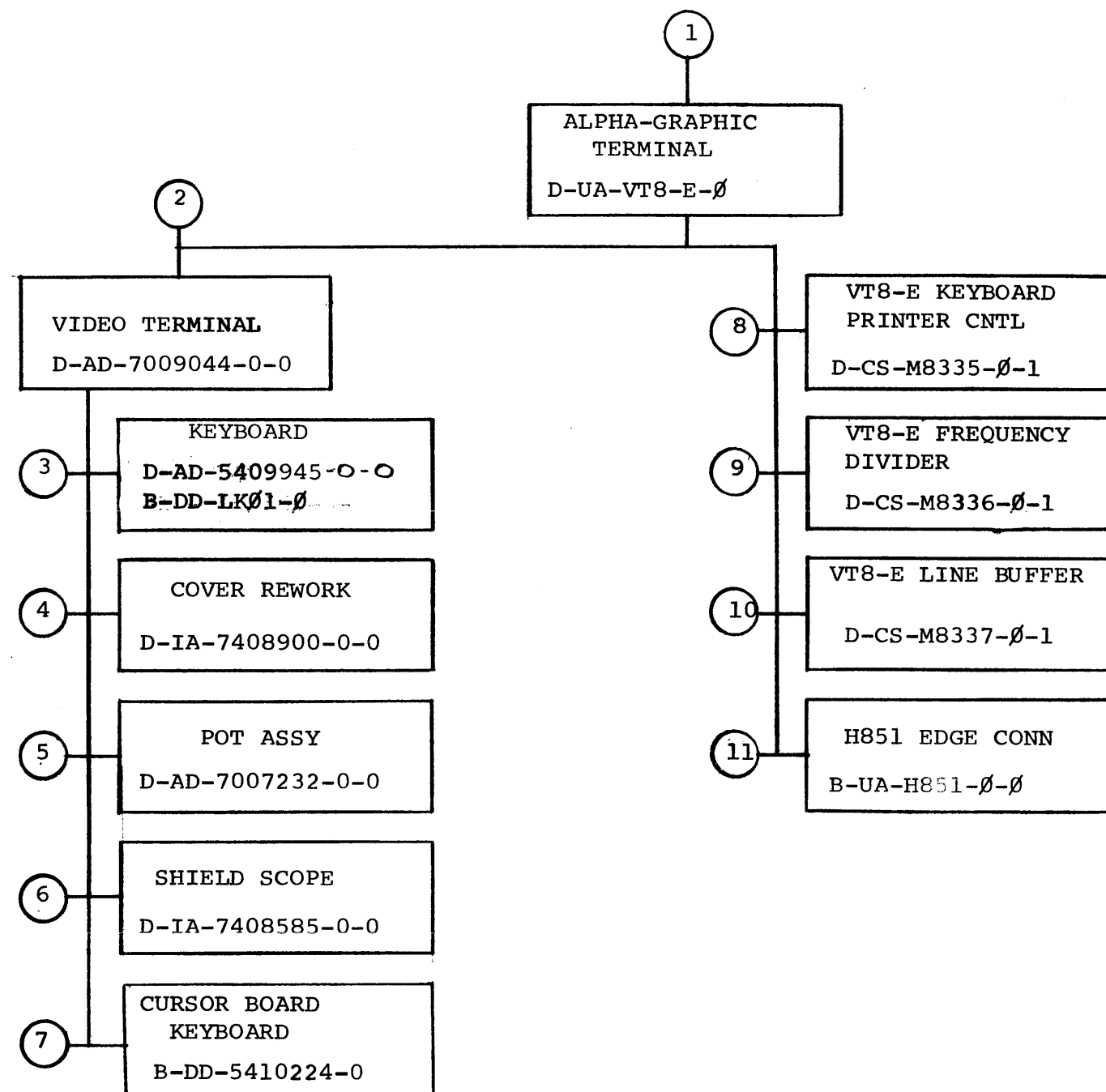


VT8-E
video display control
engineering drawings

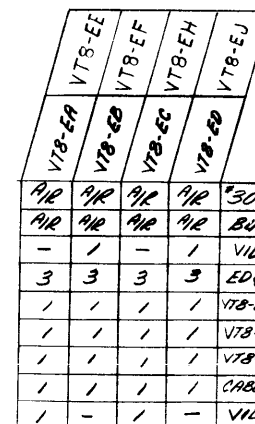
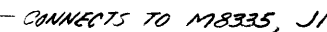


