;  
CON8: ,ASCII /XOPT, DATA PAT, #?@/

013447 045  
013450 117  
013451 120  
013452 124  
013453 256  
013454 040  
013455 104  
013456 101

013457 124  
013460 101  
013461 040  
013462 120  
013463 101  
013464 124  
013465 056  
013466 040  
013467 043  
013470 077  
013471 100

013472 045  
013473 127  
013474 122  
013475 111  
013476 124  
013477 105  
013500 077  
013501 100

013502 045  
013503 127  
013504 122  
013505 111  
013506 124  
013507 105  
013510 040  
013511 103  
013512 110  
013513 105  
013514 103  
013515 113  
013516 077  
013517 100

013520 045  
013521 122  
013522 105  
013523 101  
013524 104  
013525 077  
013526 100

013527 045

;  
;  
CON9: ,ASCII /XWRITE?0/

;  
;  
CON10: ,ASCII /XWRITE CHECK?0/

;  
;  
CON11: ,ASCII /XREAD?0/

;  
;  
;  
END: ,ASCII /XEND0/



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013530 105  
013531 116  
013532 104  
013533 100

013534

.EVEN

;  
;  
;  
;

```

      ,MACR   OUTPUT  N
      0       ;OUTPUT DATA WORD N (DATA WRITTEN)
      ,ENDM
      N=0
      OUTBUF1 ,REPT   1000
              OUTPUT  \N
              N=N+1
              ,ENDR
              OUTPUT  \N
013534 000000 0       ;OUTPUT DATA WORD 0 (DATA WRITTEN)
      000001  N=N+1
              OUTPUT  \N
013536 000100 0       ;OUTPUT DATA WORD 1 (DATA WRITTEN)
      000102  N=N+1
              OUTPUT  \N
013540 000100 0       ;OUTPUT DATA WORD 2 (DATA WRITTEN)
      000103  N=N+1
              OUTPUT  \N
013542 000100 0       ;OUTPUT DATA WORD 3 (DATA WRITTEN)
      000104  N=N+1
              OUTPUT  \N
013544 000100 0       ;OUTPUT DATA WORD 4 (DATA WRITTEN)
      000105  N=N+1
              OUTPUT  \N
013546 000100 0       ;OUTPUT DATA WORD 5 (DATA WRITTEN)
      000106  N=N+1
              OUTPUT  \N
013550 000100 0       ;OUTPUT DATA WORD 6 (DATA WRITTEN)
      000107  N=N+1
              OUTPUT  \N
013552 000100 0       ;OUTPUT DATA WORD 7 (DATA WRITTEN)
      000110  N=N+1
              OUTPUT  \N
013554 000200 0       ;OUTPUT DATA WORD 10 (DATA WRITTEN)
      000111  N=N+1
              OUTPUT  \N
013556 000300 0       ;OUTPUT DATA WORD 11 (DATA WRITTEN)
      000112  N=N+1
              OUTPUT  \N
013560 000000 0       ;OUTPUT DATA WORD 12 (DATA WRITTEN)
      000113  N=N+1
              OUTPUT  \N
013562 000000 0       ;OUTPUT DATA WORD 13 (DATA WRITTEN)
      000114  N=N+1
              OUTPUT  \N
013564 000000 0       ;OUTPUT DATA WORD 14 (DATA WRITTEN)
      000115  N=N+1
              OUTPUT  \N
013566 000000 0       ;OUTPUT DATA WORD 15 (DATA WRITTEN)

```

	000016	N=N+1	
		OUTPUT	\N
013570	000000	0	;OUTPUT DATA WORD 16 (DATA WRITTEN)
	000017	N=N+1	
		OUTPUT	\N
013572	000000	0	;OUTPUT DATA WORD 17 (DATA WRITTEN)
	000020	N=N+1	
		OUTPUT	\N
013574	000000	0	;OUTPUT DATA WORD 20 (DATA WRITTEN)
	000021	N=N+1	
		OUTPUT	\N
013576	000000	0	;OUTPUT DATA WORD 21 (DATA WRITTEN)
	000022	N=N+1	
		OUTPUT	\N
013600	000000	0	;OUTPUT DATA WORD 22 (DATA WRITTEN)
	000023	N=N+1	
		OUTPUT	\N
013602	000000	0	;OUTPUT DATA WORD 23 (DATA WRITTEN)
	000024	N=N+1	
		OUTPUT	\N
013604	000000	0	;OUTPUT DATA WORD 24 (DATA WRITTEN)
	000025	N=N+1	
		OUTPUT	\N
013606	000000	0	;OUTPUT DATA WORD 25 (DATA WRITTEN)
	000026	N=N+1	
		OUTPUT	\N
013610	000000	0	;OUTPUT DATA WORD 26 (DATA WRITTEN)
	000027	N=N+1	
		OUTPUT	\N
013612	000000	0	;OUTPUT DATA WORD 27 (DATA WRITTEN)
	000030	N=N+1	
		OUTPUT	\N
013614	000000	0	;OUTPUT DATA WORD 30 (DATA WRITTEN)
	000031	N=N+1	
		OUTPUT	\N
013616	000000	0	;OUTPUT DATA WORD 31 (DATA WRITTEN)
	000032	N=N+1	
		OUTPUT	\N
013620	000000	0	;OUTPUT DATA WORD 32 (DATA WRITTEN)
	000033	N=N+1	
		OUTPUT	\N
013622	000000	0	;OUTPUT DATA WORD 33 (DATA WRITTEN)
	000034	N=N+1	
		OUTPUT	\N
013624	000000	0	;OUTPUT DATA WORD 34 (DATA WRITTEN)
	000035	N=N+1	
		OUTPUT	\N
013626	000000	0	;OUTPUT DATA WORD 35 (DATA WRITTEN)
	000036	N=N+1	
		OUTPUT	\N
013630	000000	0	;OUTPUT DATA WORD 36 (DATA WRITTEN)
	000037	N=N+1	
		OUTPUT	\N
013632	000000	0	;OUTPUT DATA WORD 37 (DATA WRITTEN)
	000040	N=N+1	

013634	000000 000041	OUTPUT \N 0 ;OUTPUT DATA WORD 40 (DATA WRITTEN) N=N+1
013636	000000 000042	OUTPUT \N 0 ;OUTPUT DATA WORD 41 (DATA WRITTEN) N=N+1
013640	000000 000043	OUTPUT \N 0 ;OUTPUT DATA WORD 42 (DATA WRITTEN) N=N+1
013642	000000 000044	OUTPUT \N 0 ;OUTPUT DATA WORD 43 (DATA WRITTEN) N=N+1
013644	000000 000045	OUTPUT \N 0 ;OUTPUT DATA WORD 44 (DATA WRITTEN) N=N+1
013646	000000 000046	OUTPUT \N 0 ;OUTPUT DATA WORD 45 (DATA WRITTEN) N=N+1
013650	000000 000047	OUTPUT \N 0 ;OUTPUT DATA WORD 46 (DATA WRITTEN) N=N+1
013652	000000 000050	OUTPUT \N 0 ;OUTPUT DATA WORD 47 (DATA WRITTEN) N=N+1
013654	000000 000051	OUTPUT \N 0 ;OUTPUT DATA WORD 50 (DATA WRITTEN) N=N+1
013656	000000 000052	OUTPUT \N 0 ;OUTPUT DATA WORD 51 (DATA WRITTEN) N=N+1
013660	000000 000053	OUTPUT \N 0 ;OUTPUT DATA WORD 52 (DATA WRITTEN) N=N+1
013662	000000 000054	OUTPUT \N 0 ;OUTPUT DATA WORD 53 (DATA WRITTEN) N=N+1
013664	000000 000055	OUTPUT \N 0 ;OUTPUT DATA WORD 54 (DATA WRITTEN) N=N+1
013666	000000 000056	OUTPUT \N 0 ;OUTPUT DATA WORD 55 (DATA WRITTEN) N=N+1
013670	000000 000057	OUTPUT \N 0 ;OUTPUT DATA WORD 56 (DATA WRITTEN) N=N+1
013672	000000 000060	OUTPUT \N 0 ;OUTPUT DATA WORD 57 (DATA WRITTEN) N=N+1
013674	000000 000061	OUTPUT \N 0 ;OUTPUT DATA WORD 60 (DATA WRITTEN) N=N+1
013676	000000 000062	OUTPUT \N 0 ;OUTPUT DATA WORD 61 (DATA WRITTEN) N=N+1 OUTPUT \N

013700	000000 000063	0 N=N+1 OUTPUT	\N ;OUTPUT DATA WORD 62 (DATA WRITTEN)
013702	000000 000064	0 N=N+1 OUTPUT	\N ;OUTPUT DATA WORD 63 (DATA WRITTEN)
013704	000000 000065	0 N=N+1 OUTPUT	\N ;OUTPUT DATA WORD 64 (DATA WRITTEN)
013706	000000 000066	0 N=N+1 OUTPUT	\N ;OUTPUT DATA WORD 65 (DATA WRITTEN)
013710	000000 000067	0 N=N+1 OUTPUT	\N ;OUTPUT DATA WORD 66 (DATA WRITTEN)
013712	000000 000070	0 N=N+1 OUTPUT	\N ;OUTPUT DATA WORD 67 (DATA WRITTEN)
013714	000000 000071	0 N=N+1 OUTPUT	\N ;OUTPUT DATA WORD 70 (DATA WRITTEN)
013716	000000 000072	0 N=N+1 OUTPUT	\N ;OUTPUT DATA WORD 71 (DATA WRITTEN)
013720	000000 000073	0 N=N+1 OUTPUT	\N ;OUTPUT DATA WORD 72 (DATA WRITTEN)
013722	000000 000074	0 N=N+1 OUTPUT	\N ;OUTPUT DATA WORD 73 (DATA WRITTEN)
013724	000000 000075	0 N=N+1 OUTPUT	\N ;OUTPUT DATA WORD 74 (DATA WRITTEN)
013726	000000 000076	0 N=N+1 OUTPUT	\N ;OUTPUT DATA WORD 75 (DATA WRITTEN)
013730	000000 000077	0 N=N+1 OUTPUT	\N ;OUTPUT DATA WORD 76 (DATA WRITTEN)
013732	000000 000100	0 N=N+1 OUTPUT	\N ;OUTPUT DATA WORD 77 (DATA WRITTEN)
013734	000000 000101	0 N=N+1 OUTPUT	\N ;OUTPUT DATA WORD 100 (DATA WRITTEN)
013736	000000 000102	0 N=N+1 OUTPUT	\N ;OUTPUT DATA WORD 101 (DATA WRITTEN)
013740	000000 000103	0 N=N+1 OUTPUT	\N ;OUTPUT DATA WORD 102 (DATA WRITTEN)
013742	000000 000104	0 N=N+1 OUTPUT	\N ;OUTPUT DATA WORD 103 (DATA WRITTEN)
013744	000000	0 N=N+1 OUTPUT	\N ;OUTPUT DATA WORD 104 (DATA WRITTEN)

	000105	N=N+1	
		OUTPUT	\N
013746	000000	0	OUTPUT DATA WORD 105 (DATA WRITTEN)
	000106	N=N+1	
		OUTPUT	\N
013750	000000	0	OUTPUT DATA WORD 106 (DATA WRITTEN)
	000107	N=N+1	
		OUTPUT	\N
013752	000000	0	OUTPUT DATA WORD 107 (DATA WRITTEN)
	000110	N=N+1	
		OUTPUT	\N
013754	000000	0	OUTPUT DATA WORD 110 (DATA WRITTEN)
	000111	N=N+1	
		OUTPUT	\N
013756	000000	0	OUTPUT DATA WORD 111 (DATA WRITTEN)
	000112	N=N+1	
		OUTPUT	\N
013760	000000	0	OUTPUT DATA WORD 112 (DATA WRITTEN)
	000113	N=N+1	
		OUTPUT	\N
013762	000000	0	OUTPUT DATA WORD 113 (DATA WRITTEN)
	000114	N=N+1	
		OUTPUT	\N
013764	000000	0	OUTPUT DATA WORD 114 (DATA WRITTEN)
	000115	N=N+1	
		OUTPUT	\N
013766	000000	0	OUTPUT DATA WORD 115 (DATA WRITTEN)
	000116	N=N+1	
		OUTPUT	\N
013770	000000	0	OUTPUT DATA WORD 116 (DATA WRITTEN)
	000117	N=N+1	
		OUTPUT	\N
013772	000000	0	OUTPUT DATA WORD 117 (DATA WRITTEN)
	000120	N=N+1	
		OUTPUT	\N
013774	000000	0	OUTPUT DATA WORD 120 (DATA WRITTEN)
	000121	N=N+1	
		OUTPUT	\N
013776	000000	0	OUTPUT DATA WORD 121 (DATA WRITTEN)
	000122	N=N+1	
		OUTPUT	\N
014000	000000	0	OUTPUT DATA WORD 122 (DATA WRITTEN)
	000123	N=N+1	
		OUTPUT	\N
014002	000000	0	OUTPUT DATA WORD 123 (DATA WRITTEN)
	000124	N=N+1	
		OUTPUT	\N
014004	000000	0	OUTPUT DATA WORD 124 (DATA WRITTEN)
	000125	N=N+1	
		OUTPUT	\N
014006	000000	0	OUTPUT DATA WORD 125 (DATA WRITTEN)
	000126	N=N+1	
		OUTPUT	\N
014010	000000	0	OUTPUT DATA WORD 126 (DATA WRITTEN)
	000127	N=N+1	

014012	000000 000130	OUTPUT 0	\N ;OUTPUT DATA WORD 127 (DATA WRITTEN)
014014	000000 000131	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 130 (DATA WRITTEN)
014016	000000 000132	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 131 (DATA WRITTEN)
014020	000000 000133	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 132 (DATA WRITTEN)
014022	000000 000134	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 133 (DATA WRITTEN)
014024	000000 000135	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 134 (DATA WRITTEN)
014026	000000 000136	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 135 (DATA WRITTEN)
014030	000000 000137	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 136 (DATA WRITTEN)
014032	000000 000140	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 137 (DATA WRITTEN)
014034	000000 000141	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 140 (DATA WRITTEN)
014036	000000 000142	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 141 (DATA WRITTEN)
014040	000000 000143	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 142 (DATA WRITTEN)
014042	000000 000144	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 143 (DATA WRITTEN)
014044	000000 000145	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 144 (DATA WRITTEN)
014046	000000 000146	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 145 (DATA WRITTEN)
014050	000000 000147	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 146 (DATA WRITTEN)
014052	000000 000150	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 147 (DATA WRITTEN)
014054	000000 000151	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 150 (DATA WRITTEN)

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014056	000000 000152			0 ;OUTPUT DATA WORD 151 (DATA WRITTEN) N=N+1 OUTPUT \N
014060	000000 000153			0 ;OUTPUT DATA WORD 152 (DATA WRITTEN) N=N+1 OUTPUT \N
014062	000000 000154			0 ;OUTPUT DATA WORD 153 (DATA WRITTEN) N=N+1 OUTPUT \N
014064	000000 000155			0 ;OUTPUT DATA WORD 154 (DATA WRITTEN) N=N+1 OUTPUT \N
014066	000000 000156			0 ;OUTPUT DATA WORD 155 (DATA WRITTEN) N=N+1 OUTPUT \N
014070	000000 000157			0 ;OUTPUT DATA WORD 156 (DATA WRITTEN) N=N+1 OUTPUT \N
014072	000000 000160			0 ;OUTPUT DATA WORD 157 (DATA WRITTEN) N=N+1 OUTPUT \N
014074	000000 000161			0 ;OUTPUT DATA WORD 160 (DATA WRITTEN) N=N+1 OUTPUT \N
014076	000000 000162			0 ;OUTPUT DATA WORD 161 (DATA WRITTEN) N=N+1 OUTPUT \N
014100	000000 000163			0 ;OUTPUT DATA WORD 162 (DATA WRITTEN) N=N+1 OUTPUT \N
014102	000000 000164			0 ;OUTPUT DATA WORD 163 (DATA WRITTEN) N=N+1 OUTPUT \N
014104	000000 000165			0 ;OUTPUT DATA WORD 164 (DATA WRITTEN) N=N+1 OUTPUT \N
014106	000000 000166			0 ;OUTPUT DATA WORD 165 (DATA WRITTEN) N=N+1 OUTPUT \N
014110	000000 000167			0 ;OUTPUT DATA WORD 166 (DATA WRITTEN) N=N+1 OUTPUT \N
014112	000000 000170			0 ;OUTPUT DATA WORD 167 (DATA WRITTEN) N=N+1 OUTPUT \N
014114	000000 000171			0 ;OUTPUT DATA WORD 170 (DATA WRITTEN) N=N+1 OUTPUT \N
014116	000000 000172			0 ;OUTPUT DATA WORD 171 (DATA WRITTEN) N=N+1 OUTPUT \N
014120	000000 000173			0 ;OUTPUT DATA WORD 172 (DATA WRITTEN) N=N+1 OUTPUT \N
014122	000000			0 ;OUTPUT DATA WORD 173 (DATA WRITTEN)



