

GT40/GT44

VISUAL DISPLAY TEST
MD-11-DDGTG-B

EP-DDGTG-B-DL-B
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MADE IN USA

B01

GT40/GT44 WITH VR17 VISUAL DISPLAY TEST MAINDEC-11-DDGTG-B
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IDENTIFICATION

PRODUCT CODE: MAINDEC-11-DDGTG-B-D
PRODUCT NAME: GT40/GT44 VISUAL DISPLAY TEST
WITH VR17 DISPLAY
DATE: DECEMBER 1976
MAINTAINER: DIAGNOSTIC GROUP

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1. ABSTRACT

THIS VERSION OF THE PROGRAM SUPPORTS NON-SWITCH REGISTER CPU'S. FOR THESE CPU'S, THE SWITCH REGISTER CAN BE CHANGED BY CHANGING THE CONTENTS OF SWREG (170).

THIS PROGRAM CONTAINS A SERIES OF PATTERNS THAT ARE USED AS AIDS IN THE ALIGNMENT AND ADJUSTMENT OF THE GT40/GT44 DISPLAY SYSTEM WITH A VR17. FOR THIS TEST THE MAINTENANCE SWITCHES ARE NOT USED (NORMAL POSITION).

2. REQUIREMENTS

2.1 EQUIPMENT

GT40 DISPLAY SYSTEM WITH VR17 DISPLAY SCOPE OR
GT44 DISPLAY SYSTEM WITH VR17 DISPLAY SCOPE.

2.2 STORAGE

THIS PROGRAM USES LESS THAN 4K OF MEMORY.

2.3 PRELIMINARY PROGRAMS

ALL PROCESSOR MAINDECS, GT40/GT44 INSTRUCTION TEST I AND
GT40/GT44 INSTRUCTION TEST II MUST HAVE RUN IN THEIR
ENTIRETY BEFORE ATTEMPTING TO RUN THIS TEST.

3. LOADING PROCEDURE

3.1 METHOD

PROCEDURE FOR NORMAL BINARY TAPES SHOULD BE FOLLOWED.

4. STARTING PROCEDURE

4.1 STARTING ADDRESS

LOAD ADDRESS 0200
START WITH SWITCHES 7=0, 8=0 FOR AUTO SEQUENCING
THRU ALL NON-OPERATOR INTERVENTION PATTERNS.
START WITH SWITCH BIT 7=0, 8=1 FOR SWITCH REGISTER PATTERN
CONTROL (REF 4.2).
START WITH SWITCH BIT 7=1, 8=0 OR 1 FOR KEYBOARD PATTERN
CONTROL (REF 4.3).

4.2 CONTROL SWITCH SETTINGS (SWITCH REGISTER)

SWITCH REGISTER BITS 0,1,2,3 ARE USED TO SELECT EACH OF THE TESTS.

NON-OPERATOR INTERVENTION TESTS

SW 3-0 = 00 / DIRECTORY
 01 / DOT REPEATIBILITY
 02 / PINCUSHION (X AND Y OFFSET ADJ.)
 03 / OCTAGONS OR SQUARES
 04 / CHARACTER SET (CHAR ADJ.)
 05 / DASH LINES AND BLINK
 06 / VECTOR LENGTH TEST (X VECTOR LENGTH ADJ.)
 07 / VECTOR LENGTH TEST (Y VECTOR LENGTH ADJ.)
 10 / PHOSPHOR TEST (HORIZ)
 11 / PHOSPHOR TEST (VERT)
 12 / INTENSITY LEVELS, SYNC AND LIGHT-PEN TEST
 13 / EDGE TEST
 14 / SHORT VECTOR AND RELATIVE POINT TEST
 15 / GRAPH PLOT INCREMENT TEST

OPERATOR INTERVENTION TESTS

16 / LIGHT-PEN FOLLOW TEST
 17 / KEYBOARD ECHO

SW 6 = 0 SELECT SUB-PICTURE 0
 SW 6 = 1 SELECT SUB-PICTURE 1 OR
 STOP DISPLAY FRAME MOTION

SW 8 = 0 EXECUTE ALL NON-OPERATOR INTERVENTION FRAMES.
 SW 8 = 1 EXECUTE THE DISPLAY FRAME SPECIFIED BY SW 0-3.

4.3 CONTROL SWITCH SETTINGS (DISPLAY KEYBOARD)

ALPHA CHARACTERS 'A' THRU 'P' ARE USED TO SELECT EACH OF THE TESTS.

CHARACTER	TEST
A	DIRECTORY
B	DOT REPEATABILITY
C	PINCUSHION (X AND Y OFFSET ADJ.)
D	OCTAGONS OR SQUARES
E	CHARACTER SET (CHAR. ADJ.)
F	DASH LINES AND BLINK
G	VECTOR LENGTH TEST (X VECTOR LENGTH ADJ.)
H	VECTOR LENGTH TEST (Y VECTOR LENGTH ADJ.)
I	PHOSPHOR TEST (HORIZ)
J	PHOSPHOR TEST (VERT)
K	INTENSITY LEVELS, SYNC AND LIGHT-PEN TEST
L	EDGE TEST
M	SHORT VECTOR AND RELATIVE POINT
N	GRAPHPLOT INCREMENT TEST
O	LIGHT-PEN FOLLOW TEST
P	KEYBOARD ECHO

DEPRESSING A 'RUBOUT' AFTER SELECTING A FRAME WILL LOCK ON THE SELECT FRAME.

DEPRESSING A 'CR' AFTER SELECTING A FRAME WILL SELECT SUB-PICTURE 1 OR STOP DISPLAY FRAME MOTION.

TO CONTINUE AFTER DEPRESSING A 'CR' OR 'RUBOUT' DEPRESS ANY KEY OTHER THAN 'CR' OR 'RUBOUT'.

DEPRESSING 'CONTROL C (<C>)' WHEN EXECUTING THE KEYBOARD ECHO TEST, WILL RETURN CONTROL TO THE DIRECTORY FRAME.

5. OPERATING PROCEDURE

5.1 OPERATIONAL SWITCHES

ALL OF THE TEST WILL RUN IN THEIR NORMAL MANNER WITHOUT ANY OPERATIONAL SWITCHES SELECTED. HOWEVER, SOME OF THE TESTS HAVE ADDITIONAL FEATURES AND THEY ARE SELECTED BY USING SWITCH BIT 06 OR "CR" KEYBOARD KEY.

5.1.1 PINCUSHION TEST

SW 6 = 0 DISPLAY PINCUSHION
SW 6 = 1 DISPLAY CROSSHATCH (IN-HOUSE TEST ONLY)

5.1.2 OCTAGON OR SQUARES

SW 6 = 0 DISPLAY OCTAGONS
SW 6 = 1 DISPLAY SQUARES

5.1.3 VECTOR LENGTH TEST

SW 6 = 0 SWEEP MOVEMENT
SW 6 = 1 STOP MOVEMENT

5.1.4 PHOSPHOR TEST

SW 6 = 0 SWEEP ACROSS THE SCREEN
SW 6 = 1 STOP MOVEMENT

5.1.5 INTENSITY TEST

SW 6 = 0 ENABLE SYNC 'OFF'
SW 6 = 1 ENABLE SYNC 'ON'

5.1.6 GRAPHPLOT INCREMENT TEST

SW 6 = 0 USE GRAPHPLOT X
SW 6 = 1 USE GRAPHPLOT Y

5.1.7 LIGHT PEN FOLLOW

SW 6 = 0 DISPLAY LIGHT PEN FOLLOW
SW 6 = 1 DISPLAY LIGHT PEN FIELD OF VIEW
 (IN-HOUSE TEST ONLY)

6. ERRORS

THE PROGRAM WILL ONLY HALT ON ERROR.
THE PROGRAM DOES NOT CONTAIN FACILITIES FOR THE REPORTING OF ERROR CONDITIONS.

7. RESTRICTIONS

IF USING THE SWITCH REGISTER (REF 4.2) TO CONTROL THE PROGRAM, THERE WILL BE A DELAY BEFORE THE NEW TEST IS SELECTED.

8. MISCELLANEOUS

8.1 DEVICE ADDRESS PROGRAM LOCATIONS

LOCATION 1000 CONTAINS THE GT40/GT44 DEVICE ADDRESS.
LOCATION 1002 CONTAINS THE GT40/GT44 INTERRUPT VECTOR.
LOCATION 1004 CONTAINS THE GT40/GT44 INTERRUPT BR LEVEL.

9. PROGRAM DESCRIPTION

9.1 DIRECTORY

THIS TEST USES THE CHARACTER MODE TO DISPLAY A DIRECTORY OF THE TESTS THAT ARE AVAILABLE.

9.2 DOT REPEATIBILITY

THIS TEST INTENSIFIES A DOT IN EACH CORNER AND A DOT IN THE CENTER OF THE SCREEN. THIS TEST IS USED TO VERIFY DOT REPEATIBILITY.

9.3 FINCUSHION AND VECTOR CURVATURE TEST (ADJUSTMENT OF X AND Y OFFSET POTS)

THIS TEST OUTLINES THE FULL SCREEN AREA. IT IS USEFUL IN CENTERING THE VIEWING AREA IN THE DISPLAY MASK.
THIS TEST ALSO DRAWS A DIAGONAL LINE FROM LOWER LEFT CORNER TO THE UPPER RIGHT AND THEN RETURNS IN THE OPPOSITE DIRECTION. A SIMILAR SEQUENCE IS REPEATED STARTING AT LOWER RIGHT CORNER TO THE UPPER LEFT CORNER AND BACK. THE PURPOSE IS TO MAKE CERTAIN THAT THE VECTORS ARE LINEAR OVER THEIR ENTIRE LENGTH. WITH PROPER LENGTH VECTORS ONLY TWO DIAGONAL LINES SHOULD BE SEEN IN THE CENTER OF THE SCREEN. DO NOT ADJUST THE VECTOR LENGTH POTS WITH THIS DISPLAY PATTERN. SINGLE LINES SHOULD BE VISIBLE AT THE TOP AND BOTTOM OF THE SCREEN, IF NOT ADJUST THE Y OFFSET POT. SINGLE LINES SHOULD BE VISIBLE AT THE RIGHT AND LEFT EDGE OF THE SCREEN IF NOT ADJUST THE X OFFSET POT..

9.4 OCTAGONS OR SQUARES

A SERIES OF DIFFERENT SIZE OCTAGONS OR SQUARES ARE DRAWN TO DEMONSTRATE THAT CLOSED FIGURES CAN BE DRAWN USING DIFFERENT VECTOR LENGTHS (7, 17, 37, 77, 177, 377 AND 777). THIS TEST IS USED TO TEST THE END POINT MATCHING OF THE VECTORS.

9.5 CHARACTER SET (ADJUSTMENT OF THE CHARACTER POT'S)

TWO COMPLETE SETS OF ASCII CHARACTERS AVAILABLE FROM THE CHARACTER GENERATOR ARE DISPLAYED. THE CHARACTERS ARE DISPLAYED IN FOUR LINES OF TEXT. THE FIRST HALF OF A LINE IS IN 'NORMAL' FONT THE SECOND HALF OF A LINE IS IN 'ITALICS' FONT.

9.6 DASH LINES AND BLINK TEST

THIS TEST IS USED TO TEST THE FOUR TYPES OF VECTOR LINES. FOUR VECTORS ARE PLOTTED USING EACH OF THE FOUR LINE REGISTER VALUES. THIS TEST ALSO ENABLES THE BLINK OPTION. THE FIRST VECTOR ON A LINE SHOULD NOT BLINK. THE SECOND VECTOR ON A LINE SHOULD BLINK.

9.7 VECTOR LENGTH TEST (ADJUSTMENT OF X AND Y VECTOR LENGTH)

A SERIES OF INCREMENTING ANGLE VECTORS ARE DRAWNED FROM THE SCREEN ORIGIN TO THE OPPOSITE EDGE OF THE SCREEN. THESE VECTORS SHOULD TERMINATE ON THE LINE DRAWNED AT THE VIEWING EDGE. IF THE VECTORS DO NOT END ON THE LINE, ADJUST THE APPROPRIATE VECTOR LENGTH POT.

9.8 PHOSPHOR TEST

A WIDE BAND OF INTENSIFIED VECTORS IS DISPLAYED TO ALLOW FOR VISUAL INSPECTION OF THE CRT PHOSPHOR. THIS TEST ALSO TEST FOR ANY DISTORTION IN DEFLECTION CROSS-OVER IN THE SCOPE.

9.9 INTENSITY LEVEL, SYNC AND LIGHT-PEN SENSITIVITY TEST

EIGHT VECTORS ARE DRAWN USING EACH OF THE EIGHT INTENSITY LEVELS. THE INTENSITY SHOULD BE ADJUSTED SO THAT THE LEVEL 0 IS BARELY VISIBLE. THIS TEST IS ALSO USED TEST THE LIGHT PEN SENSITIVITY. ALL LINES ARE SET TO ALLOW A LIGHT PEN HIT. THEN HIT THE MESSAGE 'LIGHT PEN HIT' WILL BE DISPLAYED ON THE LINE HIT. THIS TEST IS ALSO USED TO TEST THE 'SYNC' LOGIC IF SELECTED.

9.10 EDGE SQUARES TEST

THIS TEST IS USED TO TEST FOR PROPER EDGE BLANKING AND REENTRY SETTLE TIME. THE SCREEN IS OUTLINED AND FOUR RECTANGLES ARE DRAWN AS TO EXCEED THE EDGE OF THE SCREEN. ONLY HALF OF EACH RECTANGLE SHOULD BE VISIBLE.