TITLE	SHEET 2 OF 4	SIZE	CODE	NUMBER	REV
ALPHA GRAPHIC TERMINAL		B	DD	VT8-E	

CUSTOMER PRINT SET						ELECTRICAL					CUSTOMER PRINT SET						ELECTRICAL							
VT8-E		MFG. SET		FIND NO.	DRAWING NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO./FILE DATE	VT8-E		MFG. SET		FIND NO.	DRAWING NO.	REV	NO OF SHT	DESCRIPTION	OPTION NO./FILE DATE					
X				1	D-UA-VT8-E-Ø			ALPHA-GRAPHIC TERMINAL																
X					E-BD-VT8-E-1		1	VT8-E BLOCK DIAGRAM																
X					D-IC-VT8-E-2		1	VT8-E PWR & SIGNAL WIRING						11	B-UA-H851-Ø-Ø		1	EDGE CONN H851						
X					A-SP-VT8-E-3		31	ENG SPEC							B-CS-H851-Ø-1		1	EDGE CONN.						
X					A-SL-VT8-E-4		1	SOFTWARE LIST																
X					A-AL-VT8-E-5		1	ACCESSARY LIST																
X					A-AP-VT8-E-6		11	VT8-E IN HOUSE ACC PROC																
X					A-FI-VT8-E-7		6	VT8-E FIELD INSTAL & ACC PROC																
				2	D-AD-7009044-0-0		3	VIDEO TERMINAL																
					D-CS-3010326-0-0		2	VTØ5 RASTER DISPLAY																
X				8	D-CS-M8335-Ø-1		6	VT8-E KEYBOARD PRINTER CNTL																
					K-CO-M8335-Ø-4		1	X-Y COORDINATE HOLE LOCATION																
					D-AH-M8335-Ø-5		1	ASSY/DRILLING HOLE LAYOUT																
					B-MH-M8335-Ø-6		1	MODULE ECO HISTORY																
					A-WL-M8335-Ø-8		5	WIRE LIST M8335																
X				9	D-CS-M8336-Ø-1		5	VT8-E FREQUENCY DIVIDER																
					K-CO-M8336-Ø-4		1	X-Y COORDINATE HOLE LOCATION																
					D-AH-M8336-Ø-5		1	ASSY/DRILLING HOLE LAYOUT																
					B-MH-M8336-Ø-6		1	MODULE ECO HISTORY																
					C-IA-7009054-0-0		1	CABLE, MODULE																
					A-WL-M8336-0-8		4	WIRE LIST M8336																
X				10	D-CS-M8337-Ø-1		6	VT8-E LINE BUFFER																
					K-CO-M8337-Ø-4		1	X-Y COORDINATE HOLE LOCATION																
					D-AH-M8337-Ø-5		1	ASSY/DRILLING HOLE LAYOUT																
					B-MH-M8337-Ø-6		1	MODULE ECO HISTORY																
					A-WL-M8337-Ø-8		6	WIRE LIST M8337																
CUSTOMER PRINT SET										TITLE										SIZE CODE		NUMBER		REV
X = PRINT OF DOCUMENT INCLUDED IN PRINT SET										ALPHA-GRAPHIC TERMINAL										SHEET 3 OF 4		B DD		VT8-E
C = INCLUDES ALL PRINTS INDICATED ON DOCUMENT																								
S = CONFIDENTIAL AUTHORIZED SIGNATURE REQUIRED																								

NOTES:

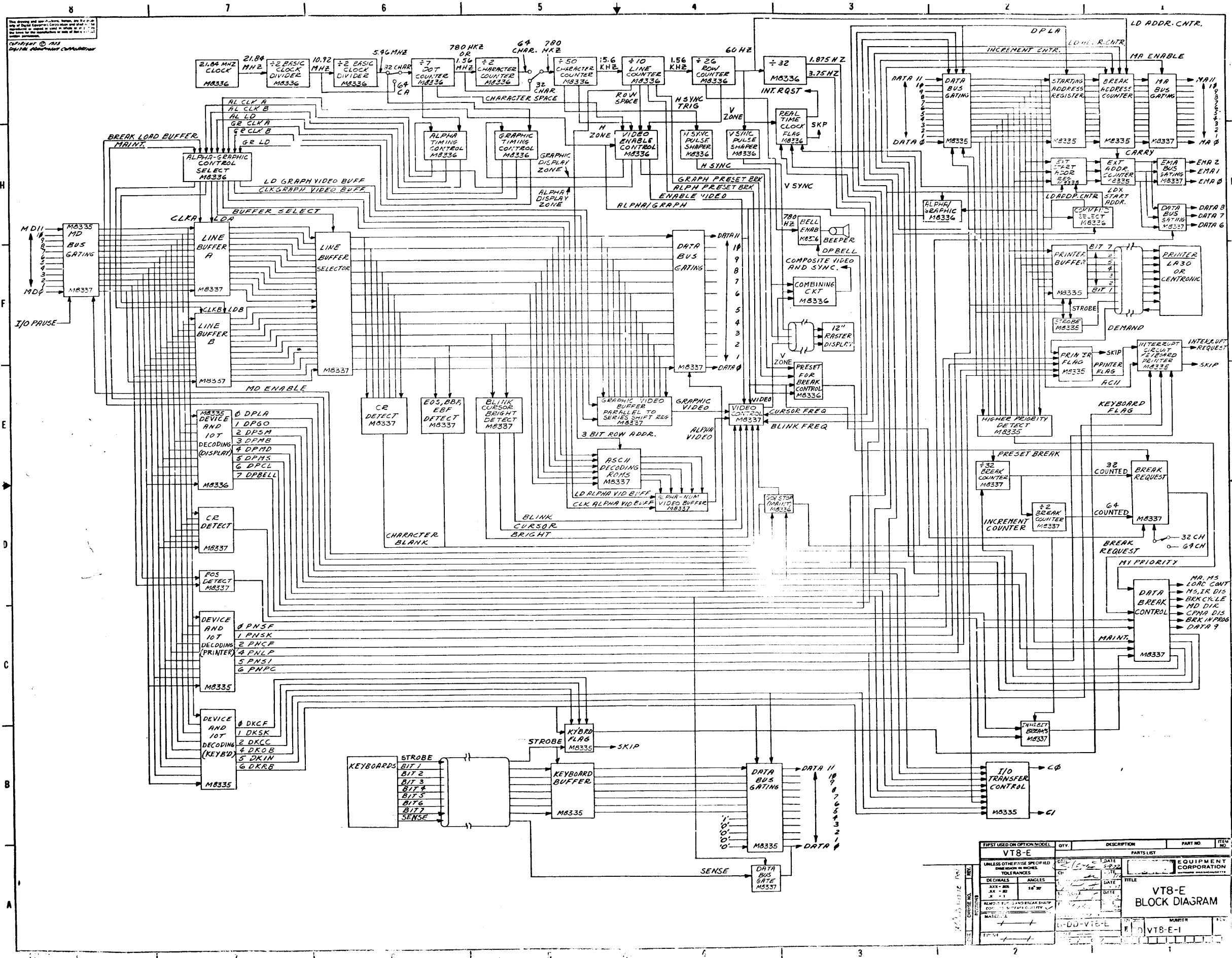
M8337 HAS ONE SET OF 69/32
SELECTION JUMPERS.