	000174	N=N+1	
014124	000000	OUTPUT	\N
	000175	0	OUTPUT DATA WORD 174 (DATA WRITTEN)
		N=N+1	
014126	000000	OUTPUT	\N
	000176	0	OUTPUT DATA WORD 175 (DATA WRITTEN)
		N=N+1	
014130	000000	OUTPUT	\N
	000177	0	OUTPUT DATA WORD 176 (DATA WRITTEN)
		N=N+1	
014132	000000	OUTPUT	\N
	000200	0	OUTPUT DATA WORD 177 (DATA WRITTEN)
		N=N+1	
014134	000000	OUTPUT	\N
	000201	0	OUTPUT DATA WORD 200 (DATA WRITTEN)
		N=N+1	
014136	000000	OUTPUT	\N
	000202	0	OUTPUT DATA WORD 201 (DATA WRITTEN)
		N=N+1	
014140	000000	OUTPUT	\N
	000203	0	OUTPUT DATA WORD 202 (DATA WRITTEN)
		N=N+1	
014142	000000	OUTPUT	\N
	000204	0	OUTPUT DATA WORD 203 (DATA WRITTEN)
		N=N+1	
014144	000000	OUTPUT	\N
	000205	0	OUTPUT DATA WORD 204 (DATA WRITTEN)
		N=N+1	
014146	000000	OUTPUT	\N
	000206	0	OUTPUT DATA WORD 205 (DATA WRITTEN)
		N=N+1	
014150	000000	OUTPUT	\N
	000207	0	OUTPUT DATA WORD 206 (DATA WRITTEN)
		N=N+1	
014152	000000	OUTPUT	\N
	000210	0	OUTPUT DATA WORD 207 (DATA WRITTEN)
		N=N+1	
014154	000000	OUTPUT	\N
	000211	0	OUTPUT DATA WORD 210 (DATA WRITTEN)
		N=N+1	
014156	000000	OUTPUT	\N
	000212	0	OUTPUT DATA WORD 211 (DATA WRITTEN)
		N=N+1	
014160	000000	OUTPUT	\N
	000213	0	OUTPUT DATA WORD 212 (DATA WRITTEN)
		N=N+1	
014162	000000	OUTPUT	\N
	000214	0	OUTPUT DATA WORD 213 (DATA WRITTEN)
		N=N+1	
014164	000000	OUTPUT	\N
	000215	0	OUTPUT DATA WORD 214 (DATA WRITTEN)
		N=N+1	
014166	000000	OUTPUT	\N
	000216	0	OUTPUT DATA WORD 215 (DATA WRITTEN)
		N=N+1	

014170	000000 000217	OUTPUT \N 0 ;OUTPUT DATA WORD 216 (DATA WRITTEN) N=N+1
014172	000000 000220	OUTPUT \N 0 ;OUTPUT DATA WORD 217 (DATA WRITTEN) N=N+1
014174	000000 000221	OUTPUT \N 0 ;OUTPUT DATA WORD 220 (DATA WRITTEN) N=N+1
014176	000000 000222	OUTPUT \N 0 ;OUTPUT DATA WORD 221 (DATA WRITTEN) N=N+1
014200	000000 000223	OUTPUT \N 0 ;OUTPUT DATA WORD 222 (DATA WRITTEN) N=N+1
014202	000000 000224	OUTPUT \N 0 ;OUTPUT DATA WORD 223 (DATA WRITTEN) N=N+1
014204	000000 000225	OUTPUT \N 0 ;OUTPUT DATA WORD 224 (DATA WRITTEN) N=N+1
014206	000000 000226	OUTPUT \N 0 ;OUTPUT DATA WORD 225 (DATA WRITTEN) N=N+1
014210	000000 000227	OUTPUT \N 0 ;OUTPUT DATA WORD 226 (DATA WRITTEN) N=N+1
014212	000000 000230	OUTPUT \N 0 ;OUTPUT DATA WORD 227 (DATA WRITTEN) N=N+1
014214	000000 000231	OUTPUT \N 0 ;OUTPUT DATA WORD 230 (DATA WRITTEN) N=N+1
014216	000000 000232	OUTPUT \N 0 ;OUTPUT DATA WORD 231 (DATA WRITTEN) N=N+1
014220	000000 000233	OUTPUT \N 0 ;OUTPUT DATA WORD 232 (DATA WRITTEN) N=N+1
014222	000000 000234	OUTPUT \N 0 ;OUTPUT DATA WORD 233 (DATA WRITTEN) N=N+1
014224	000000 000235	OUTPUT \N 0 ;OUTPUT DATA WORD 234 (DATA WRITTEN) N=N+1
014226	000000 000236	OUTPUT \N 0 ;OUTPUT DATA WORD 235 (DATA WRITTEN) N=N+1
014230	000000 000237	OUTPUT \N 0 ;OUTPUT DATA WORD 236 (DATA WRITTEN) N=N+1
014232	000000 000240	OUTPUT \N 0 ;OUTPUT DATA WORD 237 (DATA WRITTEN) N=N+1
		OUTPUT \N

014234	000000 000241	0 N=N+1 OUTPUT	\N OUTPUT DATA WORD 240 (DATA WRITTEN)
014236	000000 000242	0 N=N+1 OUTPUT	\N OUTPUT DATA WORD 241 (DATA WRITTEN)
014240	000000 000243	0 N=N+1 OUTPUT	\N OUTPUT DATA WORD 242 (DATA WRITTEN)
014242	000000 000244	0 N=N+1 OUTPUT	\N OUTPUT DATA WORD 243 (DATA WRITTEN)
014244	000000 000245	0 N=N+1 OUTPUT	\N OUTPUT DATA WORD 244 (DATA WRITTEN)
014246	000000 000246	0 N=N+1 OUTPUT	\N OUTPUT DATA WORD 245 (DATA WRITTEN)
014250	000000 000247	0 N=N+1 OUTPUT	\N OUTPUT DATA WORD 246 (DATA WRITTEN)
014252	000000 000250	0 N=N+1 OUTPUT	\N OUTPUT DATA WORD 247 (DATA WRITTEN)
014254	000000 000251	0 N=N+1 OUTPUT	\N OUTPUT DATA WORD 250 (DATA WRITTEN)
014256	000000 000252	0 N=N+1 OUTPUT	\N OUTPUT DATA WORD 251 (DATA WRITTEN)
014260	000000 000253	0 N=N+1 OUTPUT	\N OUTPUT DATA WORD 252 (DATA WRITTEN)
014262	000000 000254	0 N=N+1 OUTPUT	\N OUTPUT DATA WORD 253 (DATA WRITTEN)
014264	000000 000255	0 N=N+1 OUTPUT	\N OUTPUT DATA WORD 254 (DATA WRITTEN)
014266	000000 000256	0 N=N+1 OUTPUT	\N OUTPUT DATA WORD 255 (DATA WRITTEN)
014270	000000 000257	0 N=N+1 OUTPUT	\N OUTPUT DATA WORD 256 (DATA WRITTEN)
014272	000000 000260	0 N=N+1 OUTPUT	\N OUTPUT DATA WORD 257 (DATA WRITTEN)
014274	000000 000261	0 N=N+1 OUTPUT	\N OUTPUT DATA WORD 260 (DATA WRITTEN)
014276	000000 000262	0 N=N+1 OUTPUT	\N OUTPUT DATA WORD 261 (DATA WRITTEN)
014300	000000	0 N=N+1 OUTPUT	\N OUTPUT DATA WORD 262 (DATA WRITTEN)

000263

014302 000000  
000264

014304 000000  
000265

014306 000000  
000266

014310 000000  
000267

014312 000000  
000270

014314 000000  
000271

014316 000000  
000272

014320 000000  
000273

014322 000000  
000274

014324 000000  
000275

014326 000000  
000276

014330 000000  
000277

014332 000000  
000300

014334 000000  
000301

014336 000000  
000302

014340 000000  
000303

014342 000000  
000304

014344 000000  
000305

N=N+1  
 OUTPUT \N  
 0 JOUTPUT DATA WORD 263 (DATA WRITTEN)  
 N=N+1  
 OUTPUT \N  
 0 JOUTPUT DATA WORD 264 (DATA WRITTEN)  
 N=N+1  
 OUTPUT \N  
 0 JOUTPUT DATA WORD 265 (DATA WRITTEN)  
 N=N+1  
 OUTPUT \N  
 0 JOUTPUT DATA WORD 266 (DATA WRITTEN)  
 N=N+1  
 OUTPUT \N  
 0 JOUTPUT DATA WORD 267 (DATA WRITTEN)  
 N=N+1  
 OUTPUT \N  
 0 JOUTPUT DATA WORD 270 (DATA WRITTEN)  
 N=N+1  
 OUTPUT \N  
 0 JOUTPUT DATA WORD 271 (DATA WRITTEN)  
 N=N+1  
 OUTPUT \N  
 0 JOUTPUT DATA WORD 272 (DATA WRITTEN)  
 N=N+1  
 OUTPUT \N  
 0 JOUTPUT DATA WORD 273 (DATA WRITTEN)  
 N=N+1  
 OUTPUT \N  
 0 JOUTPUT DATA WORD 274 (DATA WRITTEN)  
 N=N+1  
 OUTPUT \N  
 0 JOUTPUT DATA WORD 275 (DATA WRITTEN)  
 N=N+1  
 OUTPUT \N  
 0 JOUTPUT DATA WORD 276 (DATA WRITTEN)  
 N=N+1  
 OUTPUT \N  
 0 JOUTPUT DATA WORD 277 (DATA WRITTEN)  
 N=N+1  
 OUTPUT \N  
 0 JOUTPUT DATA WORD 300 (DATA WRITTEN)  
 N=N+1  
 OUTPUT \N  
 0 JOUTPUT DATA WORD 301 (DATA WRITTEN)  
 N=N+1  
 OUTPUT \N  
 0 JOUTPUT DATA WORD 302 (DATA WRITTEN)  
 N=N+1  
 OUTPUT \N  
 0 JOUTPUT DATA WORD 303 (DATA WRITTEN)  
 N=N+1  
 OUTPUT \N  
 0 JOUTPUT DATA WORD 304 (DATA WRITTEN)  
 N=N+1

```
014346 000000      OUTPUT  \N
        000306      0      ;OUTPUT DATA WORD 305 (DATA WRITTEN)
        N=N+1
014350 000000      OUTPUT  \N
        000307      0      ;OUTPUT DATA WORD 306 (DATA WRITTEN)
        N=N+1
014352 000000      OUTPUT  \N
        000310      0      ;OUTPUT DATA WORD 307 (DATA WRITTEN)
        N=N+1
014354 000000      OUTPUT  \N
        000311      0      ;OUTPUT DATA WORD 310 (DATA WRITTEN)
        N=N+1
014356 000000      OUTPUT  \N
        000312      0      ;OUTPUT DATA WORD 311 (DATA WRITTEN)
        N=N+1
014360 000000      OUTPUT  \N
        000313      0      ;OUTPUT DATA WORD 312 (DATA WRITTEN)
        N=N+1
014362 000000      OUTPUT  \N
        000314      0      ;OUTPUT DATA WORD 313 (DATA WRITTEN)
        N=N+1
014364 000000      OUTPUT  \N
        000315      0      ;OUTPUT DATA WORD 314 (DATA WRITTEN)
        N=N+1
014366 000000      OUTPUT  \N
        000316      0      ;OUTPUT DATA WORD 315 (DATA WRITTEN)
        N=N+1
014370 000000      OUTPUT  \N
        000317      0      ;OUTPUT DATA WORD 316 (DATA WRITTEN)
        N=N+1
014372 000000      OUTPUT  \N
        000320      0      ;OUTPUT DATA WORD 317 (DATA WRITTEN)
        N=N+1
014374 000000      OUTPUT  \N
        000321      0      ;OUTPUT DATA WORD 320 (DATA WRITTEN)
        N=N+1
014376 000000      OUTPUT  \N
        000322      0      ;OUTPUT DATA WORD 321 (DATA WRITTEN)
        N=N+1
014400 000000      OUTPUT  \N
        000323      0      ;OUTPUT DATA WORD 322 (DATA WRITTEN)
        N=N+1
014402 000000      OUTPUT  \N
        000324      0      ;OUTPUT DATA WORD 323 (DATA WRITTEN)
        N=N+1
014404 000000      OUTPUT  \N
        000325      0      ;OUTPUT DATA WORD 324 (DATA WRITTEN)
        N=N+1
014406 000000      OUTPUT  \N
        000326      0      ;OUTPUT DATA WORD 325 (DATA WRITTEN)
        N=N+1
014410 000000      OUTPUT  \N
        000327      0      ;OUTPUT DATA WORD 326 (DATA WRITTEN)
        N=N+1
        OUTPUT  \N
```

014412	000000 000330	0	OUTPUT DATA WORD 327 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014414	000000 000331	0	OUTPUT DATA WORD 330 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014416	000000 000332	0	OUTPUT DATA WORD 331 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014420	000000 000333	0	OUTPUT DATA WORD 332 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014422	000000 000334	0	OUTPUT DATA WORD 333 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014424	000000 000335	0	OUTPUT DATA WORD 334 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014426	000000 000336	0	OUTPUT DATA WORD 335 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014430	000000 000337	0	OUTPUT DATA WORD 336 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014432	000000 000340	0	OUTPUT DATA WORD 337 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014434	000000 000341	0	OUTPUT DATA WORD 340 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014436	000000 000342	0	OUTPUT DATA WORD 341 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014440	000000 000343	0	OUTPUT DATA WORD 342 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014442	000000 000344	0	OUTPUT DATA WORD 343 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014444	000000 000345	0	OUTPUT DATA WORD 344 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014446	000000 000346	0	OUTPUT DATA WORD 345 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014450	000000 000347	0	OUTPUT DATA WORD 346 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014452	000000 000350	0	OUTPUT DATA WORD 347 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014454	000000 000351	0	OUTPUT DATA WORD 350 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014456	000000	0	OUTPUT DATA WORD 351 (DATA WRITTEN)

	000352	N=N+1
014460	000000 000353	OUTPUT \N 0 ;OUTPUT DATA WORD 352 (DATA WRITTEN)
014462	000000 000354	N=N+1 OUTPUT \N 0 ;OUTPUT DATA WORD 353 (DATA WRITTEN)
014464	000000 000355	N=N+1 OUTPUT \N 0 ;OUTPUT DATA WORD 354 (DATA WRITTEN)
014466	000000 000356	N=N+1 OUTPUT \N 0 ;OUTPUT DATA WORD 355 (DATA WRITTEN)
014470	000000 000357	N=N+1 OUTPUT \N 0 ;OUTPUT DATA WORD 356 (DATA WRITTEN)
014472	000000 000360	N=N+1 OUTPUT \N 0 ;OUTPUT DATA WORD 357 (DATA WRITTEN)
014474	000000 000361	N=N+1 OUTPUT \N 0 ;OUTPUT DATA WORD 360 (DATA WRITTEN)
014476	000000 000362	N=N+1 OUTPUT \N 0 ;OUTPUT DATA WORD 361 (DATA WRITTEN)
014500	000000 000363	N=N+1 OUTPUT \N 0 ;OUTPUT DATA WORD 362 (DATA WRITTEN)
014502	000000 000364	N=N+1 OUTPUT \N 0 ;OUTPUT DATA WORD 363 (DATA WRITTEN)
014504	000000 000365	N=N+1 OUTPUT \N 0 ;OUTPUT DATA WORD 364 (DATA WRITTEN)
014506	000000 000366	N=N+1 OUTPUT \N 0 ;OUTPUT DATA WORD 365 (DATA WRITTEN)
014510	000000 000367	N=N+1 OUTPUT \N 0 ;OUTPUT DATA WORD 366 (DATA WRITTEN)
014512	000000 000370	N=N+1 OUTPUT \N 0 ;OUTPUT DATA WORD 367 (DATA WRITTEN)
014514	000000 000371	N=N+1 OUTPUT \N 0 ;OUTPUT DATA WORD 370 (DATA WRITTEN)
014516	000000 000372	N=N+1 OUTPUT \N 0 ;OUTPUT DATA WORD 371 (DATA WRITTEN)
014520	000000 000373	N=N+1 OUTPUT \N 0 ;OUTPUT DATA WORD 372 (DATA WRITTEN)
014522	000000 000374	N=N+1 OUTPUT \N 0 ;OUTPUT DATA WORD 373 (DATA WRITTEN)