9.11 SHORT VECTOR AND RELATIVE POINT TEST

THIS TEST IS USED TO VERIFY PROPER DECODING OF THE SHORT VECTOR AND RELATIVE POINT. A SERIES OF INTINIFIED VERTICAL LINES ARE PLOTTED USING SHORT VECTOR MODE. THE TEST THEN REPEATS USING RELATIVE POINT. THE RESULTS IS THAT A SINGLE HORIZONTAL LINE APPEARS TO THE RIGHT OF THE VERTICAL LINES. ALSO INCLUDED IS A RELATIVE POINT REPEATABILITY TEST. FOUR SETS OF THREE OCTAGONS EACH WILL BE DISPLAYED. THE INNER OCTAGON IS DRAWN USING SHORT VECTOR MODE WITH A DELTA X, Y OF 71 OCT. THE MIDDLE OCTAGON IS DRAWN USING RELATIVE POINT MODE WITH A DELTA X, Y OF 74 OCT. THE OUTER OCTAGON IS DRAWN USING SHORT VECTOR MODE WITH AN DELTA X, Y OF 77 OCT. THE MIDDLE OCTAGON SHOULD BE EQUAL DISTANCE FROM THE OUTER OCTAGONS AND SHOULD NOT MOVE.

9.12 GRAPHPLOT INCREMENT TEST

A SERIES OF POINTS ARE PLOTTED WITH EACH POSSIBLE VALUE IN THE GRAPHPLOT INCREMENT REGISTER FROM 0-77. THE RESULTING PATTERN USED SHOULD APPEAR TO BE A SERIES OF POINTS AT AN INCREASING ANGLE.

9.13 LIGHT-PEN FOLLOW TEST

IN THIS OPERATOR INTERVENTION TEST A TRACKING CROSS IS DISPLAYED. THE OPERATOR MAY MOVE ACROSS THE SCREEN WITH THE LIGHT PEN. AN X AND Y OCTAL READOUT IS ALSO DISPLAYED TO THE OPERATOR.

9.14 KEYBOARD ECHO TEST

THIS IS AN OPERATOR INTERVENTION TEST USED TO INSURE PROPER OPERATION OF THE DISPLAY KEYBOARD. WHEN A DISPLABLE CHARACTER KEY IS DEPERSSSED THE CHARACTER IS DISPLAYED ON THE SCREEN. IN SELECTING THE SHIFT-OUT MODE. IF THE KEY DEPRESSED IS NOT A CONTROL CHARACTER, THE PROGRAM WILL TRAP TO THE SHIFT-OUT VECTOR. AN OCTAL CHARACTER VALUE READOUT IS ALSO DISPLAYED AS AN AID IN ADJUSTING THE TTY CLOCK.

.LIST

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000024 001250
000026 000340

000030 001100
000032 000340

000170 000000
000172 177570

SWREG:
SWR:

.ENABL ABS,AMA
.TITLE GT-40/GT-44 WITH VR17 VISUAL DISPLAY TEST MAINDEC-11-DDGTG-B
.LIST ME
.NLIST MC,MD,CND

R0=%0
R1=%1
R2=%2
R3=%3
R4=%4
R5=%5
SP=%6
PC=%7
SCOPE=EMT
ERRVEC=4
STKPTR=500
DSWR=177570

:11/45 LIGHT DISPLAY REGISTER

:0-776 IS FILLED WITH .+2. HALT
.LIST

.=24
.WORD LOWPWR
340

.=30
.WORD SCOPEA ;EMT RETURN
340

.=170
.WORD C
SWREG: .WORD C
SWR: .WORD DSWR

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;DISPLAY TEST

;DISPLAY STARTING ADDRESS
;DISPLAY INTERRUPT VECTOR STARTING ADDRESS
;DISPLAY BR LEVEL

;FIRST WORD IN THE DISPLAY BUFFER
;SECOND WORD
;THIRD WORD
;FOURTH WORD
;FIFTH WORD

;TEMP REG.

;INTERRUPT VECTORS

;DISPLAY PROGRAM COUNTER
;DISPLAY STATUS REGISTER
;DISPLAY X AXIS REGISTER
;DISPLAY Y AXIS REGISTER

;DISPLAY INTERRUPT VECTOR FOR STOP

;DISPLAY INTERRUPT VECTOR FOR LIGHT-PEN

;DISPLAY INTERRUPT VECTOR FOR TIME-OUT OR SHIFT-OUT

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443                                     :MONITOR ROUTINE
444
445 001100 005737 002114 SCOPEA: TST      KRBD      :TEST IF SW OR "KRB"
446 001104 001014      BNE      SCOPEF      :BR IF "KRB"
447 001106 005037 005624      CLR      SWITCH    :CLEAR "SWITCH"
448 001112 032777 000100 177052      BIT      #100,DSWR :TEST FOR "HOLD/STOP SWITCH"
449 001120 001402      BEQ      SCOPEE      :BR IF CLEARED
450 001122 005137 005624      COM      SWITCH    :SET SWITCH
451 001126 032777 000400 177036 SCOPEE: BIT      #400,DSWR :TEST BIT 8
452 001134 001010      BNE      SCOPEB
453 001136 005737 001042 SCOPEF: TST      HOLD    :TEST FOR "HOLD/STOP"
454 001142 001012      BNE      SCOPED      :BR IF SET
455 001144 000240      NOP
456 001146 004737 001536      JSR      PC,SETUP   :RESET HOUSEKEEPING
457 001152 000240      NOP
458 001154 000002      RTI
459 001156 017704 177010 SCOPEB: MOV      DSWR,R4      :EXIT
460 001162 042704 177760 SCOPEC: BIC      #177760,R4   :READ SWITCHES
461 001166 006304      ASL      R4              :MASK TO BITS 4-15
462 001170 012706 000500 SCOPED: MOV      #STKPTR,SP :MOVE LEFT
463 001174 000240      NOP                    :RESET STACK
464 001176 004737 001536      JSR      PC,SETUP   :RESET HOUSEKEEPING
465 001202 000240      NOP
466 001204 000174 001210      JMP      DISPTC(R4) :JMP TO THAT TEST
467
468 001210 002120 DISPTC: FILE0+2 :DIRECTORY
469 001212 002132      FILE1+2 :DOT REPEATIBILITY
470 001214 002144      FILE2+2 :PINCUSHION
471 001216 002156      FILE3+2 :OCTAGONS OR SQUARES
472 001218 002168      FILE4+2 :CHARACTER SET
473 001220 002180      FILE5+2 :DASH LINES AND BLINK
474 001222 002192      FILE6+2 :X VECTOR LENGTH
475 001224 002204      FILE7+2 :Y VECTOR LENGTH
476 001226 002216      FILE10+2 :X PHOSPHOR TEST
477 001228 002228      FILE11+2 :Y PHOSPHOR TEST
478 001230 002240      FILE12+2 :INTENSITY LEVEL AND LIGHTPEN
479 001232 002252      FILE13+2 :EDGE SQUARES
480 001234 002264      FILE14+2 :SHORT VECTOR RELATIVE POINT TEST
481 001236 002276      FILE15+2 :GRAPHLOT TEST
482 001238 002288      FILE16+2 :LIGHT-PEN FOLLOW
483 001240 002300      FILE17+2 :KEY BOARD ECHO

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485					
486					
487	001250	010046		LOWPWR: MOV	R0, -(SP)
488	001252	010146		MOV	R1, -(SP)
489	001254	010246		MOV	R2, -(SP)
490	001256	010346		MOV	R3, -(SP)
491	001260	010446		MOV	R4, -(SP)
492	001262	010546		MOV	R5, -(SP)
493	001264	010637	001300	MOV	SP, LOWSV
494	001270	012737	001302 000024	MOV	#HIGPWR, 2#24
495	001276	000000		HALT	
496					
497	001300	000000		LOWSV: 0	
498					
499	001302	013706	001300	HIGPWR: MOV	LOWSV, SP
500	001306	012605		MOV	(SP)+, R5
501	001310	012604		MOV	(SP)+, R4
502	001312	012603		MOV	(SP)+, R3
503	001314	012602		MOV	(SP)+, R2
504	001316	012601		MOV	(SP)+, R1
505	001320	012600		MOV	(SP)+, R0
506	001322	012737	001250 000024	MOV	#LOWPWR, 2#24
507	001330	012706	000500	MOV	#STKPTR, SP
508	001334	000240		NOP	
509	001336	000240		NOP	
510	001340	000240		NOP	
511	001342	000000		HALT	
512	001344	000240		NOP	
513	001346	000240		NOP	
514	001350	000240		NOP	
515	001370	000170		JMP	SCOPED

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516	001356	012706	000500		START:	MOV	*STKPTR,SP	:SET UP THE STACK
517	001362	012777	000340	177420		MOV	*340,2PSW	:RAISE PSW
518	001370	012700	001054			MOV	*DPC,R0	:GET POINTER
519	001374	013701	001000			MOV	GSADD,R1	:GET SUPPLIED ADDRESS
520	001400	010120			STRA:	MOV	R1,(0)+	:UPDATE
521	001402	062701	000002			ADD	*2,R1	:THE
522	001406	022700	001064			CMP	*DPC+10,R0	:ADDRESSES
523	001412	001372				BNE	STRA	:UNTIL DONE
524	001414	012700	001064			MOV	*DDONE,R0	:GET POINTER
525	001420	013701	001002			MOV	GSVCT,R1	:GET SUPPLIED VECTOR
526	001424	010120			STRB:	MOV	R1,(0)+	:UPDATE
527	001426	062701	000002			ADD	*2,R1	:THE VECTORS
528	001432	022700	001100			CMP	*DDONE+14,R0	
529	001436	001372				BNE	STRB	
530	001440	005037	005624			CLR	SWITCH	:HOUSEKEEP
531	001444	005037	001042			CLR	HOLD	
532	001450	005004				CLR	R4	
533	001452	005037	001044			CLR	TSAVE	
534	001456	004737	001536		STRC:	JSR	PC,SETUP	:SET UP VECTORS
535	001462	005037	001042			CLR	HOLD	
536	001466	012737	001000	012052		MOV	*1000,RAY14A	:HOUSEKEEP X,Y ORIGIN FOR LIGHTPEN
537	001474	012737	000600	012054		MOV	*600,RAY14B	
538	001502	012737	030060	012032		MOV	*30060,DLT14A	:INITIALIZE X READOUT
539	001510	012737	030060	012034		MOV	*30060,DLT14A+2	
540	001516	012737	030060	012044		MOV	*30060,DLT14B	:INITIALIZE Y READOUT
541	001524	012737	030060	012046		MOV	*30060,DLT14B+2	
542	001532	000137	002116			JMP	FILED	:START THE TEST
543	001536	012737	000062	000060	SETUP:	MOV	*62,2*60	:RESET KRB VECTOR
544	001544	012737	000000	000062		MOV	*0,2*62	
545	001552	042777	000100	177232		BIC	*100,2TKS	:CLEAR INT ENABLE
546	001560	005037	002114			CLR	KRB0	
547	001564	013746	000004			MOV	2*ERRVEC, -(SP)	:SAVE VECTOR CONTENTS
548	001570	012737	001616	000004		MOV	*15,2*ERRVEC	:SET UP FOR TRAP
549	001576	012737	177570	000172		MOV	*DSNR,2*SWR	:SET UP TO TEST FOR SWITCH REGISTER
550	001604	022777	177777	176360		CMP	*-1,2*SWR	:TEST FOR SWITCH REGISTER
551	001612	001005				BNE	3\$	:SWITCH REGISTER IS PRESENT
552	001614	000401				BR	2\$	:NO SWITCH REGISTER
553	001616	022626			1\$:	CMP	(SP)+, (SP)+	:POP 2 WORDS OFF STACK
554	001620	012737	000170	000172	2\$:	MOV	*SWREG,2*SWR	:SET UP FOR SOFTWARE SWITCH REGISTER
555	001626	012637	000004		3\$:	MOV	(SP)+, 2*ERRVEC	:RESTORE VECTOR CONTENTS
556	001632	032777	000200	176332		BIT	*200,2*SWR	:TEST FOR "KRB" CONTROL
557	001640	001413				BEQ	SETUPA	:BR IF NOT
558	001642	005137	002114			COM	KRB0	:SET "KRB" CONTROL
559	001646	012737	001746	000060		MOV	*RETB,2*60	:SET UP "KRB" INT
560	001654	012737	000340	000062		MOV	*340,2*62	
561	001662	052777	000100	177122		BIS	*100,2TKS	:ENABLE "KRB" INT
562	001670	2777	001732	177166	SETUPA:	MOV	*SETUPB,2DDONE	:SET UP GT DONE VECTOR
563	001676	012777	000340	177162		MOV	*340,2DDONE1	
564	001684	013777	001072	177156		MOV	LPVCT1,2LPVCT	:RESET LIGHT-PEN VECTOR
565	001692	005077	177154			CLR	2LPVCT1	
566	001696	013777	001076	177150		MOV	TMEVT1,2TIMEVT	:RESET TIME-OUT/SHIFT OUT VECTOR
567	001704	005077	177146			CLR	2TMEVT1	
568	001730	000207				RTS	PC	:EXIT