91R	91R	91R	91R	*30 AWG SOLID WIRE (NKL)	9107440-44	9
91R	91R	91R	91R	BUS WIRE *22	9107560-1	8
-	/	-	/	VIDEO TERMINAL	D-AD-7009044-2	7
3	3	3	3	EDGE CONN	B-44 4851-0-0	6
/	/	/	/	VTB-E KEYBOARD PRINTER CONTROL	D-CS-48335-0-1	5
/	/	/	/	VTB-E LINE BUFFER	D-CS-48337-0-1	4
/	/	/	/	VTB-E FREQUENCY DIVIDER	D-CS-48336-0-1	3
/	/	/	/	CABLE, I/O (VTB-E)	D-IA-7009092-0-0	2
/	-	/	-	VIDEO TERMINAL	D-AD-7009044-1	1

digital EQUIPMENT CORPORATION

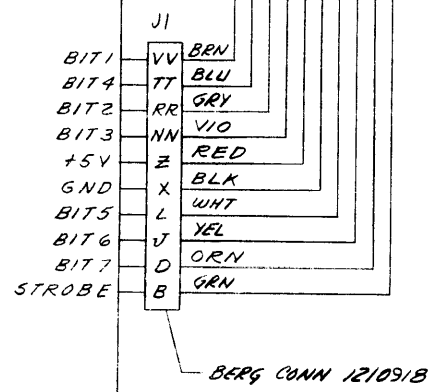
ALPHA - GRAPHIC
TERMINAL



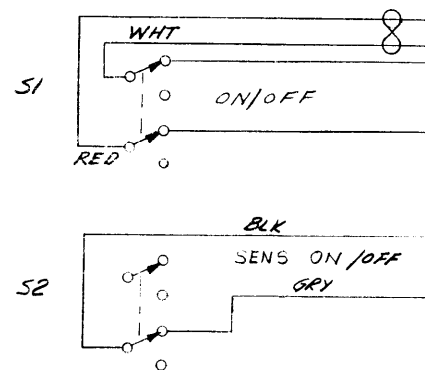
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48 KEY
KEYBOARD
ASCII
DEC
D-AD-5409945-0-0

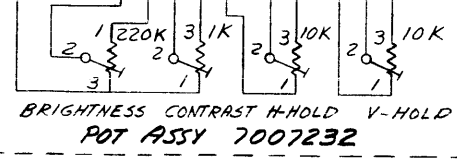
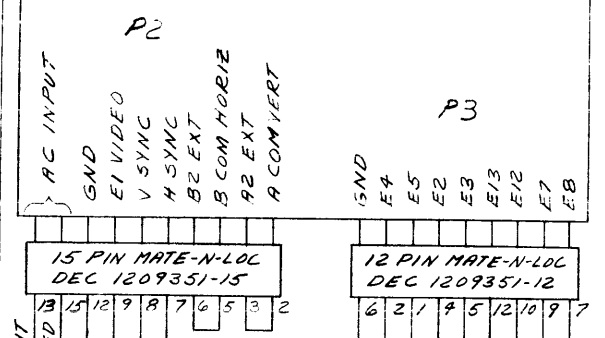