014524	000000 000375	OUTPUT \N 0 ;OUTPUT DATA WORD 374 (DATA WRITTEN) N=N+1
014526	000000 000376	OUTPUT \N 0 ;OUTPUT DATA WORD 375 (DATA WRITTEN) N=N+1
014530	000000 000377	OUTPUT \N 0 ;OUTPUT DATA WORD 376 (DATA WRITTEN) N=N+1
014532	000000 000400	OUTPUT \N 0 ;OUTPUT DATA WORD 377 (DATA WRITTEN) N=N+1
014534	000000 000401	OUTPUT \N 0 ;OUTPUT DATA WORD 400 (DATA WRITTEN) N=N+1
014536	000000 000402	OUTPUT \N 0 ;OUTPUT DATA WORD 401 (DATA WRITTEN) N=N+1
014540	000000 000403	OUTPUT \N 0 ;OUTPUT DATA WORD 402 (DATA WRITTEN) N=N+1
014542	000000 000404	OUTPUT \N 0 ;OUTPUT DATA WORD 403 (DATA WRITTEN) N=N+1
014544	000000 000405	OUTPUT \N 0 ;OUTPUT DATA WORD 404 (DATA WRITTEN) N=N+1
014546	000000 000406	OUTPUT \N 0 ;OUTPUT DATA WORD 405 (DATA WRITTEN) N=N+1
014550	000000 000407	OUTPUT \N 0 ;OUTPUT DATA WORD 406 (DATA WRITTEN) N=N+1
014552	000000 000410	OUTPUT \N 0 ;OUTPUT DATA WORD 407 (DATA WRITTEN) N=N+1
014554	000000 000411	OUTPUT \N 0 ;OUTPUT DATA WORD 410 (DATA WRITTEN) N=N+1
014556	000000 000412	OUTPUT \N 0 ;OUTPUT DATA WORD 411 (DATA WRITTEN) N=N+1
014560	000000 000413	OUTPUT \N 0 ;OUTPUT DATA WORD 412 (DATA WRITTEN) N=N+1
014562	000000 000414	OUTPUT \N 0 ;OUTPUT DATA WORD 413 (DATA WRITTEN) N=N+1
014564	000000 000415	OUTPUT \N 0 ;OUTPUT DATA WORD 414 (DATA WRITTEN) N=N+1
014566	000000 000416	OUTPUT \N 0 ;OUTPUT DATA WORD 415 (DATA WRITTEN) N=N+1 OUTPUT \N



014570	000000 000417	0	OUTPUT DATA WORD 416 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014572	000000 000420	0	OUTPUT DATA WORD 417 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014574	000000 000421	0	OUTPUT DATA WORD 420 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014576	000000 000422	0	OUTPUT DATA WORD 421 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014600	000000 000423	0	OUTPUT DATA WORD 422 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014602	000000 000424	0	OUTPUT DATA WORD 423 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014604	000000 000425	0	OUTPUT DATA WORD 424 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014606	000000 000426	0	OUTPUT DATA WORD 425 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014610	000000 000427	0	OUTPUT DATA WORD 426 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014612	000000 000430	0	OUTPUT DATA WORD 427 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014614	000000 000431	0	OUTPUT DATA WORD 430 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014616	000000 000432	0	OUTPUT DATA WORD 431 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014620	000000 000433	0	OUTPUT DATA WORD 432 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014622	000000 000434	0	OUTPUT DATA WORD 433 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014624	000000 000435	0	OUTPUT DATA WORD 434 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014626	000000 000436	0	OUTPUT DATA WORD 435 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014630	000000 000437	0	OUTPUT DATA WORD 436 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014632	000000 000440	0	OUTPUT DATA WORD 437 (DATA WRITTEN)
		N=N+1	OUTPUT \N
014634	000000	0	OUTPUT DATA WORD 440 (DATA WRITTEN)

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	000441	N=N+1	
		OUTPUT	\N
014636	000000	0	OUTPUT DATA WORD 441 (DATA WRITTEN)
	000442	N=N+1	
		OUTPUT	\N
014640	000000	0	OUTPUT DATA WORD 442 (DATA WRITTEN)
	000443	N=N+1	
		OUTPUT	\N
014642	000000	0	OUTPUT DATA WORD 443 (DATA WRITTEN)
	000444	N=N+1	
		OUTPUT	\N
014644	000000	0	OUTPUT DATA WORD 444 (DATA WRITTEN)
	000445	N=N+1	
		OUTPUT	\N
014646	000000	0	OUTPUT DATA WORD 445 (DATA WRITTEN)
	000446	N=N+1	
		OUTPUT	\N
014650	000000	0	OUTPUT DATA WORD 446 (DATA WRITTEN)
	000447	N=N+1	
		OUTPUT	\N
014652	000000	0	OUTPUT DATA WORD 447 (DATA WRITTEN)
	000450	N=N+1	
		OUTPUT	\N
014654	000000	0	OUTPUT DATA WORD 450 (DATA WRITTEN)
	000451	N=N+1	
		OUTPUT	\N
014656	000000	0	OUTPUT DATA WORD 451 (DATA WRITTEN)
	000452	N=N+1	
		OUTPUT	\N
014660	000000	0	OUTPUT DATA WORD 452 (DATA WRITTEN)
	000453	N=N+1	
		OUTPUT	\N
014662	000000	0	OUTPUT DATA WORD 453 (DATA WRITTEN)
	000454	N=N+1	
		OUTPUT	\N
014664	000000	0	OUTPUT DATA WORD 454 (DATA WRITTEN)
	000455	N=N+1	
		OUTPUT	\N
014666	000000	0	OUTPUT DATA WORD 455 (DATA WRITTEN)
	000456	N=N+1	
		OUTPUT	\N
014670	000000	0	OUTPUT DATA WORD 456 (DATA WRITTEN)
	000457	N=N+1	
		OUTPUT	\N
014672	000000	0	OUTPUT DATA WORD 457 (DATA WRITTEN)
	000460	N=N+1	
		OUTPUT	\N
014674	000000	0	OUTPUT DATA WORD 460 (DATA WRITTEN)
	000461	N=N+1	
		OUTPUT	\N
014676	000000	0	OUTPUT DATA WORD 461 (DATA WRITTEN)
	000462	N=N+1	
		OUTPUT	\N
014700	000000	0	OUTPUT DATA WORD 462 (DATA WRITTEN)
	000463	N=N+1	

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014702 000000      OUTPUT  \N
        000464      0      ;OUTPUT DATA WORD 463 (DATA WRITTEN)
                    N=N+1
014704 000000      OUTPUT  \N
        000465      0      ;OUTPUT DATA WORD 464 (DATA WRITTEN)
                    N=N+1
014706 000000      OUTPUT  \N
        000466      0      ;OUTPUT DATA WORD 465 (DATA WRITTEN)
                    N=N+1
014710 000000      OUTPUT  \N
        000467      0      ;OUTPUT DATA WORD 466 (DATA WRITTEN)
                    N=N+1
014712 000000      OUTPUT  \N
        000470      0      ;OUTPUT DATA WORD 467 (DATA WRITTEN)
                    N=N+1
014714 000000      OUTPUT  \N
        000471      0      ;OUTPUT DATA WORD 470 (DATA WRITTEN)
                    N=N+1
014716 000000      OUTPUT  \N
        000472      0      ;OUTPUT DATA WORD 471 (DATA WRITTEN)
                    N=N+1
014720 000000      OUTPUT  \N
        000473      0      ;OUTPUT DATA WORD 472 (DATA WRITTEN)
                    N=N+1
014722 000000      OUTPUT  \N
        000474      0      ;OUTPUT DATA WORD 473 (DATA WRITTEN)
                    N=N+1
014724 000000      OUTPUT  \N
        000475      0      ;OUTPUT DATA WORD 474 (DATA WRITTEN)
                    N=N+1
014726 000000      OUTPUT  \N
        000476      0      ;OUTPUT DATA WORD 475 (DATA WRITTEN)
                    N=N+1
014730 000000      OUTPUT  \N
        000477      0      ;OUTPUT DATA WORD 476 (DATA WRITTEN)
                    N=N+1
014732 000000      OUTPUT  \N
        000500      0      ;OUTPUT DATA WORD 477 (DATA WRITTEN)
                    N=N+1
014734 000000      OUTPUT  \N
        000501      0      ;OUTPUT DATA WORD 500 (DATA WRITTEN)
                    N=N+1
014736 000000      OUTPUT  \N
        000502      0      ;OUTPUT DATA WORD 501 (DATA WRITTEN)
                    N=N+1
014740 000000      OUTPUT  \N
        000503      0      ;OUTPUT DATA WORD 502 (DATA WRITTEN)
                    N=N+1
014742 000000      OUTPUT  \N
        000504      0      ;OUTPUT DATA WORD 503 (DATA WRITTEN)
                    N=N+1
014744 000000      OUTPUT  \N
        000505      0      ;OUTPUT DATA WORD 504 (DATA WRITTEN)
                    N=N+1
        OUTPUT  \N
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014746	000000 000506	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 505 (DATA WRITTEN)
014750	000000 000507	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 506 (DATA WRITTEN)
014752	000000 000510	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 507 (DATA WRITTEN)
014754	000000 000511	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 510 (DATA WRITTEN)
014756	000000 000512	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 511 (DATA WRITTEN)
014760	000000 000513	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 512 (DATA WRITTEN)
014762	000000 000514	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 513 (DATA WRITTEN)
014764	000000 000515	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 514 (DATA WRITTEN)
014766	000000 000516	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 515 (DATA WRITTEN)
014770	000000 000517	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 516 (DATA WRITTEN)
014772	000000 000520	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 517 (DATA WRITTEN)
014774	000000 000521	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 520 (DATA WRITTEN)
014776	000000 000522	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 521 (DATA WRITTEN)
015000	000000 000523	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 522 (DATA WRITTEN)
015002	000000 000524	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 523 (DATA WRITTEN)
015004	000000 000525	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 524 (DATA WRITTEN)
015006	000000 000526	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 525 (DATA WRITTEN)
015010	000000 000527	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 526 (DATA WRITTEN)
015012	000000	0 OUTPUT \N	OUTPUT DATA WORD 527 (DATA WRITTEN)

	000530	N=N+1	
		OUTPUT	\N
015014	000000	0	OUTPUT DATA WORD 530 (DATA WRITTEN)
	000531	N=N+1	
		OUTPUT	\N
015016	000000	0	OUTPUT DATA WORD 531 (DATA WRITTEN)
	000532	N=N+1	
		OUTPUT	\N
015020	000000	0	OUTPUT DATA WORD 532 (DATA WRITTEN)
	000533	N=N+1	
		OUTPUT	\N
015022	000000	0	OUTPUT DATA WORD 533 (DATA WRITTEN)
	000534	N=N+1	
		OUTPUT	\N
015024	000000	0	OUTPUT DATA WORD 534 (DATA WRITTEN)
	000535	N=N+1	
		OUTPUT	\N
015026	000000	0	OUTPUT DATA WORD 535 (DATA WRITTEN)
	000536	N=N+1	
		OUTPUT	\N
015030	000000	0	OUTPUT DATA WORD 536 (DATA WRITTEN)
	000537	N=N+1	
		OUTPUT	\N
015032	000000	0	OUTPUT DATA WORD 537 (DATA WRITTEN)
	000540	N=N+1	
		OUTPUT	\N
015034	000000	0	OUTPUT DATA WORD 540 (DATA WRITTEN)
	000541	N=N+1	
		OUTPUT	\N
015036	000000	0	OUTPUT DATA WORD 541 (DATA WRITTEN)
	000542	N=N+1	
		OUTPUT	\N
015040	000000	0	OUTPUT DATA WORD 542 (DATA WRITTEN)
	000543	N=N+1	
		OUTPUT	\N
015042	000000	0	OUTPUT DATA WORD 543 (DATA WRITTEN)
	000544	N=N+1	
		OUTPUT	\N
015044	000000	0	OUTPUT DATA WORD 544 (DATA WRITTEN)
	000545	N=N+1	
		OUTPUT	\N
015046	000000	0	OUTPUT DATA WORD 545 (DATA WRITTEN)
	000546	N=N+1	
		OUTPUT	\N
015050	000000	0	OUTPUT DATA WORD 546 (DATA WRITTEN)
	000547	N=N+1	
		OUTPUT	\N
015052	000000	0	OUTPUT DATA WORD 547 (DATA WRITTEN)
	000550	N=N+1	
		OUTPUT	\N
015054	000000	0	OUTPUT DATA WORD 550 (DATA WRITTEN)
	000551	N=N+1	
		OUTPUT	\N
015056	000000	0	OUTPUT DATA WORD 551 (DATA WRITTEN)
	000552	N=N+1	

015060	000000 000553	OUTPUT \N 0 ;OUTPUT DATA WORD 552 (DATA WRITTEN) N=N+1
015062	000000 000554	OUTPUT \N 0 ;OUTPUT DATA WORD 553 (DATA WRITTEN) N=N+1
015064	000000 000555	OUTPUT \N 0 ;OUTPUT DATA WORD 554 (DATA WRITTEN) N=N+1
015066	000000 000556	OUTPUT \N 0 ;OUTPUT DATA WORD 555 (DATA WRITTEN) N=N+1
015070	000000 000557	OUTPUT \N 0 ;OUTPUT DATA WORD 556 (DATA WRITTEN) N=N+1
015072	000000 000560	OUTPUT \N 0 ;OUTPUT DATA WORD 557 (DATA WRITTEN) N=N+1
015074	000000 000561	OUTPUT \N 0 ;OUTPUT DATA WORD 560 (DATA WRITTEN) N=N+1
015076	000000 000562	OUTPUT \N 0 ;OUTPUT DATA WORD 561 (DATA WRITTEN) N=N+1
015100	000000 000563	OUTPUT \N 0 ;OUTPUT DATA WORD 562 (DATA WRITTEN) N=N+1
015102	000000 000564	OUTPUT \N 0 ;OUTPUT DATA WORD 563 (DATA WRITTEN) N=N+1
015104	000000 000565	OUTPUT \N 0 ;OUTPUT DATA WORD 564 (DATA WRITTEN) N=N+1
015106	000000 000566	OUTPUT \N 0 ;OUTPUT DATA WORD 565 (DATA WRITTEN) N=N+1
015110	000000 000567	OUTPUT \N 0 ;OUTPUT DATA WORD 566 (DATA WRITTEN) N=N+1
015112	000000 000570	OUTPUT \N 0 ;OUTPUT DATA WORD 567 (DATA WRITTEN) N=N+1
015114	000000 000571	OUTPUT \N 0 ;OUTPUT DATA WORD 570 (DATA WRITTEN) N=N+1
015116	000000 000572	OUTPUT \N 0 ;OUTPUT DATA WORD 571 (DATA WRITTEN) N=N+1
015120	000000 000573	OUTPUT \N 0 ;OUTPUT DATA WORD 572 (DATA WRITTEN) N=N+1
015122	000000 000574	OUTPUT \N 0 ;OUTPUT DATA WORD 573 (DATA WRITTEN) N=N+1
		OUTPUT \N

015124	000000 000575	0	OUTPUT DATA WORD 574 (DATA WRITTEN)
015126	000000 000576	N=N+1 OUTPUT 0	\N OUTPUT DATA WORD 575 (DATA WRITTEN)
015130	000000 000577	N=N+1 OUTPUT 0	\N OUTPUT DATA WORD 576 (DATA WRITTEN)
015132	000000 000600	N=N+1 OUTPUT 0	\N OUTPUT DATA WORD 577 (DATA WRITTEN)
015134	000000 000601	N=N+1 OUTPUT 0	\N OUTPUT DATA WORD 600 (DATA WRITTEN)
015136	000000 000602	N=N+1 OUTPUT 0	\N OUTPUT DATA WORD 601 (DATA WRITTEN)
015140	000000 000603	N=N+1 OUTPUT 0	\N OUTPUT DATA WORD 602 (DATA WRITTEN)
015142	000000 000604	N=N+1 OUTPUT 0	\N OUTPUT DATA WORD 603 (DATA WRITTEN)
015144	000000 000605	N=N+1 OUTPUT 0	\N OUTPUT DATA WORD 604 (DATA WRITTEN)
015146	000000 000606	N=N+1 OUTPUT 0	\N OUTPUT DATA WORD 605 (DATA WRITTEN)
015150	000000 000607	N=N+1 OUTPUT 0	\N OUTPUT DATA WORD 606 (DATA WRITTEN)
015152	000000 000610	N=N+1 OUTPUT 0	\N OUTPUT DATA WORD 607 (DATA WRITTEN)
015154	000000 000611	N=N+1 OUTPUT 0	\N OUTPUT DATA WORD 610 (DATA WRITTEN)
015156	000000 000612	N=N+1 OUTPUT 0	\N OUTPUT DATA WORD 611 (DATA WRITTEN)
015160	000000 000613	N=N+1 OUTPUT 0	\N OUTPUT DATA WORD 612 (DATA WRITTEN)
015162	000000 000614	N=N+1 OUTPUT 0	\N OUTPUT DATA WORD 613 (DATA WRITTEN)
015164	000000 000615	N=N+1 OUTPUT 0	\N OUTPUT DATA WORD 614 (DATA WRITTEN)
015166	000000 000616	N=N+1 OUTPUT 0	\N OUTPUT DATA WORD 615 (DATA WRITTEN)
015170	000000	N=N+1 OUTPUT 0	\N OUTPUT DATA WORD 616 (DATA WRITTEN)