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001033	005000	177120	SETUPB:	TST	205R	:TEST FOR STOP
001034	005001			BNI	+	
001035	005000			HALT		:ERROR INTERRUPT OCCURRED TO THE STOP
001036	005002			RTI		:VECTOR BUT STOP WAS NOT SET
001037	005000			HALT		
001038	005001	177042	RETB:	MOV	2TAB,TS	:READ THE CHARACTER
001039	005002	177600		BIC	817600,TS	:MASK TO 7 BITS
001040	005003	000015		CMP	815,TS	:TEST FOR "CR"
001041	005004	005624		BEQ	KYT3	:BR IF
001042	005005	000101	001044	CLR	SWITCH	:CLEAR "SWITCH"
001043	005006	000101	001044	SUB	8101,TS	:MAKE 0-77
001044	005007	000017	001044	BNI	KYT1	:A
001045	005008	000017	001044	CMP	817,TS	
001046	005009	000017	001044	BNI	KYT2	:P
001047	005010	001044		MOV	TS, R4	
001048	005011	177777	001050	MOV	8-1,CHANGE	
001049	005012	005624		CLR	SWITCH	
001050	005013	001042		CLR	HOLD	
001051	005014	000002		RTI		:EXIT
001052	005015	000076	001044	CMP	876,TS	
001053	005016	001015		BNE	KYT4	:RUBOUT
001054	005017	177777	001042	MOV	8-1,HOLD	:EXIT
001055	005018	000002		RTI		
001056	005019	001042		CLR	HOLD	
001057	005020	000002		RTI		:FATAL ERROR RTI FAILED
001058	005021	000000		HALT		
001059	005022	177777	005624	KYT3:	MOV	8-1,SWITCH
001060	005023	000002		RTI		:FATAL ERROR. RTI FAILED
001061	005024	000000		HALT		
001062	005025	000040	001044	KYT4:	SUB	840,TS
001063	005026	000040	001044	BR	KYT5	:CONVERT LC TO UC
001064	005027	000000		CRBC:	C	

0002320	012720	117000
0002324	012720	000000
0002330	012720	000000
0002344	012720	110000
0002340	000237	

```

SETPNT:  MOV      #PCINT!INT4,(RC)+          ;LOAD POINT
        MOV      #C,(RC)+                    ; AT X
        MOV      #C,(RC)+                    ; AT Y
        MOV      #LONGV,(RC)+                ;LONG VECTOR
        RTS      PC                          ;EXIT

```

002

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```

662
663 002342 012737 004000 001046 FILE2A: MOV      #4000,CNTR      :LOAD COUNTER
664 002350 005737 005624 FILE2B: TST      SWITCH      :TEST SWITCH
665 002354 001405 BEQ      FILE2C      :BR IF SUBTEST NOT SELECTED
666 002356 004537 005460 JSR      R5,MSG      :EXIT TO DISPLAY FRAME
667 002362 000001 I          :
668 002364 012536 BUFFER      :USING THE CROSS MATCH PATTERN
669 002366 000404 BR          :BR
670
671 002370 004537 005460 FILE2C: JSR      R5,MSG      :EXIT TO DISPLAY FRAME
672 002374 000001 I          :
673 002376 00727E FRME2      :USING THE OFFSET PATTERN
674 002400 005337 001046 FILE2D: DEC      CNTR      :FINISHED
675 002404 001361 BNE      FILE2B      :BR IF NOT
676
677 :EXECUTE OCTAGONS OR SQUARES
678
679 002406 104000 FILE3: SCOPE
680 002410 012737 014000 001046 MOV      #14000,CNTR      :SET UP A COUNTER
681 002416 005737 005624 FILE3A: TST      SWITCH
682 002422 001010 BNE      FILE3B      :BRANCH IF SUB-TEST
683 002424 004537 005460 JSR      S,MSG      :DISPLAY TEST
684 002430 000001 I          :
685 002432 007402 FRME3      :FRAME # 3
686 002434 005337 001046 DEC      CNTR      :DECREMENT COUNTER
687 002440 001366 BNE      FILE3A      :BRANCH IF NOT COMPLETE
688 002442 000407 BR          :EXIT TO NEXT TEST
689
690 002444 004537 005460 FILE3B: JSR      S,MSG      :DISPLAY TEST
691 002450 000001 I          :
692 002452 007772 FRME3A     :FRAME # 3A
693 002454 005337 001046 DEC      CNTR      :DECREMENT COUNTER
694 002460 001356 BNE      FILE3A      :BRANCH IF NOT COMPLETE

```

E02

37-40 37-44 WITH VISUAL DISPLAY TEST MAINDEC-11-DOGTG-B
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:DISPLAY FILE
:CHARACTER AND ITALICS TEST
:SET UP THE BUFFER FOR THIS TEST

FILE4: SCOPE

```

MOV      #BUFFER,RO
MOV      #STATSB!SIZE,(0)+
MOV      #STATSA!ITALD!SYNOFF!GREEN,(0)+
MOV      #POINT!INT4!LPOFF!BLKOFF!LINE,(0)+      :LOAD POINT MODE
MOV      #0,(0)+
MOV      #MAXY-77,(0)+
MOV      #CHAR,(0)+
MOV      #17,(0)+
MOV      #17,(0)+
MOV      #100,STCHAR      :LOAD INITIAL CHAR.
JSR      PC,LOADBF
MOV      #140,STCHAR      :LOAD INITIAL LC CHAR
JSR      PC,LOADBF
MOV      #40,STCHAR      :LOAD LINE
JSR      PC,LOADBF      :LOAD NUMBERS AND PUNCT
MOV      #STATSA!ITALD,(RO)+      :LOAD LINE
JSR      PC,LOADSP      :LOAD NORMAL FONT
MOV      #STATSA!ITAL1,(RO)+      :LOAD SPECIAL CHARS
JSR      PC,SPACE      :INSERT SPACES
JSR      PC,LOADSP      :LOAD ITALICS FONT
MOV      #0,STOP      :LOAD SPECIAL
MOV      #0,JMP      :LOAD STOP
MOV      #0,STOP
JMP      FILE4

```

```

LOADSP: MOV      #0,RC1+
MOV      #0,R2
MOV      #0,R3
MOV      #0,R4
INC      R2
JMP      #17,R2
JMP      #0,R2
JMP      #0,R3
JMP      #0,R4
MOV      #20017,(RC1)+
RTS      PC

```

```

LOADBF: MOV      #STATSA!ITALD,(RC1)+      :LOAD NORMAL FONT
MOV      #STCHAR,R2      :SET STARTING CHAR
JSR      PC,FILLIT      :LOAD THE CHARACTERS
JSR      PC,SPACE      :INSERT SPACES
MOV      #STATSA!ITAL1,(RC1)+      :LOAD ITALICS FONT
MOV      #STCHAR,R2      :SET STARTING CHARACTER
JSR      PC,FILLIT      :LOAD THE CHARACTERS
JSR      PC,CRLF      :INSERT CR-LF
RTS      PC      :EXIT

```

STCHAR: 0

CRLF: MOV #0,C

```

6688 002462 104000 012536
6689 002463 012720 174400
6690 002464 012720 170052
6691 002465 012720 177124
6692 002466 012720 000000
6693 002467 012720 001700
6694 002468 012720 100000
6695 002469 112720 000017
6696 002470 112720 000017
6697 002471 012737 000100
6698 002472 004737 002672
6699 002473 012737 000140
6700 002474 004737 002672
6701 002475 012737 000040
6702 002476 004737 002672
6703 002477 012720 170040
6704 002478 004737 002632
6705 002479 004737 002776
6706 002480 012720 170060
6707 002481 004737 002632
6708 002482 012720 173400
6709 002483 012720 160000
6710 002484 012720 012536
6711 002485 000137 003014
6712 002632 112720 000016
6713 002633 012720 000000
6714 002634 012720 000037
6715 002635 1:0220
6716 002636 005202
6717 002637 002722 000017
6718 002638 001774
6719 002639 005303
6720 002640 001371
6721 002641 012720 020017
6722 002642 000207
6723 002672 012720 170040
6724 002673 013702 002734
6725 002674 004737 002760
6726 002675 004737 002776
6727 002676 012720 170060
6728 002677 013702 002734
6729 002678 004737 002760
6730 002679 004737 002736
6731 002680 000207
6732 002734 000000
6733 002735 112720 000015

```

F02

ST-40 GT-44 WITH VR17 VISUAL DISPLAY TEST MAINDEC-11-DOGTG-B
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```

751 002742 112720 000012      MOV      #12,(0)+
752 002746 112720 000012      MOV      #12,(0)+
753 002752 112720 000012      MOV      #12,(0)+
754 002756 000207              RTS      PC          :EXIT
755
756 002760 012703 000040      FILLIT: MOV      #40,R3
757 002764 110220              FILLA:  MOV      R2,(0)+
758 002766 005202              INC      R2
759 002770 005303              DEC      R3
760 002772 001374              BNE     FILLA
761 002774 000207              RTS      7
762
763 002776 012703 000010      SPACE: MOV      #10,R3
764 003002 112720 000040      IS:    MOV      #40,(R0)+      :LOAD A SPACE
765 003006 005303              DEC      R3
766 003010 001374              BNE     IS          :BR IF NOT DONE
767 003012 000207              RTS      PC          :EXIT
768
769              :ACTUAL DISPLAY ROUTINE
770
771 003014 012737 001000 003070 FILE4A: MOV      #1000,10$      :LOAD A COUNTER
772 003022 012737 001700 012546 4$:    MOV      #MAXY-77,BUFFER+10 :LOAD STARTING POINT
773 003030 004537 005460              JSR      R5,MESG
774 003034 000001              I
775 003036 012536              BUFFER
776
777 003040 012737 000400 012546      MOV      #400,BUFFER+10
778 003046 004537 005460              JSR      R5,MESG
779 003052 000001              I
780 003054 012536              BUFFER
781
782 003056 005337 003070              DEC      10$
783 003062 001357              BNE     4$
784 003064 000137 003072              JMP      FILES
785
786 003070 000000              10$:    0
787
788              :EXECUTE DASH LINES AND BLINK
789
790 003072 104000              FILES: SCOPE
791 003074 004537 005460              JSR      5,MESG      :EXIT TO DISPLAY A FRAME
792 003100 010000              10000
793 003102 010242              FRAMES      :USING THE DASH AND BLINK FRAME

```

:EXECUTE VECTOR LENGTH TEST (HORIZ)

003104	104000			FILE6: SCOPE		
003106	012737	041777	010540	MOV	#INTX:MAXX,DELTX6	:SET UP VERTICAL HEIGHT
003114	012737	000010	001036	MOV	#10,DSAVE2	:SET UP TIMER
003122	012737	000000	001034	MOV	#0,DSAVE1	
003130	012737	000040	001046	LOOPA: MOV	#40,CNTR	:SET UP EXECUTION COUNT
003136	012737	000200	001032	LOOPA1: MOV	#MAXY+1/10,DSAVE	:SET UP
003144	013737	001034	010542	MOV	DSAVE1,DELTY6	
003152	004537	005460		JSR	5,MESG	:EXIT TO DISPLAY FRAME
003156	000001			1		
003160	010474			FRAME6		:VECTOR LENGTH FRAME
003162	004537	005460		LOOPA2: JSR	5,MESG	:EXIT TO DISPLAY FRAME
003166	000001			1		
003170	010530			FRAME6A		:VECTOR LENGTH FRAME
003172	062737	000010	010542	ADD	#10,DELTY6	:UPDATE ANGLE
003200	005337	001032		DEC	DSAVE	:FINISHED ALL THE ANGLES
003204	001366			BNE	LOOPA2	:BR IF NOT
003206	005337	001046		LOOPA3: DEC	CNTR	:DONE COUNT?
003212	001351			BNE	LOOPA1	:BR IF NOT
003214	000240			NOP		
003216	005737	005624		TST	SWITCH	:TEST SWITCH
003222	001342			BNE	LOOPA	:BR IF HALT MOTION
003224	005237	001034		INC	DSAVE1	:UPDATE INITIAL ANGLE
003230	005337	001036		DEC	DSAVE2	:FINISHED ALL?
003234	001335			BNE	LOOPA	:BR IF NOT

:EXECUTE VECTOR LENGTH TEST (VERT)

003236	104000			FILE7: SCOPE		
003240	012737	040000	001034	MOV	#INTX,DSAVE1	:SETUP INITIAL X
003246	012737	001777	010542	MOV	#MAXY,DELTY6	:SETUP INITIAL Y
003254	012737	000010	001036	MOV	#10,DSAVE2	:SETUP EXECUTION COUNT
003262	012737	000040	001046	LOOPB: MOV	#40,CNTR	:SETUP DELAY
003270	012737	000200	001032	LOOPB1: MOV	#200,DSAVE	
003276	013737	001034	010540	MOV	DSAVE1,DELTX6	:EXIT TO DISPLAY FRAME
003284	004537	005460		JSR	5,MESG	:VECTOR LENGTH TEST FRAME
003290	000001			1		
003296	010474			FRAME6		
003304	004537	005460		LOOPB2: JSR	5,MESG	:EXIT TO DISPLAY FRAME
003310	000001			1		
003312	010530			FRAME6A		:VECTOR LENGTH FRAME
003322	062737	000010	010540	ADD	#10,DELTX6	:UPDATE ANGLE
003324	005337	001032		DEC	DSAVE	:FINISHED ALL THE ANGLES
003332	001366			BNE	LOOPB2	:BR IF NOT
003336	005337	001046		LOOPB3: DEC	CNTR	:DONE COUNT?
003344	001351			BNE	LOOPB1	:BR IF NOT
003346	000240			NOP		
003350	005737	005624		TST	SWITCH	:TEST SWITCH
003354	001342			BNE	LOOPB	:BR IF HALT MOTION
003356	005237	001034		INC	DSAVE1	:UPDATE INITIAL ANGLE
003362	005337	001036		DEC	DSAVE2	:FINISHED ALL?
003366	001335			BNE	LOOPB	:BR IF NOT