CONTROL KEYBOARD
DEC
D-AD-5410224-0-0

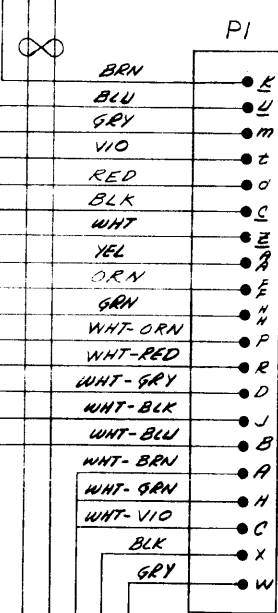


SPI
SPEAKER
1210299

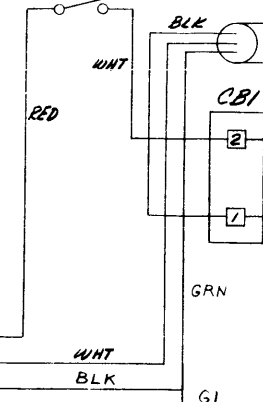
RASTER DISPLAY MODULE
DEC 3010326-0-3



C1
2 X 1 MFD
1000 VDC
1000034
RED
WHT



INTERLOCK SWITCH
1203566



POWER CORD
C-1A-7008502-9-0 (115V)
C-1A-7008532-9-0 (230V)

CIRCUIT BREAKER
1210242

WINCHESTER CONN
50 PIN 1211161

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
VT8 E					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		PARTS LIST			
DECIMALS	ANGLES	DATE	DATE	DATE	DATE
XXX - .005	10' 30'	CHK'D	DATE	DATE	DATE
XX - .02		ENG	DATE	DATE	DATE
X - .1		PROJ. ENG	DATE	DATE	DATE
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROD.	DATE	DATE	DATE
MATERIAL		NEXT HIGHER ASSY			
FINISH		SCALE			
		SHEET / OF /			
		DIST			
		REV			

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DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

ENGINEERING SPECIFICATION

DATE 12/26/72

TITLE VT8-E ENGINEERING SPECIFICATION

REVISIONS

REV	DESCRIPTION	CHG NO	ORIG	DATE	APPD BY	DATE
-----	-------------	--------	------	------	---------	------

ENG <i>P. Kotschenreuther</i>	APPD	SIZE	CODE	NUMBER	REV
Paul Kotschenreuther	<i>P. Kotschenreuther</i>	A	SP	VT8-E-3	

DEC 16-(392)-1079-N971
DRA 107

ENGINEERING SPECIFICATION

CONTINUATION SHEET

TITLE VT8-E ENGINEERING SPECIFICATION

TABLE OF CONTENTS

- 1.0 VT8-E Overall Description
- 2.0 System Specifications
 - 2.1 Basic System Components
 - 2.2 Physical Specifications
 - 2.2.1 Video Terminal
 - 2.2.2 I/O Cable
 - 2.2.3 Control Modules
 - 2.3 Power Requirements
 - 2.3.1 Video Terminal
 - 2.3.2 Control Modules
 - 2.4 Environmental Specifications
 - 2.5 Performance Specifications
 - 2.5.1 Display - Alpha Mode
 - 2.5.2 Display - Graphic Mode
 - 2.5.3 Blemishes
 - 2.5.4 Character Transmit Codes
 - 2.5.5 Character Receive Codes
 - 2.5.6 Character Font
 - 2.5.7 Buffer Size
 - 2.5.8 Processor Loading
 - 2.6 Variations
- 3.0 Specifications of Vendor Supplied Equipment
- 4.0 Programming
 - 4.1 Device Codes
 - 4.2 Display Instruction Set
 - 4.3 Keyboard Instruction Set
 - 4.4 Printer Instruction Set
 - 4.5 Maintenance Features
 - 4.6 Data Format

DEC FORM NO DEC 16-(381)-1022-N370
DRA 108

SHEET 2 OF 31

ENGINEERING SPECIFICATION		CONTINUATION SHEET	
TITLE VT8-E ENGINEERING SPECIFICATION			
4.6.1 Display, Alpha-Numeric Data 4.6.2 Display, Graphic Data 4.6.3 Display, Extended Addr. Cntr. Data 4.6.4 Keyboard 4.6.5 Printer 4.7 Timing of Signals Available to Programmer 4.8 Operator's Controls 5.0 Interface Specifications			
SIZE	CODE	NUMBER	REV
A	SP	VT8-E-3	