	000617	N=N+1
		OUTPUT \N
015172	000000	0 )OUTPUT DATA WORD 617 (DATA WRITTEN)
	000620	N=N+1
		OUTPUT \N
015174	000000	0 )OUTPUT DATA WORD 620 (DATA WRITTEN)
	000621	N=N+1
		OUTPUT \N
015176	000000	0 )OUTPUT DATA WORD 621 (DATA WRITTEN)
	000622	N=N+1
		OUTPUT \N
015200	000000	0 )OUTPUT DATA WORD 622 (DATA WRITTEN)
	000623	N=N+1
		OUTPUT \N
015202	000000	0 )OUTPUT DATA WORD 623 (DATA WRITTEN)
	000624	N=N+1
		OUTPUT \N
015204	000000	0 )OUTPUT DATA WORD 624 (DATA WRITTEN)
	000625	N=N+1
		OUTPUT \N
015206	000000	0 )OUTPUT DATA WORD 625 (DATA WRITTEN)
	000626	N=N+1
		OUTPUT \N
015210	000000	0 )OUTPUT DATA WORD 626 (DATA WRITTEN)
	000627	N=N+1
		OUTPUT \N
015212	000000	0 )OUTPUT DATA WORD 627 (DATA WRITTEN)
	000630	N=N+1
		OUTPUT \N
015214	000000	0 )OUTPUT DATA WORD 630 (DATA WRITTEN)
	000631	N=N+1
		OUTPUT \N
015216	000000	0 )OUTPUT DATA WORD 631 (DATA WRITTEN)
	000632	N=N+1
		OUTPUT \N
015220	000000	0 )OUTPUT DATA WORD 632 (DATA WRITTEN)
	000633	N=N+1
		OUTPUT \N
015222	000000	0 )OUTPUT DATA WORD 633 (DATA WRITTEN)
	000634	N=N+1
		OUTPUT \N
015224	000000	0 )OUTPUT DATA WORD 634 (DATA WRITTEN)
	000635	N=N+1
		OUTPUT \N
015226	000000	0 )OUTPUT DATA WORD 635 (DATA WRITTEN)
	000636	N=N+1
		OUTPUT \N
015230	000000	0 )OUTPUT DATA WORD 636 (DATA WRITTEN)
	000637	N=N+1
		OUTPUT \N
015232	000000	0 )OUTPUT DATA WORD 637 (DATA WRITTEN)
	000640	N=N+1
		OUTPUT \N
015234	000000	0 )OUTPUT DATA WORD 640 (DATA WRITTEN)
	000641	N=N+1



015236	000000 000642	OUTPUT 0	\N ;OUTPUT DATA WORD 641 (DATA WRITTEN)
015240	000000 000643	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 642 (DATA WRITTEN)
015242	000000 000644	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 643 (DATA WRITTEN)
015244	000000 000645	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 644 (DATA WRITTEN)
015246	000000 000646	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 645 (DATA WRITTEN)
015250	000000 000647	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 646 (DATA WRITTEN)
015252	000000 000650	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 647 (DATA WRITTEN)
015254	000000 000651	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 650 (DATA WRITTEN)
015256	000000 000652	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 651 (DATA WRITTEN)
015260	000000 000653	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 652 (DATA WRITTEN)
015262	000000 000654	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 653 (DATA WRITTEN)
015264	000000 000655	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 654 (DATA WRITTEN)
015266	000000 000656	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 655 (DATA WRITTEN)
015270	000000 000657	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 656 (DATA WRITTEN)
015272	000000 000660	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 657 (DATA WRITTEN)
015274	000000 000661	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 660 (DATA WRITTEN)
015276	000000 000662	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 661 (DATA WRITTEN)
015300	000000 000663	N=N+1 OUTPUT 0	\N ;OUTPUT DATA WORD 662 (DATA WRITTEN)

015302	000000 000664	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 663 (DATA WRITTEN)
015304	000000 000665	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 664 (DATA WRITTEN)
015306	000000 000666	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 665 (DATA WRITTEN)
015310	000000 000667	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 666 (DATA WRITTEN)
015312	000000 000670	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 667 (DATA WRITTEN)
015314	000000 000671	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 670 (DATA WRITTEN)
015316	000000 000672	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 671 (DATA WRITTEN)
015320	000000 000673	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 672 (DATA WRITTEN)
015322	000000 000674	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 673 (DATA WRITTEN)
015324	000000 000675	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 674 (DATA WRITTEN)
015326	000000 000676	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 675 (DATA WRITTEN)
015330	000000 000677	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 676 (DATA WRITTEN)
015332	000000 000700	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 677 (DATA WRITTEN)
015334	000000 000701	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 700 (DATA WRITTEN)
015336	000000 000702	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 701 (DATA WRITTEN)
015340	000000 000703	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 702 (DATA WRITTEN)
015342	000000 000704	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 703 (DATA WRITTEN)
015344	000000 000705	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 704 (DATA WRITTEN)
015346	000000	0 N=N+1 OUTPUT \N	OUTPUT DATA WORD 705 (DATA WRITTEN)

	000706	N=N+1	
015350	000000	OUTPUT	\N
	000707	0	OUTPUT DATA WORD 706 (DATA WRITTEN)
		N=N+1	
015352	000000	OUTPUT	\N
	000710	0	OUTPUT DATA WORD 707 (DATA WRITTEN)
		N=N+1	
015354	000000	OUTPUT	\N
	000711	0	OUTPUT DATA WORD 710 (DATA WRITTEN)
		N=N+1	
015356	000000	OUTPUT	\N
	000712	0	OUTPUT DATA WORD 711 (DATA WRITTEN)
		N=N+1	
015360	000000	OUTPUT	\N
	000713	0	OUTPUT DATA WORD 712 (DATA WRITTEN)
		N=N+1	
015362	000000	OUTPUT	\N
	000714	0	OUTPUT DATA WORD 713 (DATA WRITTEN)
		N=N+1	
015364	000000	OUTPUT	\N
	000715	0	OUTPUT DATA WORD 714 (DATA WRITTEN)
		N=N+1	
015366	000000	OUTPUT	\N
	000716	0	OUTPUT DATA WORD 715 (DATA WRITTEN)
		N=N+1	
015370	000000	OUTPUT	\N
	000717	0	OUTPUT DATA WORD 716 (DATA WRITTEN)
		N=N+1	
015372	000000	OUTPUT	\N
	000720	0	OUTPUT DATA WORD 717 (DATA WRITTEN)
		N=N+1	
015374	000000	OUTPUT	\N
	000721	0	OUTPUT DATA WORD 720 (DATA WRITTEN)
		N=N+1	
015376	000000	OUTPUT	\N
	000722	0	OUTPUT DATA WORD 721 (DATA WRITTEN)
		N=N+1	
015400	000000	OUTPUT	\N
	000723	0	OUTPUT DATA WORD 722 (DATA WRITTEN)
		N=N+1	
015402	000000	OUTPUT	\N
	000724	0	OUTPUT DATA WORD 723 (DATA WRITTEN)
		N=N+1	
015404	000000	OUTPUT	\N
	000725	0	OUTPUT DATA WORD 724 (DATA WRITTEN)
		N=N+1	
015406	000000	OUTPUT	\N
	000726	0	OUTPUT DATA WORD 725 (DATA WRITTEN)
		N=N+1	
015410	000000	OUTPUT	\N
	000727	0	OUTPUT DATA WORD 726 (DATA WRITTEN)
		N=N+1	
015412	000000	OUTPUT	\N
	000730	0	OUTPUT DATA WORD 727 (DATA WRITTEN)
		N=N+1	

015414	000000 000731	OUTPUT \N 0 ;OUTPUT DATA WORD 730 (DATA WRITTEN) N=N+1
015416	000000 000732	OUTPUT \N 0 ;OUTPUT DATA WORD 731 (DATA WRITTEN) N=N+1
015420	000000 000733	OUTPUT \N 0 ;OUTPUT DATA WORD 732 (DATA WRITTEN) N=N+1
015422	000000 000734	OUTPUT \N 0 ;OUTPUT DATA WORD 733 (DATA WRITTEN) N=N+1
015424	000000 000735	OUTPUT \N 0 ;OUTPUT DATA WORD 734 (DATA WRITTEN) N=N+1
015426	000000 000736	OUTPUT \N 0 ;OUTPUT DATA WORD 735 (DATA WRITTEN) N=N+1
015430	000000 000737	OUTPUT \N 0 ;OUTPUT DATA WORD 736 (DATA WRITTEN) N=N+1
015432	000000 000740	OUTPUT \N 0 ;OUTPUT DATA WORD 737 (DATA WRITTEN) N=N+1
015434	000000 000741	OUTPUT \N 0 ;OUTPUT DATA WORD 740 (DATA WRITTEN) N=N+1
015436	000000 000742	OUTPUT \N 0 ;OUTPUT DATA WORD 741 (DATA WRITTEN) N=N+1
015440	000000 000743	OUTPUT \N 0 ;OUTPUT DATA WORD 742 (DATA WRITTEN) N=N+1
015442	000000 000744	OUTPUT \N 0 ;OUTPUT DATA WORD 743 (DATA WRITTEN) N=N+1
015444	000000 000745	OUTPUT \N 0 ;OUTPUT DATA WORD 744 (DATA WRITTEN) N=N+1
015446	000000 000746	OUTPUT \N 0 ;OUTPUT DATA WORD 745 (DATA WRITTEN) N=N+1
015450	000000 000747	OUTPUT \N 0 ;OUTPUT DATA WORD 746 (DATA WRITTEN) N=N+1
015452	000000 000750	OUTPUT \N 0 ;OUTPUT DATA WORD 747 (DATA WRITTEN) N=N+1
015454	000000 000751	OUTPUT \N 0 ;OUTPUT DATA WORD 750 (DATA WRITTEN) N=N+1
015456	000000 000752	OUTPUT \N 0 ;OUTPUT DATA WORD 751 (DATA WRITTEN) N=N+1 OUTPUT \N

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015630	000000 000037	0 N=N+1 INPUT \N	IINPUT DATA WORD 36 (DATA READ)
015632	000000 000040	0 N=N+1 INPUT \N	IINPUT DATA WORD 37 (DATA READ)
015634	000000 000041	0 N=N+1 INPUT \N	IINPUT DATA WORD 40 (DATA READ)
015636	000000 000042	0 N=N+1 INPUT \N	IINPUT DATA WORD 41 (DATA READ)
015640	000000 000043	0 N=N+1 INPUT \N	IINPUT DATA WORD 42 (DATA READ)
015642	000000 000044	0 N=N+1 INPUT \N	IINPUT DATA WORD 43 (DATA READ)
015644	000000 000045	0 N=N+1 INPUT \N	IINPUT DATA WORD 44 (DATA READ)
015646	000000 000046	0 N=N+1 INPUT \N	IINPUT DATA WORD 45 (DATA READ)
015650	000000 000047	0 N=N+1 INPUT \N	IINPUT DATA WORD 46 (DATA READ)
015652	000000 000050	0 N=N+1 INPUT \N	IINPUT DATA WORD 47 (DATA READ)
015654	000000 000051	0 N=N+1 INPUT \N	IINPUT DATA WORD 50 (DATA READ)
015656	000000 000052	0 N=N+1 INPUT \N	IINPUT DATA WORD 51 (DATA READ)
015660	000000 000053	0 N=N+1 INPUT \N	IINPUT DATA WORD 52 (DATA READ)
015662	000000 000054	0 N=N+1 INPUT \N	IINPUT DATA WORD 53 (DATA READ)
015664	000000 000055	0 N=N+1 INPUT \N	IINPUT DATA WORD 54 (DATA READ)
015666	000000 000056	0 N=N+1 INPUT \N	IINPUT DATA WORD 55 (DATA READ)
015670	000000 000057	0 N=N+1 INPUT \N	IINPUT DATA WORD 56 (DATA READ)
015672	000000 000060	0 N=N+1 INPUT \N	IINPUT DATA WORD 57 (DATA READ)
015674	000000	0	IINPUT DATA WORD 60 (DATA READ)

015460	000000 000753	0 N=N+1 OUTPUT 0	OUTPUT DATA WORD 752 (DATA WRITTEN) \N OUTPUT DATA WORD 753 (DATA WRITTEN)
015462	000000 000754	0 N=N+1 OUTPUT 0	OUTPUT DATA WORD 754 (DATA WRITTEN) \N OUTPUT DATA WORD 755 (DATA WRITTEN)
015464	000000 000755	0 N=N+1 OUTPUT 0	OUTPUT DATA WORD 756 (DATA WRITTEN) \N OUTPUT DATA WORD 757 (DATA WRITTEN)
015466	000000 000756	0 N=N+1 OUTPUT 0	OUTPUT DATA WORD 758 (DATA WRITTEN) \N OUTPUT DATA WORD 759 (DATA WRITTEN)
015470	000000 000757	0 N=N+1 OUTPUT 0	OUTPUT DATA WORD 760 (DATA WRITTEN) \N OUTPUT DATA WORD 761 (DATA WRITTEN)
015472	000000 000760	0 N=N+1 OUTPUT 0	OUTPUT DATA WORD 762 (DATA WRITTEN) \N OUTPUT DATA WORD 763 (DATA WRITTEN)
015474	000000 000761	0 N=N+1 OUTPUT 0	OUTPUT DATA WORD 764 (DATA WRITTEN) \N OUTPUT DATA WORD 765 (DATA WRITTEN)
015476	000000 000762	0 N=N+1 OUTPUT 0	OUTPUT DATA WORD 766 (DATA WRITTEN) \N OUTPUT DATA WORD 767 (DATA WRITTEN)
015500	000000 000763	0 N=N+1 OUTPUT 0	OUTPUT DATA WORD 768 (DATA WRITTEN) \N OUTPUT DATA WORD 769 (DATA WRITTEN)
015502	000000 000764	0 N=N+1 OUTPUT 0	OUTPUT DATA WORD 770 (DATA WRITTEN) \N OUTPUT DATA WORD 771 (DATA WRITTEN)
015504	000000 000765	0 N=N+1 OUTPUT 0	OUTPUT DATA WORD 772 (DATA WRITTEN) \N OUTPUT DATA WORD 773 (DATA WRITTEN)
015506	000000 000766	0 N=N+1 OUTPUT 0	OUTPUT DATA WORD 774 (DATA WRITTEN) \N OUTPUT DATA WORD 775 (DATA WRITTEN)
015510	000000 000767	0 N=N+1 OUTPUT 0	OUTPUT DATA WORD 776 (DATA WRITTEN) \N OUTPUT DATA WORD 777 (DATA WRITTEN)
015512	000000 000770	0 N=N+1 OUTPUT 0	OUTPUT DATA WORD 778 (DATA WRITTEN) \N OUTPUT DATA WORD 779 (DATA WRITTEN)
015514	000000 000771	0 N=N+1 OUTPUT 0	OUTPUT DATA WORD 780 (DATA WRITTEN) \N OUTPUT DATA WORD 781 (DATA WRITTEN)
015516	000000 000772	0 N=N+1 OUTPUT 0	OUTPUT DATA WORD 782 (DATA WRITTEN) \N OUTPUT DATA WORD 783 (DATA WRITTEN)
015520	000000 000773	0 N=N+1 OUTPUT 0	OUTPUT DATA WORD 784 (DATA WRITTEN) \N OUTPUT DATA WORD 785 (DATA WRITTEN)
015522	000000 000774	0 N=N+1 OUTPUT 0	OUTPUT DATA WORD 786 (DATA WRITTEN) \N OUTPUT DATA WORD 787 (DATA WRITTEN)
015524	000000	0 N=N+1 OUTPUT 0	OUTPUT DATA WORD 788 (DATA WRITTEN) \N OUTPUT DATA WORD 789 (DATA WRITTEN)