H02

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```

048
049
050
051 003370 104000
052 003372 005037 010554
053 003376 004537 005460
054 003402 000050
055 003404 010552
056 003406 004537 005460
057 003412 000001
058 003414 010652
059 003416 000240
060 003420 005737 005624
061 003424 001364
062 003426 062737 000001 010554
063 003434 022737 002000 010554
064 003442 001355
065
066
067
068
069
070
071
072
073
074
075
076
077
078
079
080
081
082

```

:PHOSPHOR TEST (HORIZONTAL)
 FILE10: SCOPE
 D7A: CLR DELTX7
 JSR 5,MESG ;EXIT TO DISPLAY A FRAME
 SO
 FRME10 ;USING THE HORIZ FRAME
 JSR 5,MESG ;EXIT TO DISPLAY A FRAME
 1
 FRM10 ;USING THE PERIMETER BOX
 NOP
 TST SWITCH ;TEST THE "SWITCH"
 BNE D7A ;BR IF FREEZE THE MOVEMENT
 D7C: ADD #1,DELTX7 ;UPDATE THE X ORIGIN
 CMP #2000,DELTX7 ;TEST IF THE END
 BNE D7A ;BR IF NOT

:PHOSPHOR TEST (VERTICAL)
 FILE11: SCOPE
 D7D: CLR DELTY7
 JSR 5,MESG ;EXIT TO DISPLAY A FRAME
 SO
 FRME11 ;USING THE VERT FRAME
 JSR 5,MESG ;EXIT TO DISPLAY A FRAME
 1
 FRM10 ;USING THE PERIMETER BOX
 NOP
 TST SWITCH ;TEST THE "SWITCH"
 BNE D7D ;BR IF FREEZE THE MOVEMENT
 D7F: ADD #1,DELTY7 ;UPDATE THE Y ORIGIN
 CMP #MAXY+1,DELTY7 ;TEST IF THE END
 BNE D7D ;BR IF NOT

```

883
884      ;INTENSITY LEVEL TEST
885
886      003520 104000      FILE12: SCOPE
887      003522 012777      MOV      #RETLP,2LPVCT      ;SET UP LIGHT-PEN VECTOR
888      003530 013777      MOV      GSBRL,2LPVCT1      ;SET UP ER LEVEL
889      003536 012737      MOV      #4000,DSAVE      ;SET UP A EXECUTION COUNT
890      003544 005737      FLE12A: TST      SWITCH      ;TEST THE "SWITCH"
891      003550 001004      BNE      FLE12B      ;BR IF SET "SYNC"
892      003552 042737      BIC      #4,SYN12      ;ENSURE CLEAR "SYNC"
893      003560 000403      BR      FLE12C      ;BY PASS
894      003562 052737      FLE12B: BIS      #4,SYN12      ;SET THE "SYNC"
895      003570 004537      FLE12C: JSR      5,MESG      ;EXIT TO DISPLAY FRAME
896      003574 000001      1
897      003576 010710      FRME12      ;USING THE "INTENSITY" FRAME
898      003600 005337      DEC      DSAVE      ;FINISHED?
899      003604 001423      BEQ      FLE12D      ;YES, EXIT
900      003606 012737      MOV      #DSTOP,RAYLPA      ;NO, RESET MESSAGE
901      003614 000753      BR      FLE12A      ;BR BACK
902      003616 012737      RETLP: MOV      #DNOP,RAYLPA      ;LIGHT-PEN HIT
903      003624 017737      MOV      2YPOS,LPPNT      ;READ Y POSITION
904      003632 042737      BIC      #176000,LPPNT      ;MASK THE BITS
905      003640 022626      CMP      (SP)+,(SP)+      ;POP THE STACK
906      003642 012777      MOV      #1,2DPC      ;SINGLE STEP THE DISPLAY
907      003650 000137      JMP      MSGA      ;JUMP TO WAIT
908      003654 013777      FLE12C: MOV      LPVCT1,2LPVCT      ;RESET THE LIGHT-PEN VECTOR
909
910
911      ;EXECUTE EDGE TEST
912
913      003662 104000      FILE13: SCOPE
914      003664 004537      JSR      5,MESG      ;EXIT TO DISPLAY FRAME
915      003670 010000      10000
916      003672 0113E3      FRME13      ;USING THE "EDGE" FRAME

```

J02

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;SHORT VECTOR AND RELATIVE POINT TEST

FILE14: SCOPE

```

MOV #BUFFER,RO ;SET UP RO
MOV #POINT (0)+ ;SET UP INITIAL
MOV #240,(0)+ ;X POSITION
MOV #MAXY+1/2,(0)+ ;Y POSITION
MOV #SHORTV!INT4!LINE,(0)+ ;LOAD "SHORT VECTOR"
JSR PC,LOADVT ;LOAD THE DISPLAY PATTERN
MOV #RELATV,(0)+ ;LOAD "RELATIVE POINT"
JSR PC,LOADVT ;LOAD THE DISPLAY PATTERN
MOV #DSTOP,(0)+ ;LOAD "DISPLAY STOP"
MOV #DJMP,(0)+ ;LOAD "DISPLAY JUMP"
MOV #BUFFER,(0)+ ;TO THE BUFFER ADDRESS
BR FILE14 ;BR TO THE FRAME

```

```

LOADVT: MOV #24,CNTR ;LOAD A COUNTER
LADVT: MOV #INTX+77,(0)+ ;LOAD A DELTA Y
MOV #4177,(0)+ ;LOAD A DELTA X,Y
DEC CNTR ;FINISHED?
BNE LADVT ;BR IF NOT
RTS PC ;EXIT

```

```

FILE14A: MOV #4000,105 ;LOAD COUNTER
15: MOV #200,FRM14A ;LOAD FIRST OCTAGON
MOV #200,FRM14B
JSR R5,MESG ;DISPLAY OCT.
1 FRME14
MOV #1400,FRM14A ;LOAD SECOND OCTAGON
MOV #200,FRM14B
JSR R5,MESG ;DISPLAY 2ND OCT.
1 FRME14
MOV #1400,FRM14A ;LOAD THIRD OCTAGON
MOV #MAXY-377,FRM14B
JSR R5,MESG
1 FRME14
MOV #200,FRM14A ;LOAD FOURTH OCTAGON
MOV #MAXY-377,FRM14B
JSR R5,MESG ;DISPLAY 4TH OCT.
1 FRME14
JSR R5,MESG ;DISPLAY BAR
1 BUFFER
DEC 105 ;FINISHED?
BNE 15 ;BR IF NOT
JMP FILE15 ;NEXT TEST

```

105: 0

```

917
918
919
920 003674 104000
921 003676 012700 012536
922 003702 012720 114000
923 003706 012720 000240
924 003712 012720 001000
925 003716 012720 107004
926 003722 004737 003754
927 003726 012720 130000
928 003732 004737 003754
929 003736 012720 173400
930 003742 012720 160000
931 003746 012720 012536
932 003752 000413
933
934 003754 012737 000024 001046 LADVT:
935 003762 012720 040077 LADVT:
936 003766 012720 004177
937 003772 005337 001046
938 003776 001371
939 004000 000207
940
941 004002 012737 004000 004152
942 004010 012737 000200 011640
943 004016 012737 000200 011642
944 004024 004537 005460
945 004030 000001
946 004032 011634
947 004034 012737 001400 011640
948 004042 012737 000200 011642
949 004044 004537 005460
950 004054 000001
951 004056 011634
952 004060 012737 001400 011640
953 004066 012737 001400 011642
954 004074 004537 005460
955 004100 000001
956 004102 011634
957 004104 012737 000200 011640
958 004112 012737 001400 011642
959 004120 004537 005460
960 004124 000001
961 004126 011634
962 004130 004537 005460
963 004134 000001
964 004136 012536
965 004140 005337 004152
966 004144 001321
967 004146 000137 004154
968 004152 000000
969

```

K02

GT-40/GT-44 WITH VR17 VISUAL DISPLAY TEST MAINDEC-11-DDGTG-B
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```

970
971      :GRAPHLOT X-Y TEST
972
973      004154 104000      FILE15: SCOPE
974      004156 012700      012536      MOV      #BUFFER,PC      ;LOAD PC
975      004162 012720      117600      MOV      #POINT!INT7,(0)+ ;LOAD INITIAL PCINT
976      004166 012720      000000      MOV      #0,(0)+
977      004172 012720      000000      MOV      #0,(0)+
978      004176 012720      170052      MOV      #STATSA!ITALD!SYNOFF!GREEN,(R0)+ ;RESET THE STATUS A
979      004202 012720      174100      MOV      #STATSB!INCR,(0)+ ;LOAD INITIAL STATUS B
980      004206 012720      120000      MOV      #GRAPHX,(0)+ ;LOAD GRAPH X INST
981      004212 012705      000040      DFL15C: MOV      #40,R5 ;LOAD STARTUP COUNT
982      004216 012737      000000      001032      MOV      #C.DSAVE ;LOAD INITIAL PLOT
983      004224 000403      000000      BR      25
984      004226 062737      000020      001032      15:      ADD      #20,DSAVE ;UPDATE PLOT POINT
985      004234 013720      001032      25:      MOV      DSAVE,(0)+ ;SAVE THE POINT
986      004240 005305      DEC      R5 ;FINISHED?
987      004242 001371      BNE     15 ;BR IF NOT
988      004244 012720      173400      MOV      #DSTOP,(0)+ ;LOAD "DSTOP"
989      004250 012720      160000      MOV      #DJMP,(0)+ ;LOAD "DJMP"
990      004254 012720      012536      MOV      #BUFFER,(0)+ ;LOAD RETURN
991      004260 012737      000200      001032      MOV      #200,DSAVE ;LOAD POINT COUNT
992      004266 042777      004000      174534      DFL15D: BIC      #4000,0DBUF5 ;ENSURE "GRAPHX"
993      004274 005737      005624      TEST     SWITCH ;TEST SWITCH
994      004300 001403      BEQ     DFL15B ;BR IF GRAPHX
995      004302 052777      004000      174520      BIC      #4000,0DBUF5 ;SET GRAPHY
996      004310 004537      005460      DFL15B: JSR      5,MESG ;EXIT TO DISPLAY A FRAME
997      004314 000001
998      004316 012536      BUFFER ;USING THE GENERATED PATTERN
999      004320 062777      000001      174500      ADD      #1,0DBUF4 ;UPDATE INCREMENT
1000     004326 022777      174200      174472      CMP      #STATSB+200,0DBUF4 ;TEST IF LAST INCREMENT
1001     004334 001365      BNE     DFL15B ;BR IF NOT
1002     004336 012777      174100      174462      MOV      #STATSB!INCR,0DBUF4 ;RELOAD INCREMENT
1003     004344 005337      001032      DEC      DSAVE ;FINISHED 10 SEC?
1004     004350 001346      BNE     DFL15D ;BR IF NOT
1005
1006     004352 013700      000042      MOV      #42,R0
1007     004356 001407      BEQ     HERE ;ACT-11/DDP-11
1008     004360 000005      RESET
1009     004362 000005      RESET
1010     004364 004710      LOGICAL: JSR      PC,(R0)
1011     004366 000240      NOP
1012     004370 000240      NOP
1013     004372 000240      NOP
1014     004374 000240      NOP
1015     004376 000137      002116      HERE: JMP      FILEC
1016     004378 000240      NOP
1017     004380 000240      NOP
1018     004382 000240      NOP

```

```

1019
1020 ;OPERATOR OPERATOR INTERVENTION TESTS
1021
1022 FILE16: SCOPE
1023 004410 104000
1024 004412 012777 004662 174450
1025 004420 013777 001004 174444
1026 004426 012737 000100 001034
1027 004434 012700 012536
1028 004440 012737 000100 001032
1029 004446 012720 117744
1030 004452 012720 000700
1031 004456 012720 000474
1032 004462 004737 004624
1033 004466 012720 173400
1034 004472 012720 160000
1035 004476 012720 012536
1036 004502 005037 005116
1037 004506 012737 030060 012442
1038 004514 012737 030060 012440
1039 004522 005737 005624
1040 004526 001005
1041
1042 004530 004537 005460
1043 004534 000100
1044 004536 011762
1045 004540 000770
1046
1047 004542 004537 005460
1048 004546 000001
1049 004550 012350
1050
1051 004552 004537 005460
1052 004556 000001
1053 004560 012536
1054
1055
1056 004562 005337 001032
1057 004566 001355
1058
1059 004570 005337 001034
1060 004574 001317
1061 004576 000137 004410
1062

```

MOV #RET14,ALPVCT
 GSRAL,ALPVCT1
 MOV #100,DSAVE1 ;SET UP COUNT
 MOV #BUFFER,R0 ;LOAD START ADDR.
 MOV #100,DSAVE
 MOV #POINT!INT7!LPON!LINE0,(R0)+ ;LOAD POINT
 MOV #700,(R0)+ ;LOAD X POINT
 MOV #474,(R0)+ ;LOAD Y POINT
 JSR PC,LOADUP ;LOAD UP THE BUFFER
 MOV #DSTOP,(R0)+ ;LOAD DSTOP
 MOV #DJMP,(R0)+ ;LOAD DJUMP
 MOV #BUFFER,(R0)+ ;LOAD RETURN ADDRESS
 CLR HITCNT ;CLEAR HIT COUNT
 MOV #30060,FRM16B-2 ;PRESET THE REACOUT
 MOV #30060,FRM16B-4
 TST SWITCH ;TEST SWITCH BIT
 BNE 6\$;BR IF SUBTEST
 JSR R5,MESG ;EXIT TO DISPLAY FRAME
 100
 FRME16 ;USINT THE LIGHT-PEN FRAME
 BR 4\$;BR BACK
 JSR R5,MESG ;EXIT TO DISPLAY FRAME
 1
 FRM16A ;ASCII SUBTITLE
 JSR R5,MESG ;EXIT TO DISPLAY FRAME
 1
 BUFFER
 DEC DSAVE ;FINISHED ?
 BNE 4\$;BR IF NOT MINI-LOOP
 DEC DSAVE1 ;FINISHED ?
 BNE 1\$;BR IF NOT
 JMP FILE16 ;RESTART