DEC FORM NO. 108
ORA 108

SHEET 3 OF 31

ENGINEERING SPECIFICATION		CONTINUATION SHEET	
TITLE VT8-E ENGINEERING SPECIFICATION			
1.0 General Description The VT8-E Alpha-numeric, Graphic video display terminal is a PDP8/E,M,F peripheral. It provides high speed, low cost video presentation of alpha-numeric or graphic data. It also provides keyboard data input to the processor and driving capability for an optional hard copy device. The VT8-E consists of the terminal (keyboard, display, housing and cable) with the associated control logic, and a parallel printer interface. The display control logic supplies video, audio (beep), and sync pulses to the display monitor, while constantly refreshing from a data buffer in PDP8/E,M,F memory via single cycle data breaks. The keyboard control transfers parallel 8-bit ASCII code from the keyboard to the AC of the processor. The printer control transfers parallel 7-bit ASCII code from the AC to an optional printer (LS8-E or LA30A-PA). The VT8-E can display 20 lines of alpha-numeric information. Sixty-four normal size characters or 32 enlarged characters can be displayed per line (jumper selectable). The VT8-E is also capable of displaying graphic information on a 189 x 200 dot matrix. Alpha and graphic display modes are program selectable. A line frequency (50 Hz or 60 Hz) real time clock is available to the programmer in the form of interrupts or a skip flag. 2.0 System Specifications 2.1 Basic System Components 1 - Video terminal (keyboard, display, housing) 7009044 1 - I/O cable 7009042 3 - Control modules M8336, M8337, M8335			
SIZE	CODE	NUMBER	REV
A	SP	VT8-E-3	

DEC FORM NO. 108
ORA 108

SHEET 4 OF 31

ENGINEERING SPECIFICATION

digital

CONTINUATION SHEET

TITLE VT8-E ENGINEERING SPECIFICATIONS

2.2 Physical Specifications

2.2.1 Video terminal

Height: 12"
Width: 19"
Depth: 30"
Weight: 38 lbs.
Shipping Weight: 53 lbs.

2.2.2 I/O cable - Standard length - 15'
Optional length - 50'
(No other lengths available)

2.2.3 Control modules - Three quad (10½" x 8¼")
modules which occupy adjacent slots
in the OMNIBUS.

2.3 Power Requirements

2.3.1 Video terminal

Operation is possible under one of four power
combinations:

7009044-1	100 to 130 VAC, 60 Hz.
7009044-2	200 to 260 VAC, 60 Hz.
7009044-1	100 to 130 VAC, 50 Hz.
7009044-2	200 to 260 VAC, 50 Hz.

Frequency tolerance: ±0.5%
Power consumption: 55 watt at 115 VAC
65 watt at 230 VAC

Power cord is terminated by a standard 3-prong, male,
wall-type plug.

115V	DEC#	IA 7008502-9	7009044-1
230V	DEC#	IA 7008432-9	7009044-2

The slide switch on the monitor must be set in the
appropriate 115/230 Volt position.

2.3.2 Control modules

+ 5.0V	3.7	Amps
-15 V	.130	Amps
+15 V	.082	Amps

SIZE	CODE	NUMBER	REV
A	SP	VT8-E-3	

ENGINEERING SPECIFICATION

digital

CONTINUATION SHEET

TITLE VT8-E ENGINEERING SPECIFICATIONS

2.4 Environmental Specifications

2.4.1 Video terminal

Operating temperature: 5°C to 43°C (41°F to 110°F)
Storage temperature: -10°C to 60°C (15°F to 140°F)
Humidity (non-condensing) 10 to 95%

2.4.2 Control modules

Operating temperature: 0°C to 55°C (32°F to 130°F)
Humidity (non-condensing): 10 to 95%

2.5 Performance Specification

2.5.1 Display - Alphanumeric Mode

Screen size: 10 1/8" W x 7 5/8" H

Characters per line: 64 normal or 32 enlarged
(jumper selectable)

Number of lines: 20

Number of characters displayable: 1280 - Normal
640 - Enlarged

Display area: 8" W x 6¼" H - Enlarged
8" W x 4¼" H - Normal

Character size: .093" W x .150" H - Normal

.185" W x .220" H - Enlarged

Character spacing horiz.: 40% character width
.037" - Normal

.074" - Enlarged

Character spacing vert.: 43% character height

.064" - Normal

.094" - Enlarged

Characters per inch horiz.: 8 ch/in - Normal

4 ch/in - Enlarged

Characters per inch vert.: 4½ ch/in - Normal

3 ch/in - Enlarged

Deflection type: Magnetic

Deflection method: Raster scan

Character generation method: 5 x 7 dot matrix

Display refresh rate: 60 Hz or 50 Hz corresponding
to AC supplied.

Geometry distortions: Less than ±1/8" over a centered
8" x 6¼" rectangle.

Phosphor type: P4 (white)

SIZE	CODE	NUMBER	REV
A	SP	VT8-E-3	

ENGINEERING SPECIFICATION

CONTINUATION SHEET

TITLE VT8-E ENGINEERING SPECIFICATION

2.5.2 Display-Graphic Mode

Screen size: Same
Display area: 6.95" W x 6¼" H if adjusted for enlarged character.
6.95" W x 4¼" H if adjusted for normal character.
Display format: 189 dot W x 200 dot H dot matrix
Deflection type: Same
Deflection method: Same
Display refresh rate: Same
Phosphor type: Same

2.5.3 Blemishes

The glass and plastic filter in front of the CRT shall have no more than six defects including scratches of no greater than 0.1 inches wide within a centered 8" x 6¼" area.