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      000775      N=N+1
015526 000000      OUTPUT  \N
      000776      0      ;OUTPUT DATA WORD 775 (DATA WRITTEN)
      N=N+1
015530 000000      OUTPUT  \N
      000777      0      ;OUTPUT DATA WORD 776 (DATA WRITTEN)
      N=N+1
015532 000000      OUTPUT  \N
      001000      0      ;OUTPUT DATA WORD 777 (DATA WRITTEN)
      N=N+1

      ,MACR      INPUT  N
      0          ;INPUT DATA WORD N (DATA READ)
      ,ENDM
      N=0
      INBUF:    ,REPT  1000
      INPUT     \N
      N=N+1
      ,ENDR
015534 000000      INPUT     \N
      000001      0      ;INPUT DATA WORD 0 (DATA READ)
      N=N+1
      INPUT     \N
015536 000000      0      ;INPUT DATA WORD 1 (DATA READ)
      000002      N=N+1
      INPUT     \N
015540 000000      0      ;INPUT DATA WORD 2 (DATA READ)
      000003      N=N+1
      INPUT     \N
015542 000000      0      ;INPUT DATA WORD 3 (DATA READ)
      000004      N=N+1
      INPUT     \N
015544 000000      0      ;INPUT DATA WORD 4 (DATA READ)
      000005      N=N+1
      INPUT     \N
015546 000000      0      ;INPUT DATA WORD 5 (DATA READ)
      000006      N=N+1
      INPUT     \N
015550 000000      0      ;INPUT DATA WORD 6 (DATA READ)
      000007      N=N+1
      INPUT     \N
015552 000000      0      ;INPUT DATA WORD 7 (DATA READ)
      000010      N=N+1
      INPUT     \N
015554 000000      0      ;INPUT DATA WORD 10 (DATA READ)
      000011      N=N+1
      INPUT     \N
015556 000000      0      ;INPUT DATA WORD 11 (DATA READ)
      000012      N=N+1
      INPUT     \N
015560 000000      0      ;INPUT DATA WORD 12 (DATA READ)
      000013      N=N+1
      INPUT     \N
015562 000000      0      ;INPUT DATA WORD 13 (DATA READ)
      000014      N=N+1

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015564	000000 000015	INPUT 0 N=N+1	\N ;INPUT DATA WORD 14 (DATA READ)
015566	000000 000016	INPUT 0 N=N+1	\N ;INPUT DATA WORD 15 (DATA READ)
015570	000000 000017	INPUT 0 N=N+1	\N ;INPUT DATA WORD 16 (DATA READ)
015572	000000 000020	INPUT 0 N=N+1	\N ;INPUT DATA WORD 17 (DATA READ)
015574	000000 000021	INPUT 0 N=N+1	\N ;INPUT DATA WORD 20 (DATA READ)
015576	000000 000022	INPUT 0 N=N+1	\N ;INPUT DATA WORD 21 (DATA READ)
015600	000000 000023	INPUT 0 N=N+1	\N ;INPUT DATA WORD 22 (DATA READ)
015602	000000 000024	INPUT 0 N=N+1	\N ;INPUT DATA WORD 23 (DATA READ)
015604	000000 000025	INPUT 0 N=N+1	\N ;INPUT DATA WORD 24 (DATA READ)
015606	000000 000026	INPUT 0 N=N+1	\N ;INPUT DATA WORD 25 (DATA READ)
015610	000000 000027	INPUT 0 N=N+1	\N ;INPUT DATA WORD 26 (DATA READ)
015612	000000 000030	INPUT 0 N=N+1	\N ;INPUT DATA WORD 27 (DATA READ)
015614	000000 000031	INPUT 0 N=N+1	\N ;INPUT DATA WORD 30 (DATA READ)
015616	000000 000032	INPUT 0 N=N+1	\N ;INPUT DATA WORD 31 (DATA READ)
015620	000000 000033	INPUT 0 N=N+1	\N ;INPUT DATA WORD 32 (DATA READ)
015622	000000 000034	INPUT 0 N=N+1	\N ;INPUT DATA WORD 33 (DATA READ)
015624	000000 000035	INPUT 0 N=N+1	\N ;INPUT DATA WORD 34 (DATA READ)
015626	000000 000036	INPUT 0 N=N+1	\N ;INPUT DATA WORD 35 (DATA READ)
		INPUT	\N



015630	000000 000037	0 N=N+1 INPUT	\N INPUT DATA WORD 36 (DATA READ)
015632	000000 000040	0 N=N+1 INPUT	\N INPUT DATA WORD 37 (DATA READ)
015634	000000 000041	0 N=N+1 INPUT	\N INPUT DATA WORD 40 (DATA READ)
015636	000000 000042	0 N=N+1 INPUT	\N INPUT DATA WORD 41 (DATA READ)
015640	000000 000043	0 N=N+1 INPUT	\N INPUT DATA WORD 42 (DATA READ)
015642	000000 000044	0 N=N+1 INPUT	\N INPUT DATA WORD 43 (DATA READ)
015644	000000 000045	0 N=N+1 INPUT	\N INPUT DATA WORD 44 (DATA READ)
015646	000000 000046	0 N=N+1 INPUT	\N INPUT DATA WORD 45 (DATA READ)
015650	000000 000047	0 N=N+1 INPUT	\N INPUT DATA WORD 46 (DATA READ)
015652	000000 000050	0 N=N+1 INPUT	\N INPUT DATA WORD 47 (DATA READ)
015654	000000 000051	0 N=N+1 INPUT	\N INPUT DATA WORD 50 (DATA READ)
015656	000000 000052	0 N=N+1 INPUT	\N INPUT DATA WORD 51 (DATA READ)
015660	000000 000053	0 N=N+1 INPUT	\N INPUT DATA WORD 52 (DATA READ)
015662	000000 000054	0 N=N+1 INPUT	\N INPUT DATA WORD 53 (DATA READ)
015664	000000 000055	0 N=N+1 INPUT	\N INPUT DATA WORD 54 (DATA READ)
015666	000000 000056	0 N=N+1 INPUT	\N INPUT DATA WORD 55 (DATA READ)
015670	000000 000057	0 N=N+1 INPUT	\N INPUT DATA WORD 56 (DATA READ)
015672	000000 000060	0 N=N+1 INPUT	\N INPUT DATA WORD 57 (DATA READ)
015674	000000	0	INPUT DATA WORD 60 (DATA READ)

	000061	N=N+1
015676	000000 000062	INPUT \N 0 ;INPUT DATA WORD 61 (DATA READ)
015700	000000 000063	N=N+1 INPUT \N 0 ;INPUT DATA WORD 62 (DATA READ)
015702	000000 000064	N=N+1 INPUT \N 0 ;INPUT DATA WORD 63 (DATA READ)
015704	000000 000065	N=N+1 INPUT \N 0 ;INPUT DATA WORD 64 (DATA READ)
015706	000000 000066	N=N+1 INPUT \N 0 ;INPUT DATA WORD 65 (DATA READ)
015710	000000 000067	N=N+1 INPUT \N 0 ;INPUT DATA WORD 66 (DATA READ)
015712	000000 000070	N=N+1 INPUT \N 0 ;INPUT DATA WORD 67 (DATA READ)
015714	000000 000071	N=N+1 INPUT \N 0 ;INPUT DATA WORD 70 (DATA READ)
015716	000000 000072	N=N+1 INPUT \N 0 ;INPUT DATA WORD 71 (DATA READ)
015720	000000 000073	N=N+1 INPUT \N 0 ;INPUT DATA WORD 72 (DATA READ)
015722	000000 000074	N=N+1 INPUT \N 0 ;INPUT DATA WORD 73 (DATA READ)
015724	000000 000075	N=N+1 INPUT \N 0 ;INPUT DATA WORD 74 (DATA READ)
015726	000000 000076	N=N+1 INPUT \N 0 ;INPUT DATA WORD 75 (DATA READ)
015730	000000 000077	N=N+1 INPUT \N 0 ;INPUT DATA WORD 76 (DATA READ)
015732	000000 000100	N=N+1 INPUT \N 0 ;INPUT DATA WORD 77 (DATA READ)
015734	000000 000101	N=N+1 INPUT \N 0 ;INPUT DATA WORD 100 (DATA READ)
015736	000000 000102	N=N+1 INPUT \N 0 ;INPUT DATA WORD 101 (DATA READ)
015740	000000 000103	N=N+1 INPUT \N 0 ;INPUT DATA WORD 102 (DATA READ)

015742	000000 000104	INPUT 0 N=N+1	\N ;INPUT DATA WORD 103 (DATA READ)
015744	000000 000105	INPUT 0 N=N+1	\N ;INPUT DATA WORD 104 (DATA READ)
015746	000000 000106	INPUT 0 N=N+1	\N ;INPUT DATA WORD 105 (DATA READ)
015750	000000 000107	INPUT 0 N=N+1	\N ;INPUT DATA WORD 106 (DATA READ)
015752	000000 000110	INPUT 0 N=N+1	\N ;INPUT DATA WORD 107 (DATA READ)
015754	000000 000111	INPUT 0 N=N+1	\N ;INPUT DATA WORD 110 (DATA READ)
015756	000000 000112	INPUT 0 N=N+1	\N ;INPUT DATA WORD 111 (DATA READ)
015760	000000 000113	INPUT 0 N=N+1	\N ;INPUT DATA WORD 112 (DATA READ)
015762	000000 000114	INPUT 0 N=N+1	\N ;INPUT DATA WORD 113 (DATA READ)
015764	000000 000115	INPUT 0 N=N+1	\N ;INPUT DATA WORD 114 (DATA READ)
015766	000000 000116	INPUT 0 N=N+1	\N ;INPUT DATA WORD 115 (DATA READ)
015770	000000 000117	INPUT 0 N=N+1	\N ;INPUT DATA WORD 116 (DATA READ)
015772	000000 000120	INPUT 0 N=N+1	\N ;INPUT DATA WORD 117 (DATA READ)
015774	000000 000121	INPUT 0 N=N+1	\N ;INPUT DATA WORD 120 (DATA READ)
015776	000000 000122	INPUT 0 N=N+1	\N ;INPUT DATA WORD 121 (DATA READ)
016000	000000 000123	INPUT 0 N=N+1	\N ;INPUT DATA WORD 122 (DATA READ)
016002	000000 000124	INPUT 0 N=N+1	\N ;INPUT DATA WORD 123 (DATA READ)
016004	000000 000125	INPUT 0 N=N+1	\N ;INPUT DATA WORD 124 (DATA READ)

016006	000000 000126	0 N=N+1 INPUT 0	INPUT DATA WORD 125 (DATA READ) \N INPUT DATA WORD 126 (DATA READ)
016010	000000 000127	0 N=N+1 INPUT 0	\N INPUT DATA WORD 127 (DATA READ)
016012	000000 000130	0 N=N+1 INPUT 0	\N INPUT DATA WORD 130 (DATA READ)
016014	000000 000131	0 N=N+1 INPUT 0	\N INPUT DATA WORD 131 (DATA READ)
016016	000000 000132	0 N=N+1 INPUT 0	\N INPUT DATA WORD 132 (DATA READ)
016020	000000 000133	0 N=N+1 INPUT 0	\N INPUT DATA WORD 133 (DATA READ)
016022	000000 000134	0 N=N+1 INPUT 0	\N INPUT DATA WORD 134 (DATA READ)
016024	000000 000135	0 N=N+1 INPUT 0	\N INPUT DATA WORD 135 (DATA READ)
016026	000000 000136	0 N=N+1 INPUT 0	\N INPUT DATA WORD 136 (DATA READ)
016030	000000 000137	0 N=N+1 INPUT 0	\N INPUT DATA WORD 137 (DATA READ)
016032	000000 000140	0 N=N+1 INPUT 0	\N INPUT DATA WORD 140 (DATA READ)
016034	000000 000141	0 N=N+1 INPUT 0	\N INPUT DATA WORD 141 (DATA READ)
016036	000000 000142	0 N=N+1 INPUT 0	\N INPUT DATA WORD 142 (DATA READ)
016040	000000 000143	0 N=N+1 INPUT 0	\N INPUT DATA WORD 143 (DATA READ)
016042	000000 000144	0 N=N+1 INPUT 0	\N INPUT DATA WORD 144 (DATA READ)
016044	000000 000145	0 N=N+1 INPUT 0	\N INPUT DATA WORD 145 (DATA READ)
016046	000000 000146	0 N=N+1 INPUT 0	\N INPUT DATA WORD 146 (DATA READ)
016050	000000 000147	0 N=N+1 INPUT 0	\N INPUT DATA WORD 147 (DATA READ)
016052	000000	0	INPUT DATA WORD 147 (DATA READ)

	000150	N=N+1	
016054	000000	INPUT	\N
	000151	0	;INPUT DATA WORD 150 (DATA READ)
		N=N+1	
016056	000000	INPUT	\N
	000152	0	;INPUT DATA WORD 151 (DATA READ)
		N=N+1	
016060	000000	INPUT	\N
	000153	0	;INPUT DATA WORD 152 (DATA READ)
		N=N+1	
016062	000000	INPUT	\N
	000154	0	;INPUT DATA WORD 153 (DATA READ)
		N=N+1	
016064	000000	INPUT	\N
	000155	0	;INPUT DATA WORD 154 (DATA READ)
		N=N+1	
016066	000000	INPUT	\N
	000156	0	;INPUT DATA WORD 155 (DATA READ)
		N=N+1	
016070	000000	INPUT	\N
	000157	0	;INPUT DATA WORD 156 (DATA READ)
		N=N+1	
016072	000000	INPUT	\N
	000160	0	;INPUT DATA WORD 157 (DATA READ)
		N=N+1	
016074	000000	INPUT	\N
	000161	0	;INPUT DATA WORD 160 (DATA READ)
		N=N+1	
016076	000000	INPUT	\N
	000162	0	;INPUT DATA WORD 161 (DATA READ)
		N=N+1	
016100	000000	INPUT	\N
	000163	0	;INPUT DATA WORD 162 (DATA READ)
		N=N+1	
016102	000000	INPUT	\N
	000164	0	;INPUT DATA WORD 163 (DATA READ)
		N=N+1	
016104	000000	INPUT	\N
	000165	0	;INPUT DATA WORD 164 (DATA READ)
		N=N+1	
016106	000000	INPUT	\N
	000166	0	;INPUT DATA WORD 165 (DATA READ)
		N=N+1	
016110	000000	INPUT	\N
	000167	0	;INPUT DATA WORD 166 (DATA READ)
		N=N+1	
016112	000000	INPUT	\N
	000170	0	;INPUT DATA WORD 167 (DATA READ)
		N=N+1	
016114	000000	INPUT	\N
	000171	0	;INPUT DATA WORD 170 (DATA READ)
		N=N+1	
016116	000000	INPUT	\N
	000172	0	;INPUT DATA WORD 171 (DATA READ)
		N=N+1	



016164	000000 000215	0 N=N+1 INPUT \N	;INPUT DATA WORD 214 (DATA READ)
016166	000000 000216	0 N=N+1 INPUT \N	;INPUT DATA WORD 215 (DATA READ)
016170	000000 000217	0 N=N+1 INPUT \N	;INPUT DATA WORD 216 (DATA READ)
016172	000000 000220	0 N=N+1 INPUT \N	;INPUT DATA WORD 217 (DATA READ)
016174	000000 000221	0 N=N+1 INPUT \N	;INPUT DATA WORD 220 (DATA READ)
016176	000000 000222	0 N=N+1 INPUT \N	;INPUT DATA WORD 221 (DATA READ)
016200	000000 000223	0 N=N+1 INPUT \N	;INPUT DATA WORD 222 (DATA READ)
016202	000000 000224	0 N=N+1 INPUT \N	;INPUT DATA WORD 223 (DATA READ)
016204	000000 000225	0 N=N+1 INPUT \N	;INPUT DATA WORD 224 (DATA READ)
016206	000000 000226	0 N=N+1 INPUT \N	;INPUT DATA WORD 225 (DATA READ)
016210	000000 000227	0 N=N+1 INPUT \N	;INPUT DATA WORD 226 (DATA READ)
016212	000000 000230	0 N=N+1 INPUT \N	;INPUT DATA WORD 227 (DATA READ)
016214	000000 000231	0 N=N+1 INPUT \N	;INPUT DATA WORD 230 (DATA READ)
016216	000000 000232	0 N=N+1 INPUT \N	;INPUT DATA WORD 231 (DATA READ)
016220	000000 000233	0 N=N+1 INPUT \N	;INPUT DATA WORD 232 (DATA READ)
016222	000000 000234	0 N=N+1 INPUT \N	;INPUT DATA WORD 233 (DATA READ)
016224	000000 000235	0 N=N+1 INPUT \N	;INPUT DATA WORD 234 (DATA READ)
016226	000000 000236	0 N=N+1 INPUT \N	;INPUT DATA WORD 235 (DATA READ)
016230	000000	0 INPUT \N	;INPUT DATA WORD 236 (DATA READ)