M02

GT-40/GT-44 WITH VR17 VISUAL DISPLAY TEST MAINDEC-11-DDGTG-B
DDGTGB.P11 15-SEP-76 00:00

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```

1063
1064 004602 012701 000030 LOADAC: MOV #24, R1 ;LOAD COUNT
1065 004606 012720 130000 MOV #RELATV, (R0)+ ;LOAD RELATIVE POINT
1066 004612 012720 040004 15: MOV #INTX+4, (R0)+ ;LOAD INTEN BIT
1067 004616 005301 DEC R1 ;FINISHED ?
1068 004620 001374 BNE 15 ;BR IF NOT
1069 004622 000207 RTS PC ;EXIT
1070
1071 004624 012737 000030 001046 LOADUP: MOV #24, CNTR ;LOAD COUNT
1072 004632 004737 004602 15: JSR PC, LOADAC ;LOAD ACCROSS
1073 004636 012720 110000 MOV #LONGV, (R0)+ ;LOAD LONG VECTOR
1074 004642 012720 000004 MOV #4, (R0)+ ;LOAD VECTOR OVER
1075 004646 012720 020140 MOV #MINUSX+140, (R0)+ ;AND UP
1076 004652 005337 001046 DEC CNTR
1077 004656 001365 BNE 15 ;BR IF NOT DONE
1078 004660 000207 RTS PC ;EXIT
1079
1080
1081 004662 017737 174174 005022 RET14: MOV @YPOS, 40$
1082 004670 042737 176000 005022 BIC #176000, 40$
1083 004676 017737 174156 005024 MOV @XPOS, 41$
1084 004704 042737 176000 005024 BIC #176000, 41$
1085 004712 005737 005624 TST SWITCH ;TEST SW
1086 004716 001411 BEQ 15 ;BR IF LIGHT PEN FOLLOW
1087 004720 005237 005116 INC HITCNT ;UPDATE LIGHT PEN HIT COUNT
1088 004724 012703 005116 MOV HITCNT, R3 ;LOAD R3
1089 004730 012702 012444 MOV #FRM168, R2 ;LOAD ADDRESS
1090 004734 004737 005400 JSR PC, KBCHR ;CONVERT OCTAL
1091 004740 000432 BR 20$ ;BR
1092 004742 013703 005024 15: MOV 41$, R3 ;LOAD R3
1093 004746 012702 012036 MOV #DLT14A+4, R2 ;LOAD ADDRESS
1094 004752 004737 005400 JSR PC, KBCHR ;LOAD X READOUT
1095 004756 013703 005022 MOV 40$, R3 ;LOAD R3
1096 004762 012702 012050 MOV #DLT14B+4, R2 ;LOAD ADDRESS
1097 004766 004737 005400 JSR PC, KBCHR ;LOAD Y READOUT
1098 004772 013737 005022 012054 MOV 40$, RAY14B ;LOAD NEW Y POSITION
1099 005000 013737 005024 012052 MOV 41$, RAY14A ;LOAD NEW X POSITION
1100 005006 105:
1101 005006 012777 000001 174040 MOV #1, @DPC ;SINGLE STEP THE DISPLAY
1102 005014 022626 CMP (SP)+, (SP)+
1103 005016 000137 005476 JMP MESGA
1104
1105 005022 000000 40$: 0
1106 005024 000000 41$: 0

```

N02

GT-40/GT-44 WITH VR17 VISUAL DISPLAY TEST MAINDEC-11-DDGTG-B
DDGTG8.P11 15-SEP-76 00:00

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1108							
1109	005026	005001		20\$:	CLR	R1	
1110	005030	005002			CLR	R2	
1111	005032	013700	005024		MOV	41\$,R0	;GET X AXIS
1112	005036	162700	000700		SUB	#700,R0	;GET A BASE ADDRESS
1113	005042	006200			ASR	R0	
1114	005044	006200			ASR	R0	
1115	005046	001404			BEQ	30\$	
1116	005050	062701	000070	21\$:	ADD	#70,R1	;UPDATE OFFSET
1117	005054	005300			DEC	R0	
1118	005056	001374			BNE	21\$	;BR UNTIL DONE
1119							
1120	005060	013700	005022	30\$:	MOV	40\$,R0	;GET X AXIS
1121	005064	162700	000500		SUB	#500,R0	;MAKE BASE ADDRESS
1122	005070	006200			ASR	R0	
1123	005072	006200			ASR	R0	;SHIFT RIGHT
1124	005074	001404			BEQ	32\$	
1125	005076	062701	000002	31\$:	ADD	#2,R1	
1126	005102	005300			DEC	R0	
1127	005104	001374			BNE	31\$	
1128	005106	042761	040000 012546	32\$:	BIC	#INTX,BUFFER+10(R1)	;CLEAR THE BIT
1129	005114	000734			BR	10\$	
1130							
1131	005116	000000		HITCNT: 0			

CHRCNT: 200

005120	104000		
005120	012700	012536	
005120	012720	173400	
005120	022700	013536	
005136	001373		
005140	005037	001052	
005140	005037	001032	
005140	112737	000060	012527
005140	112737	000060	012530
005140	112737	000060	012531
005140	112737	000060	012532
005140	012737	005254	000060
005140	012737	000340	000062
005140	052777	000100	173570
005140	012737	000700	005376
005230	012700	012536	
005234	004537	005460	
005240	000001		
005242	012452		
005244	005737	001052	
005250	001012		
005252	000770		
005254	017701	173534	
005260	042701	177600	
005254	012737	177777	001052
005272	000002		
005274	000000		
005276	005037	001052	
005302	022701	000003	
005306	001002		
005310	000137	001456	
005314	005037	005376	
005320	001002		
005322	000137	005122	
005326	012702	012533	
005332	010103		
005334	004737	005400	
005340	005737	001032	
005344	001007		
005346	110120		
005350	112710	000017	
005354	005137	001032	
005360	000137	005234	
005364	110120		
005366	005037	001032	
005372	000137	005234	
005376	000200		

C03

GT-40 GT-44 WITH VRT VISUAL DISPLAY TEST MAINDEC-11-DDGTG-B
00GTGB.P11 15-SEP-76 00:00

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```

1183      :UPDATE OCTAL READOUT
1184      :
1185      005400 042703 176000      KBCHR: BIC      #176000,R3
1186      005404 004737 005444      JSR      PC,108      :LOAD BITS
1187      005410 110442      MOV      R4, -(R2)      :SAVE BITS
1188      005412 004737 005436      JSR      PC,118      :MOVE BITS
1189      005416 110442      MOV      R4, -(R2)      :SAVE BITS
1190      005420 004737 005436      JSR      PC,118      :MOVE BITS
1191      005424 110442      MOV      R4, -(R2)      :SAVE BITS
1192      005428 004737 005436      JSR      PC,118
1193      005432 110442      MOV      R4, -(R2)
1194      005436 000207      RTS      PC
1195      005440 006003      :IS:  ROR      R3
1196      005444 006003      ROR      R3
1197      005448 006003      ROR      R3
1198      005452 010304      :OS:  MOV      R3,R4      :LOAD R4
1199      005456 042704 177770      BIC      #177770,R4      :MASK BITS
1200      005460 062704 000060      ROR      #60,R4      :MAKE A NUMBER
1201      005464 000207      RTS      PC
1202      005468 012537 005620      MSG:  MOV      (S)+,COUNT
1203      005472 012537 005622      MOV      (S)+,FILE
1204      005476 013777 005622 173356      MOV      FILE,20PC      :START DISPLAY
1205      005480 005077 173306      MSGA:  CLR      2PSW
1206      005484 000001      WAIT
1207      005488 005737 002114      TST      KRBD
1208      005492 001025      BNE      MSGAB
1209      005496 005337 005620      MSGAA: DEC      COUNT
1210      005500 001405      BEQ      MSGB
1211      005504 012777 000001 173326      MOV      #1,20PC      :SINGLE STEP THE DISPLAY
1212      005508 000137 005476      JMP      MSGA
1213      005512 000240      MSGB:  NOP
1214      005516 005737 002114      TST      KRBD
1215      005520 001010      BNE      MSGBA
1216      005524 005037 005624      CLR      SWITCH
1217      005528 032777 000100 172416      BIT      #BIT6,2SWR
1218      005532 001402      BEQ      MSGBA
1219      005536 005137 005624      COM      SWITCH
1220      005540 000205      MSGBA: RTS      5
1221      005544 005737 005624      MSGAB: TST      SWITCH
1222      005548 001350      BNE      MSGAA
1223      005552 005737 001050      TST      CHANGE
1224      005556 001745      BEQ      MSGAA
1225      005560 005037 001050      CLR      CHANGE
1226      005564 005037 005624      CLR      SWITCH
1227      005568 005037 001042      CLR      HOLD
1228      005572 000137 001162      JMP      SCOPEC
1229      005576 000000      COUNT: 0
1230      005580 000000      FILE:  0
1231      005584 000000      SWITCH: 0

```

POINT

0

MAXY-277

STATSA! TALD! SYNOFF! GREEN

CHAR!INT4!LPOFF!BLKOFF!LINEO

17.17

ASCI: GT-40 OR GT-44 WITH VPI7 VISUAL TEST MC-11-00G73-B

```
.B*E 15,12,12
.ASC: DIRECTORY,
```

```
.BYTE 15,12,12
.ASCII "/00" = a = DIRECTORY
```

```
.BYTE 15,12
.ASCII /C! = B = DCT REPEATABILITY.
```

```

.BYTE 15,12
.ASCII 02 = C = PINCUSHION AND VECTOR CURVATURE X OR Y OFFSET ADJ.

```

```
.BYTE 15,12
.ASCII "03" = 0 = OCTAGONS OR SQUARES
```

```

:BYTE 15,12
:ASCII 04 = E = CHARACTER SET (CHAR. ADJ.)

```

.BYE 15.12

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MAY 11 27 1006 05-NOV-76 12:14 PAGE 31

.ASCII OS = F = DASH LINES AND BLINK

```

:BYTE 15.12
:ASCII 06 = G = HORIZONTAL VECTOR ANGLE (ACC. X VECTOR LENGTH)

```

```
.BYTE 15,12
.ASCII /07 = H = VERTICAL VECTOR ANGLE (ACJ. Y VECTOR LENGTH)
```

```
.BYTE 15,12
.ASCII /10 = I = HORIZONTAL PHOSPHOR TEST/
```

```
.BYTE 15,12
.ASCII /11 = J = VERTICAL PHOSPHOR TEST/
```

.BYTE 15,12
.ASCII /12 = K = INTENSITY LEVEL AND LIGHT-PEN TEST.

```
.BYTE 15,12
.ASCII /13 = L = EDGE FLAG TEST/
```

```
.BYTE 15,12
.ASCII /14 = M = SHORT VECTORS AND RELATIVE POINT
```

```

STATSA!ITALO!SYNOFF!GREEN
POINT!INTO!LPOFF!BLKOFF!LINEO
INTX+1000
MAXY+1/2
INTX+0
0
INTX+1000
MAXY+1/2
INTX+1777
0
INTX+1000

```


01-40 01-44 WITH VISUAL DISPLAY TEST MAINDEC-11-00GTC-B MACY11 27(1006) 05-NOV-76 12:14 PAGE 34
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1457	007402	000000
1458	007403	000000
1459	007404	000000
1460	007405	000000
1461	007406	000000
1462	007407	000000
1463	007408	000000
1464	007409	000000
1465	007410	000000
1466	007411	000000
1467	007412	000000
1468	007413	000000
1469	007414	000000
1470	007415	000000
1471	007416	000000
1472	007417	000000
1473	007418	000000
1474	007419	000000
1475	007420	000000
1476	007421	000000
1477	007422	000000
1478	007423	000000
1479	007424	000000
1480	007425	000000
1481	007426	000000
1482	007427	000000
1483	007428	000000
1484	007429	000000
1485	007430	000000
1486	007431	000000
1487	007432	000000
1488	007433	000000
1489	007434	000000
1490	007435	000000
1491	007436	000000
1492	007437	000000
1493	007438	000000
1494	007439	000000
1495	007440	000000
1496	007441	000000
1497	007442	000000
1498	007443	000000
1499	007444	000000
1500	007445	000000
1501	007446	000000
1502	007447	000000
1503	007448	000000
1504	007449	000000
1505	007450	000000
1506	007451	000000
1507	007452	000000
1508	007453	000000
1509	007454	000000
1510	007455	000000
1511	007456	000000
1512	007457	000000
1513	007458	000000
1514	007459	000000
1515	007460	000000
1516	007461	000000
1517	007462	000000
1518	007463	000000
1519	007464	000000
1520	007465	000000
1521	007466	000000
1522	007467	000000
1523	007468	000000
1524	007469	000000
1525	007470	000000
1526	007471	000000
1527	007472	000000
1528	007473	000000
1529	007474	000000
1530	007475	000000
1531	007476	000000
1532	007477	000000
1533	007478	000000
1534	007479	000000
1535	007480	000000
1536	007481	000000
1537	007482	000000
1538	007483	000000
1539	007484	000000
1540	007485	000000
1541	007486	000000
1542	007487	000000
1543	007488	000000
1544	007489	000000
1545	007490	000000
1546	007491	000000
1547	007492	000000
1548	007493	000000
1549	007494	000000
1550	007495	000000
1551	007496	000000
1552	007497	000000
1553	007498	000000
1554	007499	000000
1555	007500	000000
1556	007501	000000
1557	007502	000000
1558	007503	000000
1559	007504	000000
1560	007505	000000
1561	007506	000000
1562	007507	000000
1563	007508	000000
1564	007509	000000
1565	007510	000000
1566	007511	000000
1567	007512	000000
1568	007513	000000
1569	007514	000000
1570	007515	000000
1571	007516	000000
1572	007517	000000
1573	007518	000000

```
FRME3:  POINT!INT4!LPOFF!BLKOFF!LINEO
```

```

774
564
STATSA!ITALO!SYNOFF!GREEN
LONGV
INTX+7
0
INTX+7
INTX
INTX!MINUSX+7
INTX!MINUSX+7
0
INTX!MINUSX+7
MINUSX+7
INTX
MINUSX+7
INTX+7
MINUSX+7
POINT
770
550
LONGV
INTX+17
0
INTX+17
17
INTX
17
INTX!MINUSX+17
17
INTX!MINUSX+17
0
INTX!MINUSX+17
MINUSX+17
INTX
MINUSX+17
INTX+17
MINUSX+17
POINT
760
520
LONGV
INTX+37
0
INTX+37
37
INTX
37
INTX!MINUSX+37
37
INTX!MINUSX+37
37

```

;OCTOGON BY LENGTH OF ?