2.5.4 VT8-E Transmit Codes

ASCII codes generated by the VT8-E keyboard are listed in Tables I, II, III and IV. Tables I & II indicate which key combinations generate a desired code. Tables III & IV indicates which code is generated for a given key combination.

With an internal select switch on the keyboard, the keyboard can be set to generate codes according to Tables I & III (upper and lower case codes) or according to Table II & IV (upper case codes only). The VT8-E, however, is capable of displaying only upper case characters.

2.5.5 VT8-E Receive Codes

Table V lists the character displayed for a given ASCII code.

2.5.6 Character Font

Figure 1 shows the character Font for the 64 displayable characters.

SIZE A CODE SP NUMBER VT8-E-3 REV

ENGINEERING SPECIFICATION

CONTINUATION SHEET

TITLE VT8-E ENGINEERING SPECIFICATION

TABLE I	Bit No.	8	7	6	5	4	3	2	1	0
VT8-E	4321	5	0	0	0	0	1	0	1	1
TRANSMIT	0000	↑ @	↑ P	Any Space	Any Ø					
CODES	0001	↑ A	↑ Q	!	1					
FULL ASCII	0010	↑ B	↑ R	"	2					
	0011	↑ C	↑ S	#	3					
	0100	↑ D	↑ T	\$	4					
	0101	↑ E	↑ U	%	5					
	0110	↑ F	↑ V	&	6					
	0111	↑ G	↑ W	'	7					
	1000	Any C ← ↑ H	Any C → ↑ X	(	8					
	1001	Any TAB ↑ I	↑ Y	)	9					
	1010	Any LF ↑ J	Any C ↑ ↑ Z	*	:					
	1011	Any C ↓ ↑ K	Any ALT ↑ [	+	;					
	1100	↑ L	↑	,	<					
	1101	Any CR M	Any HOME ↑]	-	=					
	1110	↑ N	Any EOL ↑ ^	.	>					
	1111	↑ O	Any EOS ↑ _	/	?					



Indicates Shifted Character

↑ Indicates Control Character

SIZE A CODE SP NUMBER VT8-E-3 REV

ENGINEERING SPECIFICATION						CONTINUATION SHEET					
TITLE VT8-E ENGINEERING SPECIFICATION											
Table I (Cont) VT8-E TRANSMIT CODES FULL ASCII	Bit No.	8	1	1	1	1	1	1	1	1	
		7	1	1	1	1	1	1	1	1	
		6									
		5	0	0	1	0	0	1	1	1	
	0000		@	P						P	
	0001		A	Q		A				Q	
	0010		B	R		B				R	
	0011		C	S		C				S	
	0100		D	T		D				T	
	0101		E	U		E				U	
	0110		F	V		F				V	
	0111		G	W		G				W	
	1000		H	X		H				X	
	1001		I	Y		I				Y	
	1010		J	Z		J				Z	
	1011		K	[		K				}	
	1100		L	\		L					
	1101		M	]		M				}	
	1110		N	^		N				~	
	1111		O	-		O				Any Rub Out	
						SIZE	CODE	NUMBER	REV		
						A	SP	VT8-E-3			



Indicates
Shifted
Character

↑ Indicates
Control
Character

ENGINEERING SPECIFICATION						CONTINUATION SHEET					
TITLE VT8-E ENGINEERING SPECIFICATION											
Table II VT8-E TRANSMIT CODES HALF ASCII	Bit No.	8	1	1	1	1	1	1	1	1	
		7	0	0	0	0	1	0	0	1	
		6									
		5		0	0	1	0	1	0	1	
	0000		↑@	↑P				Any Space		Any Ø	
	0001		↑A	↑Q				!		1	
	0010		↑B	↑R				"		2	
	0011		↑C	↑S				#		3	
	0100		↑D	↑T				\$		4	
	0101		↑E	↑U				%		5	
	0110		↑F	↑V				&		6	
	0111		↑G	↑W				'		7	
	1000		any C ←	any C →				(		8	
	1001		↑H	↑Y				)		9	
	1010		↑J	↑Z				*		:	
	1011		↑K	↑[				+		;	
	1100		↑L	↑\				,		<	
	1101		↑M	↑]				-		=	
	1110		↑N	↑^				.		>	
	1111		↑O	↑-				/		?	
						SIZE	CODE	NUMBER	REV		
						A	SP	VT8-E-3			