	000237	N=N+1	
		INPUT	\N
016232	000000	0	;INPUT DATA WORD 237 (DATA READ)
	000240	N=N+1	
		INPUT	\N
016234	000000	0	;INPUT DATA WORD 240 (DATA READ)
	000241	N=N+1	
		INPUT	\N
016236	000000	0	;INPUT DATA WORD 241 (DATA READ)
	000242	N=N+1	
		INPUT	\N
016240	000000	0	;INPUT DATA WORD 242 (DATA READ)
	000243	N=N+1	
		INPUT	\N
016242	000000	0	;INPUT DATA WORD 243 (DATA READ)
	000244	N=N+1	
		INPUT	\N
016244	000000	0	;INPUT DATA WORD 244 (DATA READ)
	000245	N=N+1	
		INPUT	\N
016246	000000	0	;INPUT DATA WORD 245 (DATA READ)
	000246	N=N+1	
		INPUT	\N
016250	000000	0	;INPUT DATA WORD 246 (DATA READ)
	000247	N=N+1	
		INPUT	\N
016252	000000	0	;INPUT DATA WORD 247 (DATA READ)
	000250	N=N+1	
		INPUT	\N
016254	000000	0	;INPUT DATA WORD 250 (DATA READ)
	000251	N=N+1	
		INPUT	\N
016256	000000	0	;INPUT DATA WORD 251 (DATA READ)
	000252	N=N+1	
		INPUT	\N
016260	000000	0	;INPUT DATA WORD 252 (DATA READ)
	000253	N=N+1	
		INPUT	\N
016262	000000	0	;INPUT DATA WORD 253 (DATA READ)
	000254	N=N+1	
		INPUT	\N
016264	000000	0	;INPUT DATA WORD 254 (DATA READ)
	000255	N=N+1	
		INPUT	\N
016266	000000	0	;INPUT DATA WORD 255 (DATA READ)
	000256	N=N+1	
		INPUT	\N
016270	000000	0	;INPUT DATA WORD 256 (DATA READ)
	000257	N=N+1	
		INPUT	\N
016272	000000	0	;INPUT DATA WORD 257 (DATA READ)
	000260	N=N+1	
		INPUT	\N
016274	000000	0	;INPUT DATA WORD 260 (DATA READ)
	000261	N=N+1	



016276	000000 000262	INPUT 0 N=N+1	\N ;INPUT DATA WORD 261 (DATA READ)
016300	000000 000263	INPUT 0 N=N+1	\N ;INPUT DATA WORD 262 (DATA READ)
016302	000000 000264	INPUT 0 N=N+1	\N ;INPUT DATA WORD 263 (DATA READ)
016304	000000 000265	INPUT 0 N=N+1	\N ;INPUT DATA WORD 264 (DATA READ)
016306	000000 000266	INPUT 0 N=N+1	\N ;INPUT DATA WORD 265 (DATA READ)
016310	000000 000267	INPUT 0 N=N+1	\N ;INPUT DATA WORD 266 (DATA READ)
016312	000000 000270	INPUT 0 N=N+1	\N ;INPUT DATA WORD 267 (DATA READ)
016314	000000 000271	INPUT 0 N=N+1	\N ;INPUT DATA WORD 270 (DATA READ)
016316	000000 000272	INPUT 0 N=N+1	\N ;INPUT DATA WORD 271 (DATA READ)
016320	000000 000273	INPUT 0 N=N+1	\N ;INPUT DATA WORD 272 (DATA READ)
016322	000000 000274	INPUT 0 N=N+1	\N ;INPUT DATA WORD 273 (DATA READ)
016324	000000 000275	INPUT 0 N=N+1	\N ;INPUT DATA WORD 274 (DATA READ)
016326	000000 000276	INPUT 0 N=N+1	\N ;INPUT DATA WORD 275 (DATA READ)
016330	000000 000277	INPUT 0 N=N+1	\N ;INPUT DATA WORD 276 (DATA READ)
016332	000000 000300	INPUT 0 N=N+1	\N ;INPUT DATA WORD 277 (DATA READ)
016334	000000 000301	INPUT 0 N=N+1	\N ;INPUT DATA WORD 300 (DATA READ)
016336	000000 000302	INPUT 0 N=N+1	\N ;INPUT DATA WORD 301 (DATA READ)
016340	000000 000303	INPUT 0 N=N+1	\N ;INPUT DATA WORD 302 (DATA READ)

016342	000000 000304	0	;INPUT DATA WORD 303 (DATA READ)
		N=N+1	
		INPUT	\N
016344	000000 000305	0	;INPUT DATA WORD 304 (DATA READ)
		N=N+1	
		INPUT	\N
016346	000000 000306	0	;INPUT DATA WORD 305 (DATA READ)
		N=N+1	
		INPUT	\N
016350	000000 000307	0	;INPUT DATA WORD 306 (DATA READ)
		N=N+1	
		INPUT	\N
016352	000000 000310	0	;INPUT DATA WORD 307 (DATA READ)
		N=N+1	
		INPUT	\N
016354	000000 000311	0	;INPUT DATA WORD 310 (DATA READ)
		N=N+1	
		INPUT	\N
016356	000000 000312	0	;INPUT DATA WORD 311 (DATA READ)
		N=N+1	
		INPUT	\N
016360	000000 000313	0	;INPUT DATA WORD 312 (DATA READ)
		N=N+1	
		INPUT	\N
016362	000000 000314	0	;INPUT DATA WORD 313 (DATA READ)
		N=N+1	
		INPUT	\N
016364	000000 000315	0	;INPUT DATA WORD 314 (DATA READ)
		N=N+1	
		INPUT	\N
016366	000000 000316	0	;INPUT DATA WORD 315 (DATA READ)
		N=N+1	
		INPUT	\N
016370	000000 000317	0	;INPUT DATA WORD 316 (DATA READ)
		N=N+1	
		INPUT	\N
016372	000000 000320	0	;INPUT DATA WORD 317 (DATA READ)
		N=N+1	
		INPUT	\N
016374	000000 000321	0	;INPUT DATA WORD 320 (DATA READ)
		N=N+1	
		INPUT	\N
016376	000000 000322	0	;INPUT DATA WORD 321 (DATA READ)
		N=N+1	
		INPUT	\N
016400	000000 000323	0	;INPUT DATA WORD 322 (DATA READ)
		N=N+1	
		INPUT	\N
016402	000000 000324	0	;INPUT DATA WORD 323 (DATA READ)
		N=N+1	
		INPUT	\N
016404	000000 000325	0	;INPUT DATA WORD 324 (DATA READ)
		N=N+1	
		INPUT	\N
016406	000000	0	;INPUT DATA WORD 325 (DATA READ)

	000326	N=N+1	
		INPUT	\N
016410	000000	0	;INPUT DATA WORD 326 (DATA READ)
	000327	N=N+1	
		INPUT	\N
016412	000000	0	;INPUT DATA WORD 327 (DATA READ)
	000330	N=N+1	
		INPUT	\N
016414	000000	0	;INPUT DATA WORD 330 (DATA READ)
	000331	N=N+1	
		INPUT	\N
016416	000000	0	;INPUT DATA WORD 331 (DATA READ)
	000332	N=N+1	
		INPUT	\N
016420	000000	0	;INPUT DATA WORD 332 (DATA READ)
	000333	N=N+1	
		INPUT	\N
016422	000000	0	;INPUT DATA WORD 333 (DATA READ)
	000334	N=N+1	
		INPUT	\N
016424	000000	0	;INPUT DATA WORD 334 (DATA READ)
	000335	N=N+1	
		INPUT	\N
016426	000000	0	;INPUT DATA WORD 335 (DATA READ)
	000336	N=N+1	
		INPUT	\N
016430	000100	0	;INPUT DATA WORD 336 (DATA READ)
	000337	N=N+1	
		INPUT	\N
016432	000000	0	;INPUT DATA WORD 337 (DATA READ)
	000340	N=N+1	
		INPUT	\N
016434	000000	0	;INPUT DATA WORD 340 (DATA READ)
	000341	N=N+1	
		INPUT	\N
016436	000100	0	;INPUT DATA WORD 341 (DATA READ)
	000342	N=N+1	
		INPUT	\N
016440	000000	0	;INPUT DATA WORD 342 (DATA READ)
	000343	N=N+1	
		INPUT	\N
016442	000000	0	;INPUT DATA WORD 343 (DATA READ)
	000344	N=N+1	
		INPUT	\N
016444	000000	0	;INPUT DATA WORD 344 (DATA READ)
	000345	N=N+1	
		INPUT	\N
016446	000000	0	;INPUT DATA WORD 345 (DATA READ)
	000346	N=N+1	
		INPUT	\N
016450	000000	0	;INPUT DATA WORD 346 (DATA READ)
	000347	N=N+1	
		INPUT	\N
016452	000000	0	;INPUT DATA WORD 347 (DATA READ)
	000350	N=N+1	

016454	000000 000351	INPUT 0 N=N+1 INPUT	\N ;INPUT DATA WORD 350 (DATA READ) \N
016456	000000 000352	INPUT 0 N=N+1 INPUT	\N ;INPUT DATA WORD 351 (DATA READ) \N
016460	000000 000353	INPUT 0 N=N+1 INPUT	\N ;INPUT DATA WORD 352 (DATA READ) \N
016462	000000 000354	INPUT 0 N=N+1 INPUT	\N ;INPUT DATA WORD 353 (DATA READ) \N
016464	000000 000355	INPUT 0 N=N+1 INPUT	\N ;INPUT DATA WORD 354 (DATA READ) \N
016466	000000 000356	INPUT 0 N=N+1 INPUT	\N ;INPUT DATA WORD 355 (DATA READ) \N
016470	000000 000357	INPUT 0 N=N+1 INPUT	\N ;INPUT DATA WORD 356 (DATA READ) \N
016472	000000 000360	INPUT 0 N=N+1 INPUT	\N ;INPUT DATA WORD 357 (DATA READ) \N
016474	000000 000361	INPUT 0 N=N+1 INPUT	\N ;INPUT DATA WORD 360 (DATA READ) \N
016476	000000 000362	INPUT 0 N=N+1 INPUT	\N ;INPUT DATA WORD 361 (DATA READ) \N
016500	000000 000363	INPUT 0 N=N+1 INPUT	\N ;INPUT DATA WORD 362 (DATA READ) \N
016502	000000 000364	INPUT 0 N=N+1 INPUT	\N ;INPUT DATA WORD 363 (DATA READ) \N
016504	000000 000365	INPUT 0 N=N+1 INPUT	\N ;INPUT DATA WORD 364 (DATA READ) \N
016506	000000 000366	INPUT 0 N=N+1 INPUT	\N ;INPUT DATA WORD 365 (DATA READ) \N
016510	000000 000367	INPUT 0 N=N+1 INPUT	\N ;INPUT DATA WORD 366 (DATA READ) \N
016512	000000 000370	INPUT 0 N=N+1 INPUT	\N ;INPUT DATA WORD 367 (DATA READ) \N
016514	000000 000371	INPUT 0 N=N+1 INPUT	\N ;INPUT DATA WORD 370 (DATA READ) \N
016516	000000 000372	INPUT 0 N=N+1 INPUT	\N ;INPUT DATA WORD 371 (DATA READ) \N

016520	000000 000373	0	;INPUT DATA WORD 372 (DATA READ)
		N=N+1	
		INPUT	\N
016522	000000 000374	0	;INPUT DATA WORD 373 (DATA READ)
		N=N+1	
		INPUT	\N
016524	000000 000375	0	;INPUT DATA WORD 374 (DATA READ)
		N=N+1	
		INPUT	\N
016526	000000 000376	0	;INPUT DATA WORD 375 (DATA READ)
		N=N+1	
		INPUT	\N
016530	000000 000377	0	;INPUT DATA WORD 376 (DATA READ)
		N=N+1	
		INPUT	\N
016532	000000 000400	0	;INPUT DATA WORD 377 (DATA READ)
		N=N+1	
		INPUT	\N
016534	000000 000401	0	;INPUT DATA WORD 400 (DATA READ)
		N=N+1	
		INPUT	\N
016536	000000 000402	0	;INPUT DATA WORD 401 (DATA READ)
		N=N+1	
		INPUT	\N
016540	000000 000403	0	;INPUT DATA WORD 402 (DATA READ)
		N=N+1	
		INPUT	\N
016542	000000 000404	0	;INPUT DATA WORD 403 (DATA READ)
		N=N+1	
		INPUT	\N
016544	000000 000405	0	;INPUT DATA WORD 404 (DATA READ)
		N=N+1	
		INPUT	\N
016546	000000 000406	0	;INPUT DATA WORD 405 (DATA READ)
		N=N+1	
		INPUT	\N
016550	000000 000407	0	;INPUT DATA WORD 406 (DATA READ)
		N=N+1	
		INPUT	\N
016552	000000 000410	0	;INPUT DATA WORD 407 (DATA READ)
		N=N+1	
		INPUT	\N
016554	000000 000411	0	;INPUT DATA WORD 410 (DATA READ)
		N=N+1	
		INPUT	\N
016556	000000 000412	0	;INPUT DATA WORD 411 (DATA READ)
		N=N+1	
		INPUT	\N
016560	000000 000413	0	;INPUT DATA WORD 412 (DATA READ)
		N=N+1	
		INPUT	\N
016562	000000 000414	0	;INPUT DATA WORD 413 (DATA READ)
		N=N+1	
		INPUT	\N
016564	000000	0	;INPUT DATA WORD 414 (DATA READ)

	000415	N=N+1	
		INPUT	\N
016566	000000	0	INPUT DATA WORD 415 (DATA READ)
	000416	N=N+1	
		INPUT	\N
016570	000000	0	INPUT DATA WORD 416 (DATA READ)
	000417	N=N+1	
		INPUT	\N
016572	000000	0	INPUT DATA WORD 417 (DATA READ)
	000420	N=N+1	
		INPUT	\N
016574	000000	0	INPUT DATA WORD 420 (DATA READ)
	000421	N=N+1	
		INPUT	\N
016576	000000	0	INPUT DATA WORD 421 (DATA READ)
	000422	N=N+1	
		INPUT	\N
016600	000000	0	INPUT DATA WORD 422 (DATA READ)
	000423	N=N+1	
		INPUT	\N
016602	000000	0	INPUT DATA WORD 423 (DATA READ)
	000424	N=N+1	
		INPUT	\N
016604	000000	0	INPUT DATA WORD 424 (DATA READ)
	000425	N=N+1	
		INPUT	\N
016606	000000	0	INPUT DATA WORD 425 (DATA READ)
	000426	N=N+1	
		INPUT	\N
016610	000000	0	INPUT DATA WORD 426 (DATA READ)
	000427	N=N+1	
		INPUT	\N
016612	000000	0	INPUT DATA WORD 427 (DATA READ)
	000430	N=N+1	
		INPUT	\N
016614	000000	0	INPUT DATA WORD 430 (DATA READ)
	000431	N=N+1	
		INPUT	\N
016616	000000	0	INPUT DATA WORD 431 (DATA READ)
	000432	N=N+1	
		INPUT	\N
016620	000000	0	INPUT DATA WORD 432 (DATA READ)
	000433	N=N+1	
		INPUT	\N
016622	000000	0	INPUT DATA WORD 433 (DATA READ)
	000434	N=N+1	
		INPUT	\N
016624	000000	0	INPUT DATA WORD 434 (DATA READ)
	000435	N=N+1	
		INPUT	\N
016626	000000	0	INPUT DATA WORD 435 (DATA READ)
	000436	N=N+1	
		INPUT	\N
016630	000000	0	INPUT DATA WORD 436 (DATA READ)
	000437	N=N+1	