:OCTOGON BY LENGTH OF 17

; OCTOGON BY LENGTH OF 37

```

1513 007560 060037 INTX!MINUSX+37
1514 007562 020037 MINUSX+37
1515 007564 040000 INTX
1516 007566 020037 MINUSX+37
1517 007570 040037 INTX+37
1518 007572 020037 MINUSX+37
1519 007574 114000 POINT
1520 007576 000740 740
1521 007600 000440 440
1522 007602 110000 LONGV
1523 007604 040077 INTX+77
1524 007606 000000 0
1525 007610 040077 INTX+77
1526 007612 000077 77
1527 007614 040000 INTX
1528 007616 000077 77
1529 007620 060077 INTX!MINUSX+77
1530 007622 000077 77
1531 007624 060077 INTX!MINUSX+77
1532 007626 000000 0
1533 007630 060077 INTX!MINUSX+77
1534 007632 020077 MINUSX+77
1535 007634 040000 INTX
1536 007636 020077 MINUSX+77
1537 007640 040077 INTX+77
1538 007642 020077 MINUSX+77
1539 007644 114000 POINT
1540 007646 000700 700
1541 007650 000300 300
1542 007652 110000 LONGV
1543 007654 040177 INTX+177
1544 007656 000000 0
1545 007660 040177 INTX+177
1546 007662 000177 177
1547 007664 040000 INTX
1548 007666 000177 177
1549 007670 060177 INTX!MINUSX+177
1550 007672 000177 177
1551 007674 060177 INTX!MINUSX+177
1552 007676 000000 0
1553 007700 060177 INTX!MINUSX+177
1554 007702 020177 MINUSX+177
1555 007704 040000 INTX
1556 007706 020177 MINUSX+177
1557 007710 040177 INTX+177
1558 007712 020177 MINUSX+177
1559 007714 114000 POINT
1560 007716 000600 600
1561 007720 000000 0
1562 007722 110000 LONGV
1563 007724 040377 INTX+377
1564 007726 000000 0
1565 007730 040377 INTX+377
1566 007732 000377 377
1567 007734 040000 INTX
1568 007736 000377 377

```

;OCTOGON BY LENGTH OF 77

;OCTOGON BY LENGTH OF 177

;OCTOGON BY LENGTH OF 377

J03

2T-40 GT-44 WITH VR17 VISUAL DISPLAY TEST MAINDEC-11-DDGTG-B
 20GT28.P11 15-SEP-76 00:00

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1569 007740 060377
 1570 007742 020377
 1571 007744 060377
 1572 007746 000000
 1573 007750 060377
 1574 007752 020377
 1575 007754 040000
 1576 007756 020377
 1577 007760 040377
 1578 007762 020377
 1579 007764 173400
 1580 007766 160000
 1581 007770 007402
 1582
 1583
 1584 007772 117124
 1585 007774 001000
 1586 007776 000600
 1587 010000 170052
 1588 000007
 1589 000034
 1590 010002 110000
 1591 010004 040007
 1592 010006 000000
 1593 010010 040000
 1594 010012 000007
 1595 010014 000007
 1596 010016 000000
 1597 010020 040000
 1598 010022 020007
 1599 010024 020004
 1600 010026 020004
 1601
 1602 010030 110000
 1603 010032 040017
 1604 010034 000000
 1605 010036 040000
 1606 010040 000017
 1607 010042 060017
 1608 010044 000000
 1609 010046 040000
 1610 010050 020017
 1611 010052 020007
 1612 010054 020007
 1613
 1614 010056 110000
 1615 010060 040037
 1616 010062 000000
 1617 010064 040000
 1618 010066 000037
 1619 010070 060037
 1620 010072 000000
 1621 010074 040000
 1622 010076 020037
 1623 010100 020017
 1624 010102 020017

INTX!MINUSX+377
 377
 INTX!MINUSX+377
 0
 INTX!MINUSX+377
 MINUSX+377
 INTX
 MINUSX+377
 INTX+377
 MINUSX+377
 DSTOP
 DJMP
 FRME3
 :SQUARES 7,17,37,77,177,377,777 WIDE
 FRME3A: PCINT!INT4!LPOFF!BLKOFF!LINEC : BY 7
 1000
 600
 STATSA!ITALD!SYNOFF!GREEN
 Q=7
 R=4
 LONGV :BY 7 AND 4
 INTX+7
 0
 INTX
 7
 INTX!MINUSX+7
 0
 INTX
 MINUSX+7
 MINUSX+4
 MINUSX+4
 .LIST
 LONGV :BY 17 AND 7
 INTX+17
 0
 INTX
 17
 INTX!MINUSX+17
 0
 INTX
 MINUSX+17
 MINUSX+7
 MINUSX+7
 .LIST
 LONGV :BY 37 AND 17
 INTX+37
 0
 INTX
 37
 INTX!MINUSX+37
 0
 INTX
 MINUSX+37
 MINUSX+17
 MINUSX+17

K03

GT-40 GT-44 WITH VR17 VISUAL DISPLAY TEST MAINDEC-11-DDGTG-B
DDGTGB.P11 15-SEP-76 00:00

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1625			.LIST	
1626	010104	110000	LONGV	:BY 77 AND 37
1627	010106	040077	INTX+77	
1628	010110	000000	0	
1629	010112	040000	INTX	
1630	010114	000077	77	
1631	010116	060077	INTX!MINUSX+77	
1632	010120	000000	0	
1633	010122	040000	INTX	
1634	010124	020077	MINUSX+77	
1635	010126	020037	MINUSX+37	
1636	010130	020037	MINUSX+37	
1637			.LIST	
1638	010132	110000	LONGV	:BY 177 AND 77
1639	010134	040177	INTX+177	
1640	010136	000000	0	
1641	010140	040000	INTX	
1642	010142	000177	177	
1643	010144	060177	INTX!MINUSX+177	
1644	010146	000000	0	
1645	010150	040000	INTX	
1646	010152	020177	MINUSX+177	
1647	010154	020077	MINUSX+77	
1648	010156	020077	MINUSX+77	
1649			.LIST	
1650	010160	110000	LONGV	:BY 377 AND 177
1651	010162	040377	INTX+377	
1652	010164	000000	0	
1653	010166	040000	INTX	
1654	010170	000377	377	
1655	010172	060377	INTX!MINUSX+377	
1656	010174	000000	0	
1657	010176	040000	INTX	
1658	010200	020377	MINUSX+377	
1659	010202	020177	MINUSX+177	
1660	010204	020177	MINUSX+177	
1661			.LIST	
1662	010206	110000	LONGV	:BY 777 AND 377
1663	010210	040777	INTX+777	
1664	010212	000000	0	
1665	010214	040000	INTX	
1666	010216	000777	777	
1667	010220	060777	INTX!MINUSX+777	
1668	010222	000000	0	
1669	010224	040000	INTX	
1670	010226	020777	MINUSX+777	
1671	010230	020377	MINUSX+377	
1672	010232	020377	MINUSX+377	
1673			.LIST	
1674	010234	173400	DSTOP	
1675	010236	160000	DIMP	
1676	010240	007772	FRAME3A	
1677				
1678			:DASH LINE TEST	
1679				
1680	010242	117000	FRAMES: POINT!INT4	

L03

37-40 37-44 WITH VR17 VISUAL DISPLAY TEST MAINDEC-11-DDGTG-B
CCGTGB.P11 15-SEP-76 00:00

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1681	010244	000000				0
1682	010246	001000				1000
1683	010250	174400				STATSB:SIZE0
1684	010252	170052				STATSA:ITALO:SYNOFF:GREEN
1685	010254	100004				CHAR:LINE0
1686	010256	017				.BYTE 17 17
1687	010260	047523	044514	020104		.ASCII /SOLID /
1688	010266	020040	020040			
1689	010272	110004				LONGV:LINE0
1690	010274	040400				40400
1691	010276	000000				0
1692	010300	000400				400
1693	010302	000000				0
1694	010304	110030				LONGV:BLKON
1695	010306	040400				40400
1696	010310	000000				0
1697	010312	100020				CHAR:BLKOFF
1698	010314	015	012	012		.BYTE 15,12,12,12,12,12
1699	010317	012	012	012		
1700	010322	040504	044123	044440		.ASCII /DASH I /
1701	010330	020040	020040			
1702	010334	110000				LONGV:LINE1
1703	010336	040400				40400
1704	010340	000000				0
1705	010342	000400				400
1706	010344	000000				0
1707	010346	110030				LONGV:BLKON
1708	010350	040400				40400
1709	010352	000000				0
1710	010354	100020				CHAR:BLKOFF
1711	010356	015	012	012		.BYTE 15,12,12,12,12,12
1712	010361	012	012	012		
1713	010364	040504	044123	044440		.ASCII /DASH II /
1714	010372	020111	020040			
1715	010376	110006				LONGV:LINE2
1716	010400	040400				40400
1717	010402	000000				0
1718	010404	000400				400
1719	010406	000000				0
1720	010410	110030				LONGV:BLKON
1721	010412	040400				40400
1722	010414	000000				0
1723	010416	100020				CHAR:BLKOFF
1724	010420	015	012	012		.BYTE 15,12,12,12,12,12
1725	010423	012	012	012		
1726	010426	040504	044123	044440		.ASCII /DASH III /
1727	010434	044511	020040			
1728	010440	110007				LONGV:LINE3
1729	010442	040400				40400
1730	010444	000000				0
1731	010446	000400				400
1732	010450	000000				0
1733	010452	110030				LONGV:BLKON
1734	010454	040400				40400
1735	010456	000000				0
1736	010460	110024				LONGV:BLKOFF:LINE0

M03

GT-43 GT-44 WITH VR17 VISUAL DISPLAY TEST MAINDEC-11-DDGTG-B
DDGTG2.P11 15-SEP-76 00:00

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1737 010462 000000
1738 010464 000000
1739 010466 173400
1740 010470 160000
1741 010472 C10242

0
0
DSTOP
DJMP
FRME5

:VECTOR LENGTH TEST (FILE 6 AND 7)

1745 010474 114000
1746 010476 001777
1747 010500 000000
1748 010502 170052
1749 010504 113724
1750 010506 040000
1751 010510 001777
1752 010512 114000
1753 010514 000000
1754 010516 001777
1755 010520 110000
1756 010522 041777
1757 010524 000000
1758 010526 173400
1759 010530 114000
1760 010532 000000
1761 010534 000000
1762 010536 110000
1763 010540 000000
1764 010542 000000
1765 010544 173400
1766 010546 160000
1767 010550 010530

FRME6: POINT
MAXX
0
STATSA!ITALD!SYNOFF!GREEN
LONGV!INT7!LPOFF!BLKOFF!LINE0
INTX
MAXY
POINT
0
MAXY
LONGV
INTX!MAXX
0
DSTOP
FRME6A: POINT
0
0
LONGV
DELTX6: 0
DELT6: 0
DSTOP
DJMP
FRME6A

:PHOSPHOR TEST

1772 010552 114000
1773 010554 000000
1774 010556 000000
1775 010560 170052
1776 010562 113724
1777 010564 040000
1778 010566 001777
1779 010570 000002
1780 010572 000000
1781 010574 040000
1782 010576 021777
1783 010600 000002
1784 010602 000000
1785 010604 173400
1786 010606 160000
1787 010610 010562

FRME10: POINT
DELTX7: 0
0
STATSA!ITALD!SYNOFF!GREEN
DFI10A: LONGV!INT7!LPOFF!BLKOFF!LINE0
INTX
MAXY
2
0
INTX
MINUSY!MAXY
2
0
DSTOP
DJMP
DFI10A