Indicates
Shifted
Character

↑ Indicates
Control
Character

ENGINEERING SPECIFICATION

digital

CONTINUATION SHEET

TITLE VT8-E ENGINEERING SPECIFICATION

Table II
(Cont.)VT8-E
TRANSMIT
CODES

HALF ASCII

Indicates
Shifted
Character↑ Indicates
Control
Character

Bit No.	8 7 6 5	1 0 0	1 0 1	1 1 0	1 1 1
0000		@	P		
0001		A	Q		
0010		B	R		
0011		C	S		
0100		D	T		
0101		E	U		
0110		F	V		
0111		G	W		
1000		H	X		
1001		I	Y		
1010		J	Z		
1011		K	[		
1100		L	/		
1101		M	]		
1110		N	^		
1111		O			Any RUBOUT

SIZE
ACODE
SPNUMBER
VT8-E-3

REV

ENGINEERING SPECIFICATION

digital

CONTINUATION SHEET

TITLE VT8-E ENGINEERING SPECIFICATION

KEY CAP

CONFIGURATION

3	]	CR		
-	-	LF		
=	-	, @	* :	RUB OUT
Φ		P	+	:
) 9		O	L	> :
(8		I	K	< ,
' 7		U	J	M
& 6		Y	H	N
% 5		T	G	B
\$ 4		R	F	V
# 3		E	D	C
" 2		W	A	X
! 1		Q	S	Z
[		ALT	~ ^	SHIFT Lock
		TAB		SHIFT

SPACE

SIZE
ACODE
SPNUMBER
VT8-E-3

REV

ENGINEERING SPECIFICATION

digital

CONTINUATION SHEET

TITLE

Table III

VT8-E
Transmit Codes
(full ASCII)

233	261	262	263	264	265	266	267	270	271	260	015	237	235
233	261	262	263	264	265	266	267	270	271	260	015	237	235
373	221	242	243	244	245	246	247	250	251	260	275	337	375
333	261	262	263	264	265	266	267	270	271	260	255	337	335
211	233	221	227	205	222	224	231	225	211	217	220	212	215
211	233	221	227	205	222	224	231	225	211	217	220	212	215
211	233	321	327	305	322	324	331	325	311	317	320	212	215
211	233	361	367	345	362	364	371	365	351	357	360	212	215
	236	201	223	204	206	207	210	212	213	214	273	272	377
	236	201	223	204	206	207	210	212	213	214	273	272	377
	376	301	323	304	306	307	310	312	313	314	253	252	377
	336	341	363	344	346	347	350	352	353	354	273	272	377
		232	230	203	226	202	216	215	254	256	257		234
		232	230	203	226	202	216	215	254	256	257		234
		332	330	303	326	302	316	315	274	276	277		374
		372	370	343	366	342	356	355	254	256	257		334

240 with shift and ctrl.

240 with control only

240 with shift only

240 key alone

applies to
all keysSIZE
ACODE
SPNUMBER
VT8-E-3

REV

ENGINEERING SPECIFICATION

digital

CONTINUATION SHEET

TITLE

Table IV
VT8-E Transmit
Codes (half ASCII)

233	261	262	263	264	265	266	267	270	271	260	015	237	235
233	261	262	263	264	265	266	267	270	271	260	015	237	235
333	221	242	243	244	245	246	247	250	251	260	275	337	335
333	261	262	263	264	265	266	267	270	271	260	255	337	335
211	233	221	227	205	222	224	231	225	211	217	220	212	215
211	233	221	227	205	222	224	231	225	211	217	220	212	215
211	233	321	327	305	322	324	331	325	311	317	320	212	215
211	233	321	327	305	322	324	331	325	311	317	320	212	215
	236	201	223	204	206	207	210	212	213	214	273	272	377
	236	201	223	204	206	207	210	212	213	214	273	272	377
	336	301	323	304	306	307	310	312	313	314	253	252	337
	336	301	323	304	306	307	310	312	313	314	273	272	337
		232	230	203	226	202	216	215	254	256	257		234
		232	230	203	226	202	216	215	254	256	257		234
		332	330	303	326	302	316	315	274	276	277		334
		332	330	303	326	302	316	315	254	256	257		334

240 with shift and control

240 with control only

240 with shift only

240 key alone

applies to
all keysSIZE
ACODE
SPNUMBER
VT8-E-3

REV

ENGINEERING SPECIFICATION		CONTINUATION SHEET			
TITLE VT8-E ENGINEERING SPECIFICATION					
Table V VT8-E RECEIVE CODES	Bit No. 7 4321 5	0 0 0	0 0 1	0 1 0	0 1 1
	0000	@	P	Space	Ø
	0001	A	Q	!	1
	0010	B	R	"	2
	0011	C	S	#	3
	0100	D	T	\$	4
	0101	E	U	Z	5
	0110	F	V	&	6
	0111	G	W	'	7
	1000	H	X	(	8
	1001	I	Y	)	9
	1010	•	Z	*	:
	1011	K	[	+	;
	1100	L	\	,	<
	1101	•	]	-	=
	1110	N	ˆ	.	>
1111	O	_	/	?	
		SIZE A	CODE SP	NUMBER VT8-E-3	REV