016632	000000 000440	INPUT 0 N=N+1	\N ;INPUT DATA WORD 437 (DATA READ)
016634	000000 000441	INPUT 0 N=N+1	\N ;INPUT DATA WORD 440 (DATA READ)
016636	000000 000442	INPUT 0 N=N+1	\N ;INPUT DATA WORD 441 (DATA READ)
016640	000000 000443	INPUT 0 N=N+1	\N ;INPUT DATA WORD 442 (DATA READ)
016642	000000 000444	INPUT 0 N=N+1	\N ;INPUT DATA WORD 443 (DATA READ)
016644	000000 000445	INPUT 0 N=N+1	\N ;INPUT DATA WORD 444 (DATA READ)
016646	000000 000446	INPUT 0 N=N+1	\N ;INPUT DATA WORD 445 (DATA READ)
016650	000000 000447	INPUT 0 N=N+1	\N ;INPUT DATA WORD 446 (DATA READ)
016652	000000 000450	INPUT 0 N=N+1	\N ;INPUT DATA WORD 447 (DATA READ)
016654	000000 000451	INPUT 0 N=N+1	\N ;INPUT DATA WORD 450 (DATA READ)
016656	000000 000452	INPUT 0 N=N+1	\N ;INPUT DATA WORD 451 (DATA READ)
016660	000000 000453	INPUT 0 N=N+1	\N ;INPUT DATA WORD 452 (DATA READ)
016662	000000 000454	INPUT 0 N=N+1	\N ;INPUT DATA WORD 453 (DATA READ)
016664	000000 000455	INPUT 0 N=N+1	\N ;INPUT DATA WORD 454 (DATA READ)
016666	000000 000456	INPUT 0 N=N+1	\N ;INPUT DATA WORD 455 (DATA READ)
016670	000000 000457	INPUT 0 N=N+1	\N ;INPUT DATA WORD 456 (DATA READ)
016672	000000 000460	INPUT 0 N=N+1	\N ;INPUT DATA WORD 457 (DATA READ)
016674	000000 000461	INPUT 0 N=N+1	\N ;INPUT DATA WORD 460 (DATA READ)
		INPUT	\N

016676	000000 000462	0 N=N+1 INPUT 0	INPUT DATA WORD 461 (DATA READ) \N INPUT DATA WORD 462 (DATA READ)
016700	000000 000463	N=N+1 INPUT 0	INPUT DATA WORD 463 (DATA READ) \N INPUT DATA WORD 464 (DATA READ)
016702	000000 000464	N=N+1 INPUT 0	INPUT DATA WORD 465 (DATA READ) \N INPUT DATA WORD 466 (DATA READ)
016704	000000 000465	N=N+1 INPUT 0	INPUT DATA WORD 467 (DATA READ) \N INPUT DATA WORD 468 (DATA READ)
016706	000000 000466	N=N+1 INPUT 0	INPUT DATA WORD 469 (DATA READ) \N INPUT DATA WORD 470 (DATA READ)
016710	000000 000467	N=N+1 INPUT 0	INPUT DATA WORD 471 (DATA READ) \N INPUT DATA WORD 472 (DATA READ)
016712	000000 000470	N=N+1 INPUT 0	INPUT DATA WORD 473 (DATA READ) \N INPUT DATA WORD 474 (DATA READ)
016714	000000 000471	N=N+1 INPUT 0	INPUT DATA WORD 475 (DATA READ) \N INPUT DATA WORD 476 (DATA READ)
016716	000000 000472	N=N+1 INPUT 0	INPUT DATA WORD 477 (DATA READ) \N INPUT DATA WORD 478 (DATA READ)
016720	000000 000473	N=N+1 INPUT 0	INPUT DATA WORD 479 (DATA READ) \N INPUT DATA WORD 480 (DATA READ)
016722	000000 000474	N=N+1 INPUT 0	INPUT DATA WORD 481 (DATA READ) \N INPUT DATA WORD 482 (DATA READ)
016724	000000 000475	N=N+1 INPUT 0	INPUT DATA WORD 483 (DATA READ) \N INPUT DATA WORD 484 (DATA READ)
016726	000000 000476	N=N+1 INPUT 0	INPUT DATA WORD 485 (DATA READ) \N INPUT DATA WORD 486 (DATA READ)
016730	000000 000477	N=N+1 INPUT 0	INPUT DATA WORD 487 (DATA READ) \N INPUT DATA WORD 488 (DATA READ)
016732	000000 000500	N=N+1 INPUT 0	INPUT DATA WORD 489 (DATA READ) \N INPUT DATA WORD 490 (DATA READ)
016734	000000 000501	N=N+1 INPUT 0	INPUT DATA WORD 491 (DATA READ) \N INPUT DATA WORD 492 (DATA READ)
016736	000000 000502	N=N+1 INPUT 0	INPUT DATA WORD 493 (DATA READ) \N INPUT DATA WORD 494 (DATA READ)
016740	000000 000503	N=N+1 INPUT 0	INPUT DATA WORD 495 (DATA READ) \N INPUT DATA WORD 496 (DATA READ)
016742	000000	0	INPUT DATA WORD 497 (DATA READ)



	000504	N=N+1	
		INPUT	\N
016744	000000	0	;INPUT DATA WORD 504 (DATA READ)
	000505	N=N+1	
		INPUT	\N
016746	000000	0	;INPUT DATA WORD 505 (DATA READ)
	000506	N=N+1	
		INPUT	\N
016750	000000	0	;INPUT DATA WORD 506 (DATA READ)
	000507	N=N+1	
		INPUT	\N
016752	000000	0	;INPUT DATA WORD 507 (DATA READ)
	000510	N=N+1	
		INPUT	\N
016754	000000	0	;INPUT DATA WORD 510 (DATA READ)
	000511	N=N+1	
		INPUT	\N
016756	000000	0	;INPUT DATA WORD 511 (DATA READ)
	000512	N=N+1	
		INPUT	\N
016760	000000	0	;INPUT DATA WORD 512 (DATA READ)
	000513	N=N+1	
		INPUT	\N
016762	000000	0	;INPUT DATA WORD 513 (DATA READ)
	000514	N=N+1	
		INPUT	\N
016764	000000	0	;INPUT DATA WORD 514 (DATA READ)
	000515	N=N+1	
		INPUT	\N
016766	000000	0	;INPUT DATA WORD 515 (DATA READ)
	000516	N=N+1	
		INPUT	\N
016770	000000	0	;INPUT DATA WORD 516 (DATA READ)
	000517	N=N+1	
		INPUT	\N
016772	000000	0	;INPUT DATA WORD 517 (DATA READ)
	000520	N=N+1	
		INPUT	\N
016774	000000	0	;INPUT DATA WORD 520 (DATA READ)
	000521	N=N+1	
		INPUT	\N
016776	000000	0	;INPUT DATA WORD 521 (DATA READ)
	000522	N=N+1	
		INPUT	\N
017000	000000	0	;INPUT DATA WORD 522 (DATA READ)
	000523	N=N+1	
		INPUT	\N
017002	000000	0	;INPUT DATA WORD 523 (DATA READ)
	000524	N=N+1	
		INPUT	\N
017004	000000	0	;INPUT DATA WORD 524 (DATA READ)
	000525	N=N+1	
		INPUT	\N
017006	000000	0	;INPUT DATA WORD 525 (DATA READ)
	000526	N=N+1	

017010	000000 000527	INPUT \N 0 ;INPUT DATA WORD 526 (DATA READ) N=N+1
017012	000000 000530	INPUT \N 0 ;INPUT DATA WORD 527 (DATA READ) N=N+1
017014	000000 000531	INPUT \N 0 ;INPUT DATA WORD 530 (DATA READ) N=N+1
017016	000000 000532	INPUT \N 0 ;INPUT DATA WORD 531 (DATA READ) N=N+1
017020	000000 000533	INPUT \N 0 ;INPUT DATA WORD 532 (DATA READ) N=N+1
017022	000000 000534	INPUT \N 0 ;INPUT DATA WORD 533 (DATA READ) N=N+1
017024	000000 000535	INPUT \N 0 ;INPUT DATA WORD 534 (DATA READ) N=N+1
017026	000000 000536	INPUT \N 0 ;INPUT DATA WORD 535 (DATA READ) N=N+1
017030	000000 000537	INPUT \N 0 ;INPUT DATA WORD 536 (DATA READ) N=N+1
017032	000000 000540	INPUT \N 0 ;INPUT DATA WORD 537 (DATA READ) N=N+1
017034	000000 000541	INPUT \N 0 ;INPUT DATA WORD 540 (DATA READ) N=N+1
017036	000000 000542	INPUT \N 0 ;INPUT DATA WORD 541 (DATA READ) N=N+1
017040	000000 000543	INPUT \N 0 ;INPUT DATA WORD 542 (DATA READ) N=N+1
017042	000000 000544	INPUT \N 0 ;INPUT DATA WORD 543 (DATA READ) N=N+1
017044	000000 000545	INPUT \N 0 ;INPUT DATA WORD 544 (DATA READ) N=N+1
017046	000000 000546	INPUT \N 0 ;INPUT DATA WORD 545 (DATA READ) N=N+1
017050	000000 000547	INPUT \N 0 ;INPUT DATA WORD 546 (DATA READ) N=N+1
017052	000000 000550	INPUT \N 0 ;INPUT DATA WORD 547 (DATA READ) N=N+1 INPUT \N

017054	000000 000551	0 N=N+1 INPUT	\N ;INPUT DATA WORD 550 (DATA READ)
017056	000000 000552	0 N=N+1 INPUT	\N ;INPUT DATA WORD 551 (DATA READ)
017060	000000 000553	0 N=N+1 INPUT	\N ;INPUT DATA WORD 552 (DATA READ)
017062	000000 000554	0 N=N+1 INPUT	\N ;INPUT DATA WORD 553 (DATA READ)
017064	000000 000555	0 N=N+1 INPUT	\N ;INPUT DATA WORD 554 (DATA READ)
017066	000000 000556	0 N=N+1 INPUT	\N ;INPUT DATA WORD 555 (DATA READ)
017070	000000 000557	0 N=N+1 INPUT	\N ;INPUT DATA WORD 556 (DATA READ)
017072	000000 000560	0 N=N+1 INPUT	\N ;INPUT DATA WORD 557 (DATA READ)
017074	000000 000561	0 N=N+1 INPUT	\N ;INPUT DATA WORD 560 (DATA READ)
017076	000000 000562	0 N=N+1 INPUT	\N ;INPUT DATA WORD 561 (DATA READ)
017100	000000 000563	0 N=N+1 INPUT	\N ;INPUT DATA WORD 562 (DATA READ)
017102	000000 000564	0 N=N+1 INPUT	\N ;INPUT DATA WORD 563 (DATA READ)
017104	000000 000565	0 N=N+1 INPUT	\N ;INPUT DATA WORD 564 (DATA READ)
017106	000000 000566	0 N=N+1 INPUT	\N ;INPUT DATA WORD 565 (DATA READ)
017110	000000 000567	0 N=N+1 INPUT	\N ;INPUT DATA WORD 566 (DATA READ)
017112	000000 000570	0 N=N+1 INPUT	\N ;INPUT DATA WORD 567 (DATA READ)
017114	000000 000571	0 N=N+1 INPUT	\N ;INPUT DATA WORD 570 (DATA READ)
017116	000000 000572	0 N=N+1 INPUT	\N ;INPUT DATA WORD 571 (DATA READ)
017120	000000	0	;INPUT DATA WORD 572 (DATA READ)

	000573	N=N+1	
		INPUT	\N
017122	000000	0	INPUT DATA WORD 573 (DATA READ)
	000574	N=N+1	
		INPUT	\N
017124	000000	0	INPUT DATA WORD 574 (DATA READ)
	000575	N=N+1	
		INPUT	\N
017126	000000	0	INPUT DATA WORD 575 (DATA READ)
	000576	N=N+1	
		INPUT	\N
017130	000000	0	INPUT DATA WORD 576 (DATA READ)
	000577	N=N+1	
		INPUT	\N
017132	000000	0	INPUT DATA WORD 577 (DATA READ)
	000600	N=N+1	
		INPUT	\N
017134	000000	0	INPUT DATA WORD 600 (DATA READ)
	000601	N=N+1	
		INPUT	\N
017136	000000	0	INPUT DATA WORD 601 (DATA READ)
	000602	N=N+1	
		INPUT	\N
017140	000000	0	INPUT DATA WORD 602 (DATA READ)
	000603	N=N+1	
		INPUT	\N
017142	000000	0	INPUT DATA WORD 603 (DATA READ)
	000604	N=N+1	
		INPUT	\N
017144	000000	0	INPUT DATA WORD 604 (DATA READ)
	000605	N=N+1	
		INPUT	\N
017146	000000	0	INPUT DATA WORD 605 (DATA READ)
	000606	N=N+1	
		INPUT	\N
017150	000000	0	INPUT DATA WORD 606 (DATA READ)
	000607	N=N+1	
		INPUT	\N
017152	000000	0	INPUT DATA WORD 607 (DATA READ)
	000610	N=N+1	
		INPUT	\N
017154	000000	0	INPUT DATA WORD 610 (DATA READ)
	000611	N=N+1	
		INPUT	\N
017156	000000	0	INPUT DATA WORD 611 (DATA READ)
	000612	N=N+1	
		INPUT	\N
017160	000000	0	INPUT DATA WORD 612 (DATA READ)
	000613	N=N+1	
		INPUT	\N
017162	000000	0	INPUT DATA WORD 613 (DATA READ)
	000614	N=N+1	
		INPUT	\N
017164	000000	0	INPUT DATA WORD 614 (DATA READ)
	000615	N=N+1	

017166	000000 000616	INPUT \N 0 ;INPUT DATA WORD 615 (DATA READ) N=N+1
017170	000000 000617	INPUT \N 0 ;INPUT DATA WORD 616 (DATA READ) N=N+1
017172	000000 000620	INPUT \N 0 ;INPUT DATA WORD 617 (DATA READ) N=N+1
017174	000000 000621	INPUT \N 0 ;INPUT DATA WORD 620 (DATA READ) N=N+1
017176	000000 000622	INPUT \N 0 ;INPUT DATA WORD 621 (DATA READ) N=N+1
017200	000000 000623	INPUT \N 0 ;INPUT DATA WORD 622 (DATA READ) N=N+1
017202	000000 000624	INPUT \N 0 ;INPUT DATA WORD 623 (DATA READ) N=N+1
017204	000000 000625	INPUT \N 0 ;INPUT DATA WORD 624 (DATA READ) N=N+1
017206	000000 000626	INPUT \N 0 ;INPUT DATA WORD 625 (DATA READ) N=N+1
017210	000000 000627	INPUT \N 0 ;INPUT DATA WORD 626 (DATA READ) N=N+1
017212	000000 000630	INPUT \N 0 ;INPUT DATA WORD 627 (DATA READ) N=N+1
017214	000000 000631	INPUT \N 0 ;INPUT DATA WORD 630 (DATA READ) N=N+1
017216	000000 000632	INPUT \N 0 ;INPUT DATA WORD 631 (DATA READ) N=N+1
017220	000000 000633	INPUT \N 0 ;INPUT DATA WORD 632 (DATA READ) N=N+1
017222	000000 000634	INPUT \N 0 ;INPUT DATA WORD 633 (DATA READ) N=N+1
017224	000000 000635	INPUT \N 0 ;INPUT DATA WORD 634 (DATA READ) N=N+1
017226	000000 000636	INPUT \N 0 ;INPUT DATA WORD 635 (DATA READ) N=N+1
017230	000000 000637	INPUT \N 0 ;INPUT DATA WORD 636 (DATA READ) N=N+1

017232	000000 000640	0 N=N+1 INPUT	INPUT DATA WORD 637 (DATA READ) \N
017234	000000 000641	0 N=N+1 INPUT	INPUT DATA WORD 640 (DATA READ) \N
017236	000000 000642	0 N=N+1 INPUT	INPUT DATA WORD 641 (DATA READ) \N
017240	000000 000643	0 N=N+1 INPUT	INPUT DATA WORD 642 (DATA READ) \N
017242	000000 000644	0 N=N+1 INPUT	INPUT DATA WORD 643 (DATA READ) \N
017244	000000 000645	0 N=N+1 INPUT	INPUT DATA WORD 644 (DATA READ) \N
017246	000000 000646	0 N=N+1 INPUT	INPUT DATA WORD 645 (DATA READ) \N
017250	000000 000647	0 N=N+1 INPUT	INPUT DATA WORD 646 (DATA READ) \N
017252	000000 000650	0 N=N+1 INPUT	INPUT DATA WORD 647 (DATA READ) \N
017254	000000 000651	0 N=N+1 INPUT	INPUT DATA WORD 650 (DATA READ) \N
017256	000000 000652	0 N=N+1 INPUT	INPUT DATA WORD 651 (DATA READ) \N
017260	000000 000653	0 N=N+1 INPUT	INPUT DATA WORD 652 (DATA READ) \N
017262	000000 000654	0 N=N+1 INPUT	INPUT DATA WORD 653 (DATA READ) \N
017264	000000 000655	0 N=N+1 INPUT	INPUT DATA WORD 654 (DATA READ) \N
017266	000000 000656	0 N=N+1 INPUT	INPUT DATA WORD 655 (DATA READ) \N
017270	000000 000657	0 N=N+1 INPUT	INPUT DATA WORD 656 (DATA READ) \N
017272	000000 000660	0 N=N+1 INPUT	INPUT DATA WORD 657 (DATA READ) \N
017274	000000 000661	0 N=N+1 INPUT	INPUT DATA WORD 660 (DATA READ) \N
017276	000000	0 N=N+1 INPUT	INPUT DATA WORD 661 (DATA READ)