:PHOSPHOR TEST

1791 010612 114000
1792 010614 000000

FRME11: POINT
0

N03

GT-40 GT-44 WITH VR17 VISUAL DISPLAY TEST MAINDEC-11-DDGTG-B
DDGTG.P11 15-SEP-76 00:00

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1793 010616 000000
1794 010620 170052
1795 010622 113724
1796 010624 041777
1797 010626 000000
1798 010630 000000
1799 010632 000002
1800 010634 061777
1801 010636 000000
1802 010640 000000
1803 010642 000002
1804 010644 173400
1805 010646 160000
1806 010650 010622
1807
1808 010652 117604
1809 010654 000000
1810 010656 000000
1811 010660 110000
1812 010662 041777
1813 010664 000000
1814 010666 040000
1815 010670 001777
1816 010672 061777
1817 010674 000000
1818 010676 040000
1819 010700 021777
1820 010702 173400
1821 010704 160000
1822 010706 010652
1823
1824
1825
1826 010710 114164
1827 010712 000000
1828 010714 001200
1829 010716 170252
1830 010720 103600
1831 010722 017
1832 010724 047111 042524 051516
1833 010732 052111 020131 020067
1834 010740 020040
1835 010742 110000
1836 010744 041000
1837 010746 000000
1838 010750 130000
1839 010752 057600
1840 010754 103400
1841 010756 015 012 012
1842 010761 012
1843 010762 047111 042524 051516
1844 010770 052111 020131 020066
1845 010776 020040
1846 011000 110000
1847 011002 041000
1848 011004 000000

DELT7: 0
STATSA:ITALO!SYNOFF!GREEN
DFI11C: LONGV!INT7!LPOFF!BLKOFF!LINE0
INTX!MAXX
0
0
2
INTX!MINUSX!MAXX
0
0
2
DSTOP
DJMP
DFI11C

FRM10: POINT!INT7!LINE0
0
0
LONGV
INTX!MAXX
0
INTX
MAXY
INTX!MINUSX!MAXX
0
INTX
MINUSX!MAXY
DSTOP
DJMP
FRM10

:INTENSITY TEST

FRME12: POINT!LINE0!LPON!BLKOFF
0
1200
SYN12: STATSA!LPLITE!SYNOFF!ITALO!GREEN
CHAR!INT7
.BYTE 17,17
.ASCII /INTENSITY 7 /

LONGV
41000
0
RELATV
57600
CHAR!INT6
.BYTE 15,12,12,12
.ASCII /INTENSITY 6 /
LONGV
41000
0

804

111000	011100	130000
111001	011101	057600
111002	011102	103200
111003	011103	015
111004	011104	012
111005	011105	047111
111006	011106	042524 051516
111007	011107	020131 020065
111008	011108	020040
111009	011109	110000
111010	011110	000000
111011	011111	000000
111012	011112	000000
111013	011113	000000
111014	011114	000000
111015	011115	000000
111016	011116	000000
111017	011117	000000
111018	011118	000000
111019	011119	000000
111020	011120	000000
111021	011121	000000
111022	011122	000000
111023	011123	000000
111024	011124	000000
111025	011125	000000
111026	011126	000000
111027	011127	000000
111028	011128	000000
111029	011129	000000
111030	011130	000000
111031	011131	000000
111032	011132	000000
111033	011133	000000
111034	011134	000000
111035	011135	000000
111036	011136	000000
111037	011137	000000
111038	011138	000000
111039	011139	000000
111040	011140	000000
111041	011141	000000
111042	011142	000000
111043	011143	000000
111044	011144	000000
111045	011145	000000
111046	011146	000000
111047	011147	000000
111048	011148	000000
111049	011149	000000
111050	011150	000000
111051	011151	000000
111052	011152	000000
111053	011153	000000
111054	011154	000000
111055	011155	000000
111056	011156	000000
111057	011157	000000
111058	011158	000000
111059	011159	000000
111060	011160	000000
111061	011161	000000
111062	011162	000000
111063	011163	000000
111064	011164	000000
111065	011165	000000
111066	011166	000000
111067	011167	000000
111068	011168	000000
111069	011169	000000
111070	011170	000000
111071	011171	000000
111072	011172	000000
111073	011173	000000
111074	011174	000000
111075	011175	000000
111076	011176	000000
111077	011177	000000
111078	011178	000000
111079	011179	000000
111080	011180	000000
111081	011181	000000
111082	011182	000000
111083	011183	000000
111084	011184	000000
111085	011185	000000
111086	011186	000000
111087	011187	000000
111088	011188	000000
111089	011189	000000
111090	011190	000000
111091	011191	000000
111092	011192	000000
111093	011193	000000
111094	011194	000000
111095	011195	000000
111096	011196	000000
111097	011197	000000
111098	011198	000000
111099	011199	000000
111100	011200	000000
111101	011201	000000
111102	011202	000000
111103	011203	000000
111104	011204	000000
111105	011205	000000
111106	011206	000000
111107	011207	000000
111108	011208	000000
111109	011209	000000
111110	011210	000000
111111	011211	000000
111112	011212	000000
111113	011213	000000
111114	011214	000000
111115	011215	000000
111116	011216	000000
111117	011217	000000
111118	011218	000000
111119	011219	000000
111120	011220	000000
111121	011221	000000
111122	011222	000000
111123	011223	000000
111124	011224	000000
111125	011225	000000
111126	011226	000000
111127	011227	000000
111128	011228	000000
111129	011229	000000
111130	011230	000000
111131	011231	000000
111132	011232	000000
111133	011233	000000
111134	011234	000000

RELATV
57600
CHAR!INT5
.BYTE 15,12,12,12
.ASCII /INTENSITY 5 /
LONGV
41000
0
RELATV
57600
CHAR!INT4
.BYTE 15,12,12,12
.ASCII /INTENSITY 4 /
LONGV
41000
0
RELATV
57600
CHAR!INT3
.BYTE 15,12,12,12
.ASCII /INTENSITY 3 /
LONGV
41000
0
RELATV
57600
CHAR!INT2
.BYTE 15,12,12,12
.ASCII /INTENSITY 2 /
LONGV
41000
0
RELATV
57600
CHAR!INT1
.BYTE 15,12,12,12
.ASCII /INTENSITY 1 /
LONGV
41000
0
RELATV

C04

GT-40 GT-44 WITH VR17 VISUAL DISPLAY TEST MAINDEC-11-00GTG-B
 00GTGB.P11 15-SEP-76 00:00

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1905	011236	057600			57600
1906	011240	102000			CHAR!INT0
1907	011242	015	012	012	.BYTE 15.12.12.12
1908	011244	012			
1909	011246	047111	042524	051516	.ASCII /INTENSITY 0
1910	011254	052111	020131	020360	
1911	011262	020040			
1912	011264	1:0000			LONGV
1913	011266	041000			41000
1914	011270	000000			0
1915	011272	130000			RELATV
1916	011274	057600			57600
1917	011276	164000			DNOP
1918	011278	164000			DNOP
1919	011280	164000			DNOP
1920	011282	164000			DNOP
1921	011284	164000			DNOP
1922	011286	164000			DNOP
1923	011288	164000			DNOP
1924	011290	164000			DNOP
1925	011292	164000			DNOP
1926	011294	164000			DNOP
1927	011296	164000			DNOP
1928	011298	164000			DNOP
1929	011300	164000			DNOP
1930	011302	164000			DNOP
1931	011304	164000			DNOP
1932	011306	164000			DNOP
1933	011308	164000			DNOP
1934	011310	164000			DNOP
1935	011312	164000			DNOP
1936	011314	164000			DNOP
1937	011316	173400			RAYLPA: CSTOP
1938	011320	164000			DNOP
1939	011322	164000			DNOP
1940	011324	117100			DFI12A: POINT!INT4!LPOFF
1941	011326	001500			1500
1942	011328	001200			LPPNT: 1200
1943	011330	100000			CHAR
1944	011332	044514	044107	020124	.ASCII /LIGHT PEN HIT/
1945	011334	042520	020116	044510	
1946	011336	000124			
1947	011338				.EVEN
1948	011340	173400			CSTOP
1949	011342	160000			DJMP
1950	011344	010710			FRME12
1951	011346				
1952	011348				:EDGE FILE
1953	011350				FRME13: POINT!INT4!LPOFF!BLKOFF!LINED
1954	011352	117124			0
1955	011354	000000			0
1956	011356	000000			STATSA!ITALD!SYNOFF!GREEN
1957	011358	170052			CHAR
1958	011360	100000			.BYTE 17.17
1959	011362	017	017		LONGV
1960	011364	110000			INTX!MAXX
1961	011366	041777			0
1962	011368	000000			INTX
1963	011370	040000			MAXY
1964	011372	001777			INTX!MINUSX!MAXX
1965	011374	061777			0
1966	011376	000000			INTX
1967	011378	040000			MINUSY!MAXY
1968	011380	001777			PCINT
1969	011382	114000			100
1970	011384	000100			300
1971	011386	000300			:LEFT SIDE

1981	011424	110000
1982	011426	270000
1983	011428	000400
1984	011432	060200
1985	011434	000000
1986	011436	040000
1987	011440	020400
1988	011442	040200
1989	011444	000000
1990	011446	114000
1991	011450	000200
1992	011452	001700
1993	011454	110000
1994	011456	040400
1995	011460	000000
1996	011462	040000
1997	011464	000200
1998	011466	060400
1999	011470	000000
2000	011472	040000
2001	011474	020200
2002	011476	114000
2003	011500	001700
2004	011502	001500
2005	011504	110000
2006	011506	040000
2007	011510	020400
2008	011512	040200
2009	011514	000000
2010	011516	040000
2011	011520	000400
2012	011522	060200
2013	011524	000000
2014	011526	114000
2015	011530	001600
2016	011532	000100
2017	011534	110000
2018	011536	060400
2019	011540	000000
2020	011542	040000
2021	011544	020200
2022	011546	040400
2023	011550	000000
2024	011552	040000
2025	011554	000200
2026	011556	114000
2027	011560	001777
2028	011562	000400
2029	011564	110000
2030	011566	000020
2031	011570	000000
2032	011572	100000
2033	011574	015
2034	011576	114000
2035	011600	000000
2036	011602	000500

101

```

LONGV
INTX
400
INTX!MINUSX+200
0
INTX
MINUSY+400
INTX+200
0
POINT
200
MAXY+1-100
LONGV
INTX+400
0
INTX
200
INTX!MINUSX+400
0
INTX
MINUSY+200
POINT
1700
MAXY+1-300
LONGV
INTX
MINUSY+400
INTX+200
0
INTX
400
INTX!MINUSX+200
0
POINT
1600
100
LONGV
INTX!MINUSX+400
0
INTX
MINUSY+200
INTX+400
0
INTX
200
POINT
MAXX
400
LONGV
20
0
CHAR
.BYTE      15.101
POINT
0
500

```

: TOP SIDE

:RIGHT SIDE

:BOTTOM SIDE

;"CR" AND AN "A"

E04

37-40 37-44 WITH VR17 VISUAL DISPLAY TEST MAINDEC-11-DDGTG-B
DDGTGB.P11 15-SEP-76 00:00

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0017 011604 110000
0018 011606 020012
0019 011610 000000
0020 011612 100000
0021 011614 040
0022 011616 164000
0023 011620 164000
0024 011622 173400
0025 011624 164000
0026 011626 164000
0027 011628 160000
0028 011630 011350

102

LONGV
MINUSX+12
0
CHAR
.BYTE 40.102
DNOP
DNOP
DSTOP
DNOP
DNOP
DNOP
DIMP
FRAME:3

:"SPACE" AND AN "B"

F04

ST-40 ST-44 WITH VRT VISUAL DISPLAY TEST MAINDEC-11-DDGTG-B
DOGTGB.P11 15-SEP-76 00:00

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011634 170352
011636 117721
011640 000000
011642 000000
011644 104000
011646 056200
011650 056200
011652 040071
011654 077677
011656 077600
011660 077637
011662 040071
011664 056371
011666 020504
011670 164000
011672 164000
011674 130000
011676 057000
011700 057074
011702 040074
011704 077074
011706 077000
011710 077074
011712 040174
011714 057174
011716 020504
011720 164000
011722 164000
011724 104000
011726 057600
011730 057677
011732 040077
011734 077677
011736 077600
011740 077777
011742 040177
011744 057777
011746 020504
011750 164000
011752 164000
011754 173400
011756 160000
011760 011634

FRME14: STATSA!ITALD!SYNOFF!GREEN
POINT!INT4!BLKOFF!LPOFF!LINE0
FRM14A: 0
FRM14B: 0
SHORTV
INTX+16200
INTX+16200+71
INTX+71
INTX!MINUSX+16200+71
INTX!MINUSX+16200
INTX!MINUSX+16200+MINSUY+71
INTX+MINSUY+71
INTX+16200+MINSUY+71
20504
ONOP
ONOP
RELATV
INTX+17000
INTX+17000+74
INTX+74
INTX!MINUSX+17000+74
INTX!MINUSX+17000
INTX!MINUSX+17000+MINSUY+74
INTX+MINSUY+74
INTX+17000+MINSUY+74
20504
ONOP
ONOP
SHORTV
INTX+17600
INTX+17600+77
INTX+77
INTX!MINUSX+17600+77
INTX!MINUSX+17600
INTX!MINUSX+17600+MINSUY+77
INTX+MINSUY+77
INTX+17600+MINSUY+77
20504
ONOP
ONOP
DSTOP
DJMP
FRME14

27-42 27-44 WITH VISUAL DISPLAY TEST MAINDEC-11-DOGTG-B MACY11 27(1006) 05-NOV-76 12:14 PAGE 46
200728.P11 15-SEP-76 00:00

017	
044107	020124
020116	047506
053517	052040
020124	
012	012
020075	
030060	
012	012
020075	
030060	

```

FRAME16: POINT!INT7!LPOFF!BLKOFF!LINEO
C
MAXY-177
STATSA!ITALO!SYNOFF!GREEN
CHAR
.BYTE      17,17
.ASCII     /LIGHT PEN FOLLOW TEST /

.DLT14A:   .BYTE      15,12,12
           .ASCII     /X= /
           .ASCII     /1000/
           .BYTE      15,12,12
           .ASCII     /Y= /
.DLT14B:   .ASCII     /0600/
POINT!LPON
RAY14A:    1000
RAY14B:    600
DNOP
DNOP
RELATV
TAB16A:    INTX+MINUSX+14000
           INTX+1000
           INTX+1000
           INTX+1000
           INTX+1000
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           INTX+1000
           INTX+1000
           DNOP
           DNOP
           DNOP
           DNOP
           DNOP
           DNOP
           DNOP

```

MACY11 27(1306) 05-NOV-76 12:14 PAGE 47

37-42 37-44 WITH VRI7 VISUAL
000702.F11 15-SEP-76 00:00

```

DNOP
DNOP
RELATV
MINUSX+14000
TAB16B: INTX!MINSUY+60
        INTX+4
        INTX+4
        INTX+4
        INTX+4
        INTX+4
        INTX+4
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        INTX+4
        INTX+4
        INTX+4
        INTX+4
        DNOP
        DNOP
        DNOP
        DNOP
        DNOP
        DNOP
        DNOP
        DNOP
        DNOP
        LONGV
        C
        77
PNT16A: INTX+160
        MINUSX+160
PNT16B: INTX!MINUSX+160
        MINUSX+160
PNT16C: INTX!MINUSX+160
        160
PNT16D: INTX+160
        160
        .WORD      200
        .WORD      200
        DNOP
        DNOP
        DNOP
        DNOP
        DSTOP
        DJMP

```

[illegible]

FRM16A: POINT!INT7!LPOFF!BLKOFF!LINE0

0
MAXY-177
STATSA!ITALD!SYNOFF!GREEN
CHAR
.BYTE 17,17
.ASCII /LIGHT PEN FIELD OF VIEW /

```
.BYTE 15,12,12
.ASCII /NUMBER OF HITS = 0000/
```

```

      FIRM168:  DSTOP
                  CJMP
                  FIRM16A

```

FRME17: POINT!LPOFF!BLKOFF!LINEO

:MUST BE JUST BEFORE THE BUFFER

MAXY-177
STATSA!ITALD!SYNOFF!GREEN
CHAR:INT4
.BYTE 17,17
.ASCIZ 'KEYBOARD ECHO TEST'

```
.BYTE 15,12,12
.ASCII /CHAR OCT = /
```

```
.BYTE 0,0,0,0
```

KBOCT: .BYTE 15.12.12

BUFFER: CNOP

.ENC

GT-40 GT-44 WITH VISUAL DISPLAY TEST MAINDEC-11-DDGTG-B MACY11 27(1006) 05-NOV-76 12:14 PAGE 50
DDGTGB.P11 15-SEP-76 00:00 CROSS REFERENCE TABLE -- USER SYMBOLS

070 003426
070 003452

[illegible]

01-42 01-44 WITH VIRT VISUAL DISPLAY TEST "AINCEC-11-00010-8" "AYV" 27 1036 05-401-76 12:14 PAGE 5:
000-GE.P11 15-SEP-76 00:00 CROSS REFERENCE TABLE -- USER 3-3035

[illegible][illegible]

ST-40 ST-44 WITH TEST: ISLA DISPLAY TEST MAY/CEC-11-DETC-B "NOV 11 27 10 81 05-NOV-76 12:14 PAGE 53
000708.P11 15-SEP-76 00:00 CROSS REFERENCE TABLE -- USER SYMBOLS

MINUSY= 020000
PH1EA 012306
PH1EE 012312

[illegible]

№	Имя	Возраст	Пол	Группа	Средний бал	Максимальный бал	Процент
1	Александров	15	М	1	100	100	100%
2	Богданов	16	М	2	95	100	95%
3	Васильев	17	М	3	90	100	90%
4	Григорьев	18	М	4	85	100	85%
5	Дмитриев	19	М	5	80	100	80%
6	Зайцев	20	М	6	75	100	75%
7	Иванов	21	М	7	70	100	70%
8	Климов	22	М	8	65	100	65%
9	Колесников	23	М	9	60	100	60%
10	Королев	24	М	10	55	100	55%
11	Кузнецов	25	М	11	50	100	50%
12	Лавров	26	М	12	45	100	45%
13	Леонов	27	М	13	40	100	40%
14	Михайлов	28	М	14	35	100	35%
15	Морозов	29	М	15	30	100	30%
16	Николаев	30	М	16	25	100	25%
17	Новиков	31	М	17	20	100	20%
18	Осипов	32	М	18	15	100	15%
19	Павлов	33	М	19	10	100	10%
20	Петров	34	М	20	5	100	5%
21	Попов	35	М	21	0	100	0%
22	Романов	36	М	22	0	100	0%
23	Сидоров	37	М	23	0	100	0%
24	Смирнов	38	М	24	0	100	0%
25	Соловьев	39	М	25	0	100	0%
26	Степанов	40	М	26	0	100	0%
27	Тихонов	41	М	27	0	100	0%
28	Толстов	42	М	28	0	100	0%
29	Трофимов	43	М	29	0	100	0%
30	Федотов	44	М	30	0	100	0%
31	Филиппов	45	М	31	0	100	0%
32	Фролов	46	М	32	0	100	0%
33	Харьков	47	М	33	0	100	0%
34	Хохлов	48	М	34	0	100	0%
35	Цыганов	49	М	35	0	100	0%
36	Чайков	50	М	36	0	100	0%
37	Чернов	51	М	37	0	100	0%
38	Чернышев	52	М	38	0	100	0%
39	Шаров	53	М	39	0	100	0%
40	Шенников	54	М	40	0	100	0%
41	Шестаков	55	М	41	0	100	0%
42	Ширшов	56	М	42	0	100	0%
43	Шутов	57	М	43	0	100	0%
44	Щеголов	58	М	44	0	100	0%
45	Щербинин	59	М	45	0	100	0%
46	Щукин	60	М	46	0	100	0%
47	Югов	61	М	47	0	100	0%
48	Яковлев	62	М	48	0	100	0%
49	Яковлев	63	М	49	0	100	0%
50	Яковлев	64	М	50	0	100	0%

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671
619
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57

[illegible][illegible]

95

שם	מס' זכרון	מס' תעודת זהות	מס' תעודת זהות
אברהם	100	100	100
בן-דוד	200	200	200
גל	300	300	300
דן	400	400	400
הרצוג	500	500	500
זאב	600	600	600
זאב	700	700	700
זאב	800	800	800
זאב	900	900	900
זאב	1000	1000	1000
זאב	1100	1100	1100
זאב	1200	1200	1200
זאב	1300	1300	1300
זאב	1400	1400	1400
זאב	1500	1500	1500
זאב	1600	1600	1600
זאב	1700	1700	1700
זאב	1800	1800	1800
זאב	1900	1900	1900
זאב	2000	2000	2000
זאב	2100	2100	2100
זאב	2200	2200	2200
זאב	2300	2300	2300
זאב	2400	2400	2400
זאב	2500	2500	2500
זאב	2600	2600	2600
זאב	2700	2700	2700
זאב	2800	2800	2800
זאב	2900	2900	2900
זאב	3000	3000	3000
זאב	3100	3100	3100
זאב	3200	3200	3200
זאב	3300	3300	3300
זאב	3400	3400	3400
זאב	3500	3500	3500
זאב	3600	3600	3600
זאב	3700	3700	3700
זאב	3800	3800	3800
זאב	3900	3900	3900
זאב	4000	4000	4000
זאב	4100	4100	4100
זאב	4200	4200	4200
זאב	4300	4300	4300
זאב	4400	4400	4400
זאב	4500	4500	4500
זאב	4600	4600	4600
זאב	4700	4700	4700
זאב	4800	4800	4800
זאב	4900	4900	4900
זאב	5000	5000	5000
זאב	5100	5100	5100
זאב	5200	5200	5200
זאב	5300	5300	5300
זאב	5400	5400	5400
זאב	5500	5500	5500
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זאב	5800	5800	5800
זאב	5900	5900	5900
זאב	6000	6000	6000
זאב	6100	6100	6100
זאב	6200	6200	6200
זאב	6300	6300	6300
זאב	6400	6400	6400
זאב	6500	6500	6500
זאב	6600	6600	6600
זאב	6700	6700	6700
זאב	6800	6800	6800
זאב	6900	6900	6900
זאב	7000	7000	7000
זאב	7100	7100	7100
זאב	7200	7200	7200
זאב	7300	7300	7300
זאב	7400	7400	7400
זאב	7500	7500	7500
זאב	7600	7600	7600
זאב	7700	7700	7700
זאב	7800	7800	7800
זאב	7900	7900	7900
זאב	8000	8000	8000
זאב	8100	8100	8100
זאב	8200	8200	8200
זאב	8300	8300	8300
זאב	8400	8400	8400
זאב	8500	8500	8500
זאב	8600	8600	8600
זאב	8700	8700	8700
זאב	8800	8800	8800

[illegible][illegible]

GT-40/GT-44 WITH VR17 VISUAL DISPLAY TEST MAINDEC-11-DOGTG-B MACY11 27(1006) 05-NOV-76 12:14 PAGE 54
DOGTG.B.P11 15-SEP-76 00:00 CROSS REFERENCE TABLE -- USER SYMBOLS

2175#												
2177#												
609#	657	704	922	975	1026	1234	1391	1421	1458	1479	1499	1519
1539#	1559	1584	1687	1745	1752	1759	1772	1791	1808	1826	1829	1843
1958#	1970	1982	1994	2006	2014	2033	2076	2092	2169	2208		
406#	517*	1206*										
1588#	1590	1601#	1602	1613#	1614	1625#	1626	1637#	1638	1649#	1650	1661#
1586#	1673#											
1589#	1590	1601#	1602	1613#	1614	1625#	1626	1637#	1638	1649#	1650	1661#
1652#	1673#											
903*	902*	1925#										
536*	1099*	2093#										
537*	1098*	2094#										
609#												
2133#	927	1065	1838	1949	1860	1971	1982	1893	1904	1915	2048	2097
560#	579#											
887#	902#											
1145#	1156#											
1023#	1081#											
1163#	1165#											
1154#	1161#											
377*	612	619	626	679	700	790	797	824	851	868	986	913
920#	973	1022	1134									
390#	445#											
452#	459#											
460#	1229											
454#	462#	515										
449#	451#											
446#	453#											
628#	640	657#										
456#	464	534	544#									
558#	563#											
563#	571#											
609#	925	2036	2060									
603#	702	1683										
609#												
718#	741	763#										
398#	516#											
609#	703	716	719	738	742	978	1237	1390	1424	1461	1597	1684
1746#	1775	1794	1829	1946	2032	2079	2192	2211				
609#	702	979	1000	1002	1683							
710*	712*	714*	739	743	748#							
379#	462	507	516									
520#	523											
526#	529											
534#	1164											
447*	450*	530*	583*	590*	601*	664	681	916	843	860	877	890
993#	1039	1085	1217*	1220*	1222	1227*	1232#					
395#	448	451	459	550*	551	555*	557	1218				
394#	555											
609#	703	978	1237	1390	1424	1461	1587	1684	1748	1775	1794	1829
1946#	2032	2										

B05

05-NOV-76 12:14 PAGE 55
MACY11 27(1006)
CROSS REFERENCE TABLE -- USER SYMBOLS

1147*	581	584*	586	588	593	605*
580*	581	584*	586	588	593	605*
589*	581	584*	586	588	593	605*
1081	393*	397*	400*	572		
389*	393*	397*	400*	572		

MACY 11 27(1006) 05-NOV-76 12:14 PAGE 57
- MACAC NAMES

07-42 07-44 WITH 16:7 VISUAL DISPLAY TEST MAIN DEC-11-DOGTG-B
0037GB.P11 15-SEP-76 00:00 CROSS REFERENCE TABLE

MACY 11 27 (1006)
- MACRC NAMES

05-NOV-76 12:14 PAGE 57

[illegible]

D05

27-42 27-44 WITH R17 VISUAL DISPLAY TEST MAINDEC-11-DDGTG-B MACY11 27.1006 05-NOV-76 12:14 PAGE 58
DDGTGB.F11 15-SEP-76 00:00 CROSS REFERENCE TABLE -- MACRO NAMES

.SSA	1
.SSB20	1
.SSB21	1
.SSB22	1
.SSB23	1
.SSB24	1
.SSB25	1
.SSB26	1
.SSB27	1
.SSB28	1
.SSB29	1
.SSB30	1
.SSB31	1
.SSB32	1
.SSB33	1
.SSB34	1
.SSB35	1
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.SSB39	1
.SSB40	1
.SSB41	1
.SSB42	1
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.SSB79	1
.SSB80	1
.SSB81	1
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.SSB84	1
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.SSB86	1
.SSB87	1
.SSB88	1
.SSB89	1
.SSB90	1
.SSB91	1
.SSB92	1
.SSB93	1
.SSB94	1
.SSB95	1
.SSB96	1
.SSB97	1
.SSB98	1
.SSB99	1
.SSB100	1

. ABS. 012540 000

ERRORS DETECTED: 0
DEFAULT GLOBALS GENERATED: 0

DDGTGB.BIN DDGTGB.SEG SOL CRF NL:YOC=DDGTGB.SML,DDGTGB.F11
RUN-TIME: 25 31 2 SECONDS
RUN-TIME RATIO: 153.58=2.6
CORE USED: 33K .65 PAGES.

Spooler runtime 8 Seconds, 37 KCS, 179 disk reads, 3 disk writes, 55 pages.

00000000111111112222222233333333444444445555555566666666777777778888888899999999000000001111111122222222333312