	000662	N=N+1	
017300	000700 000663	INPUT \N	
		0 ;INPUT DATA WORD 662 (DATA READ)	
		N=N+1	
017302	000700 000664	INPUT \N	
		0 ;INPUT DATA WORD 663 (DATA READ)	
		N=N+1	
017304	000700 000665	INPUT \N	
		0 ;INPUT DATA WORD 664 (DATA READ)	
		N=N+1	
017306	000700 000666	INPUT \N	
		0 ;INPUT DATA WORD 665 (DATA READ)	
		N=N+1	
017310	000700 000667	INPUT \N	
		0 ;INPUT DATA WORD 666 (DATA READ)	
		N=N+1	
017312	000700 000670	INPUT \N	
		0 ;INPUT DATA WORD 667 (DATA READ)	
		N=N+1	
017314	000700 000671	INPUT \N	
		0 ;INPUT DATA WORD 670 (DATA READ)	
		N=N+1	
017316	000700 000672	INPUT \N	
		0 ;INPUT DATA WORD 671 (DATA READ)	
		N=N+1	
017320	000700 000673	INPUT \N	
		0 ;INPUT DATA WORD 672 (DATA READ)	
		N=N+1	
017322	000700 000674	INPUT \N	
		0 ;INPUT DATA WORD 673 (DATA READ)	
		N=N+1	
017324	000700 000675	INPUT \N	
		0 ;INPUT DATA WORD 674 (DATA READ)	
		N=N+1	
017326	000700 000676	INPUT \N	
		0 ;INPUT DATA WORD 675 (DATA READ)	
		N=N+1	
017330	000700 000677	INPUT \N	
		0 ;INPUT DATA WORD 676 (DATA READ)	
		N=N+1	
017332	000700 000700	INPUT \N	
		0 ;INPUT DATA WORD 677 (DATA READ)	
		N=N+1	
017334	000700 000701	INPUT \N	
		0 ;INPUT DATA WORD 700 (DATA READ)	
		N=N+1	
017336	000700 000702	INPUT \N	
		0 ;INPUT DATA WORD 701 (DATA READ)	
		N=N+1	
017340	000700 000703	INPUT \N	
		0 ;INPUT DATA WORD 702 (DATA READ)	
		N=N+1	
017342	000700 000704	INPUT \N	
		0 ;INPUT DATA WORD 703 (DATA READ)	
		N=N+1	

017344	000000 000705	INPUT 0 N=N+1	\N ; INPUT DATA WORD 704 (DATA READ)
017346	000000 000706	INPUT 0 N=N+1	\N ; INPUT DATA WORD 705 (DATA READ)
017350	000000 000707	INPUT 0 N=N+1	\N ; INPUT DATA WORD 706 (DATA READ)
017352	000000 000710	INPUT 0 N=N+1	\N ; INPUT DATA WORD 707 (DATA READ)
017354	000000 000711	INPUT 0 N=N+1	\N ; INPUT DATA WORD 710 (DATA READ)
017356	000000 000712	INPUT 0 N=N+1	\N ; INPUT DATA WORD 711 (DATA READ)
017360	000000 000713	INPUT 0 N=N+1	\N ; INPUT DATA WORD 712 (DATA READ)
017362	000000 000714	INPUT 0 N=N+1	\N ; INPUT DATA WORD 713 (DATA READ)
017364	000000 000715	INPUT 0 N=N+1	\N ; INPUT DATA WORD 714 (DATA READ)
017366	000000 000716	INPUT 0 N=N+1	\N ; INPUT DATA WORD 715 (DATA READ)
017370	000000 000717	INPUT 0 N=N+1	\N ; INPUT DATA WORD 716 (DATA READ)
017372	000000 000720	INPUT 0 N=N+1	\N ; INPUT DATA WORD 717 (DATA READ)
017374	000000 000721	INPUT 0 N=N+1	\N ; INPUT DATA WORD 720 (DATA READ)
017376	000000 000722	INPUT 0 N=N+1	\N ; INPUT DATA WORD 721 (DATA READ)
017400	000000 000723	INPUT 0 N=N+1	\N ; INPUT DATA WORD 722 (DATA READ)
017402	000000 000724	INPUT 0 N=N+1	\N ; INPUT DATA WORD 723 (DATA READ)
017404	000000 000725	INPUT 0 N=N+1	\N ; INPUT DATA WORD 724 (DATA READ)
017406	000000 000726	INPUT 0 N=N+1	\N ; INPUT DATA WORD 725 (DATA READ)
		INPUT	\N



017410	000000 000727	0 N=N+1 INPUT	\N ;INPUT DATA WORD 726 (DATA READ)
017412	000000 000730	0 N=N+1 INPUT	\N ;INPUT DATA WORD 727 (DATA READ)
017414	000000 000731	0 N=N+1 INPUT	\N ;INPUT DATA WORD 730 (DATA READ)
017416	000000 000732	0 N=N+1 INPUT	\N ;INPUT DATA WORD 731 (DATA READ)
017420	000000 000733	0 N=N+1 INPUT	\N ;INPUT DATA WORD 732 (DATA READ)
017422	000000 000734	0 N=N+1 INPUT	\N ;INPUT DATA WORD 733 (DATA READ)
017424	000000 000735	0 N=N+1 INPUT	\N ;INPUT DATA WORD 734 (DATA READ)
017426	000000 000736	0 N=N+1 INPUT	\N ;INPUT DATA WORD 735 (DATA READ)
017430	000000 000737	0 N=N+1 INPUT	\N ;INPUT DATA WORD 736 (DATA READ)
017432	000000 000740	0 N=N+1 INPUT	\N ;INPUT DATA WORD 737 (DATA READ)
017434	000000 000741	0 N=N+1 INPUT	\N ;INPUT DATA WORD 740 (DATA READ)
017436	000000 000742	0 N=N+1 INPUT	\N ;INPUT DATA WORD 741 (DATA READ)
017440	000000 000743	0 N=N+1 INPUT	\N ;INPUT DATA WORD 742 (DATA READ)
017442	000000 000744	0 N=N+1 INPUT	\N ;INPUT DATA WORD 743 (DATA READ)
017444	000000 000745	0 N=N+1 INPUT	\N ;INPUT DATA WORD 744 (DATA READ)
017446	000000 000746	0 N=N+1 INPUT	\N ;INPUT DATA WORD 745 (DATA READ)
017450	000000 000747	0 N=N+1 INPUT	\N ;INPUT DATA WORD 746 (DATA READ)
017452	000000 000750	0 N=N+1 INPUT	\N ;INPUT DATA WORD 747 (DATA READ)
017454	000000	0	;INPUT DATA WORD 750 (DATA READ)

	000751	N=N+1	
		INPUT	\N
017456	000000 000752	0	; INPUT DATA WORD 751 (DATA READ)
		N=N+1	
		INPUT	\N
017460	000000 000753	0	; INPUT DATA WORD 752 (DATA READ)
		N=N+1	
		INPUT	\N
017462	000000 000754	0	; INPUT DATA WORD 753 (DATA READ)
		N=N+1	
		INPUT	\N
017464	000000 000755	0	; INPUT DATA WORD 754 (DATA READ)
		N=N+1	
		INPUT	\N
017466	000000 000756	0	; INPUT DATA WORD 755 (DATA READ)
		N=N+1	
		INPUT	\N
017470	000000 000757	0	; INPUT DATA WORD 756 (DATA READ)
		N=N+1	
		INPUT	\N
017472	000000 000760	0	; INPUT DATA WORD 757 (DATA READ)
		N=N+1	
		INPUT	\N
017474	000000 000761	0	; INPUT DATA WORD 760 (DATA READ)
		N=N+1	
		INPUT	\N
017476	000000 000762	0	; INPUT DATA WORD 761 (DATA READ)
		N=N+1	
		INPUT	\N
017500	000000 000763	0	; INPUT DATA WORD 762 (DATA READ)
		N=N+1	
		INPUT	\N
017502	000000 000764	0	; INPUT DATA WORD 763 (DATA READ)
		N=N+1	
		INPUT	\N
017504	000000 000765	0	; INPUT DATA WORD 764 (DATA READ)
		N=N+1	
		INPUT	\N
017506	000000 000766	0	; INPUT DATA WORD 765 (DATA READ)
		N=N+1	
		INPUT	\N
017510	000000 000767	0	; INPUT DATA WORD 766 (DATA READ)
		N=N+1	
		INPUT	\N
017512	000000 000770	0	; INPUT DATA WORD 767 (DATA READ)
		N=N+1	
		INPUT	\N
017514	000000 000771	0	; INPUT DATA WORD 770 (DATA READ)
		N=N+1	
		INPUT	\N
017516	000000 000772	0	; INPUT DATA WORD 771 (DATA READ)
		N=N+1	
		INPUT	\N
017520	000000 000773	0	; INPUT DATA WORD 772 (DATA READ)
		N=N+1	

```
017522 000000
        000774
        INPUT  \N
        0      ;INPUT DATA WORD 773 (DATA READ)
        N=N+1
        INPUT  \N
017524 000000
        000775
        INPUT  \N
        0      ;INPUT DATA WORD 774 (DATA READ)
        N=N+1
        INPUT  \N
017526 000000
        000776
        INPUT  \N
        0      ;INPUT DATA WORD 775 (DATA READ)
        N=N+1
        INPUT  \N
017530 000000
        000777
        INPUT  \N
        0      ;INPUT DATA WORD 776 (DATA READ)
        N=N+1
        INPUT  \N
017532 000000
        001000
        INPUT  \N
        0      ;INPUT DATA WORD 777 (DATA READ)
        N=N+1
        .END
000001
```

ACNVX	012436	CON10	013502	ER4	002464	MES2	013015
ACVN	012370	CON11	013520	ER5	002644	MES2A	013031
ADAM	007730	CON2	013306	ER6	003036	MES3	013050
ADRCMP	003152	CON3	013326	ER7	003144	MES4	013065
ADDRD	005332	CON4	013357	ERADR	007320	MES5	013106
ADS	001432	CON5	013370	ERCOUN	001066	MES6	013126
ADT2	001762	CON6	013407	ESH	005226	MES7	013146
ADT3	002706	CON7	013434	EXGEN	007576	MES8	013150
ADT4	003262	CON8	013447	EXMFLG	001746	MOVLK	011574
ADT5	003710	CON9	013472	EXRAX	006032	MSTR	005400
ADTST	001670	CONM	001204	EXREF	010370	MVNEM	003422
AKH	007264	CONV	012356	EXTCME	007204	MYBYWR	010776
ALPHA	012450	CSR	001002	EXTDR	007316	N	001000
ASKWC	001366	CTBUSY	012024	EXTMEN	010326	NEWBUF	010516
BIT0	000001	DAE	001024	EXTPP	006142	NOCHA	012440
BIT1	000002	DAR	001022	FILDAT	007434	NZUF	010164
BIT10	002000	DATAT	005056	FLAG	001042	OK	013257
BIT11	004000	DATTES	001326	HED1	012654	OPDAR	001450
BIT12	010000	DBR	001026	HED2	012667	OPDSEL	006650
BIT13	002000	DCS	001014	HED3	012704	OPPAT	001476
BIT14	040000	DELMES	006372	HED4	012720	OPRD	001632
BIT15	100000	DISBUF	007036	HED5	012740	OPWCK	001604
BIT2	000004	DISK	006146	HED5A	012736	OPWRT	001556
BIT3	000010	DKBUSY	011646	HED6	012755	OUTBUF	013534
BIT4	000020	DKINT	006240	HINUM	007602	OVRFLO	010200
BIT5	000040	DMA	001052	HRDR	001100	PABEL	007410
BIT6	000100	DOWN	011120	INADB	002752	PASS	001074
BIT7	000200	DSKDR	001260	INBUF	015534	PASSC	001102
BIT8	000400	DSKNOR	001076	INCADS	004072	PAT0	007604
BIT9	001000	DSKRD	005252	INCCMP	003210	PAT1	007606
BUF	001056	ELH	005316	INDADT	002652	PAT10	007624
BUFINO	002336	EMTRP	012160	INSRD	003452	PAT11	007626
CHKBUF	002516	END	013527	INSWT	003324	PAT12	007630
CHKDAT	011060	ER1	002110	INTEXT	006620	PAT13	007632
CHKDSK	011234	ER10	003204	LDAT	005104	PAT14	007634
CHKFLG	001660	ER11	003356	LONUM	007600	PAT15	007636
CHKZER	002360	ER12	003542	LP2ADT	002672	PAT16	007640
CHOK	012602	ER13	003602	LPADT3	003252	PAT17	007642
CHWRD	010212	ER14	004012	LPADT5	004020	PAT2	007610
CKCH	012552	ER15	004064	LPSP11	004460	PAT20	007644
CKNEX	010222	ER16	004226	LPTSK	003674	PAT3	007612
CLEAR	010174	ER17	004272	LPXSPI	005036	PAT4	007614
CLRREG	005046	ER2	002176	M0	013146	PAT5	007616
CMA	001020	ER20	004352	MA	001030	PAT6	007620
CMDAE	007070	ER21	004412	MAXREF	010420	PAT7	007622
CMNETK	003606	ER22	004452	MES1	012771	PATNU	001054
CMPDTK	003552	ER23	004604	MES10	013152	PFT1	010726
CMPNEX	003160	ER24	004664	MES10A	013167	PFT2	011172
CMPX1	004420	ER25	004724	MES11	013204	PFWAT	010736
COMDAR	007052	ER26	004770	MES12	013216	POWFAL	011342
COMPAR	007646	ER27	005030	MES13	013221	PRIORI	001040
CON1	013264	ER3	002312	MES1A	013005	PWRDN	011272

PWRFL	011202	TSTTK	003364
PWRUP	011310	TWRDCT	001060
RANDOM	007454	TYEXIT	012272
RANER	005742	TYP	012172
RANEX	005434	TYPA	012202
RANNU	001044	TYPC	012220
RDTDN	003104	TYPD	012246
RDTKS	003510	TYPDAT	012322
RDWAIT	005306	TYPF	012274
READ	104405	TYPG	012306
REH	005362	TYPS	012324
REPOEN	006130	TYPSA	012350
RFADT	002036	TYPSB	012352
RFADTX	002124	TYST	012456
RFRD	002210	UP	011136
RTIX	010724	UPCHK	011034
SAV1	001072	VECTOR	001034
SAVE	001070	WC	001016
SELCMA	011534	WCCON	001406
SELDAE	011554	WCWAIT	005216
SELDAR	011544	WDERR	007732
SELDBR	011564	WONWD	002214
SELDCS	011606	WORK	001104
SELWC	011524	WORK1	001106
SHIFT	007472	WORK2	001110
SLH	005154	WORK3	001112
SOFTER	006554	WRABF	002776
SPIL1	004234	WRADT5	003744
SPIL2	004300	WRCADT	002370
SPIL3	004360	WRCHEC	104407
SPIRAL	004120	WRDCMP	007666
SR	001000	WRDCT	001046
SRCHG	012032	WRDINC	007676
STAER	012044	WRDNW	011432
STAER1	012104	WRITE	104403
STAMP	011656	WRLG	005470
START	001114	WRWAIT	005144
STATUS	001036	X1SPIL	004612
SUADB	002320	X2SPIL	004672
SWRDCT	001064	X3SPIL	004732
TDMA	001062	X4SPIL	004776
TEXBUF	012650	XINCW	010660
TFBL	003044	XLPADT	004110
TIMCNT	011156	XSPIRA	004470
TIMO	013231	XTIMCN	011330
TKB	001006	XWAIT	010626
TKS	001012	ZBUF	010160
TPB	001004	ZEROAD	002552
TPS	001010	ZRBIT	003656
TRACK	001050		
TSTCH	012652		
TSTFLG	012470		

ERRORS DETECTED: 0

RUN-TIME: 44 SECONDS

5K CORE USED