DEC FORM NO. 108
DRA 108

SHEET 15 OF 31

ENGINEERING SPECIFICATION		CONTINUATION SHEET			
TITLE VT8-E ENGINEERING SPECIFICATION					
Table V VT8-E RECEIVE CODES CONT.	Bit No. 7 4321 5	1 0 0	1 0 1	1 1 0	1 1 1
	0000	@	P	SPACE	0
	0001	A	Q	!	1
	0010	B	R	"	2
	0011	C	S	#	3
	0100	D	T	\$	4
	0101	E	U	%	5
	0110	F	V	&	6
	0111	G	W	'	7
	1000	H	X	(	8
	1001	I	Y	)	9
	1010	J	Z	*	:
	1011	K	[	+	;
	1100	L	\	,	<
	1101	M	]	-	=
	1110	N	ˆ	.	>
1111	O	_	/	?	
		SIZE A	CODE SP	NUMBER VT8-E-3	REV

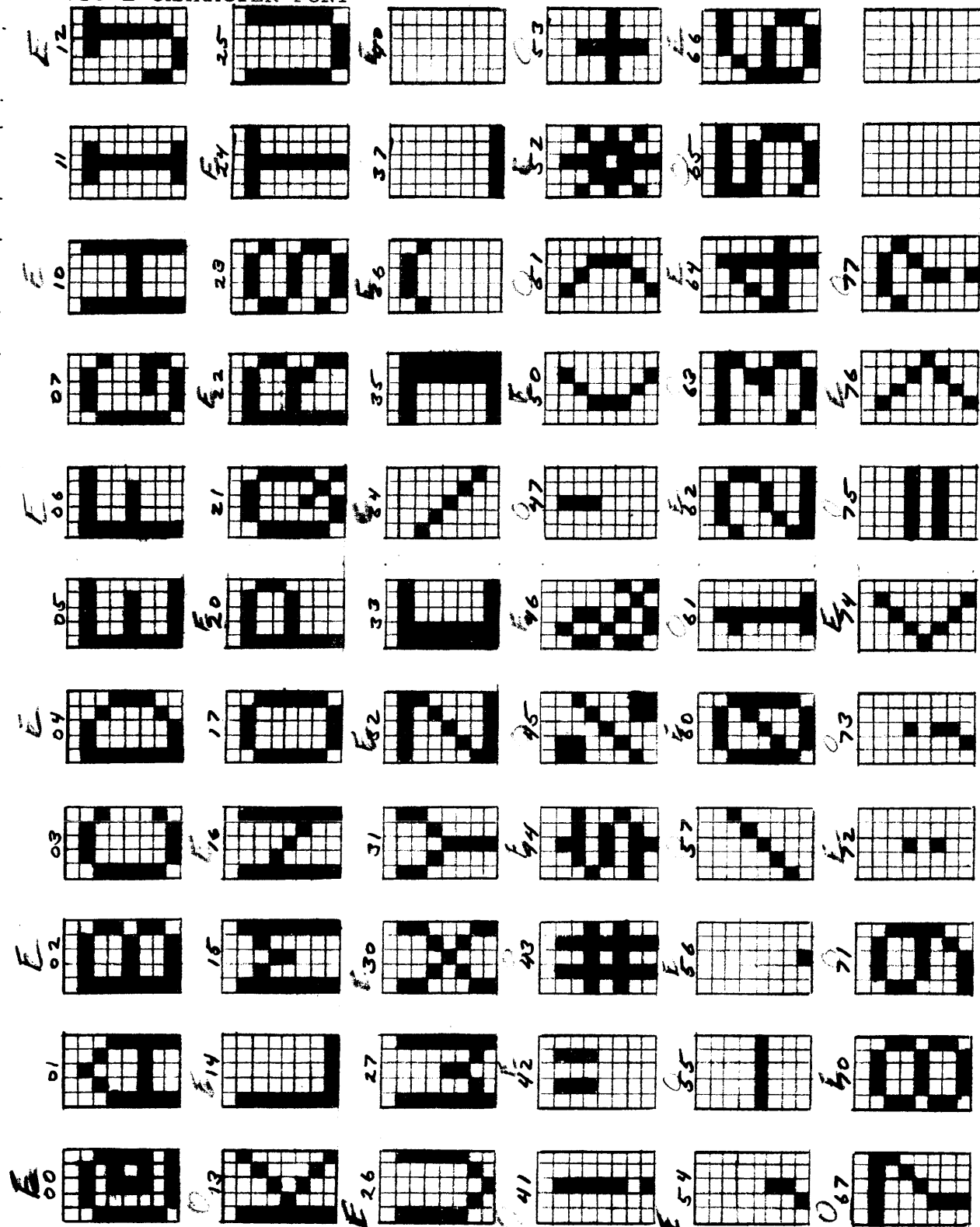
DEC FORM NO. 108
DRA 108

SHEET 16 OF 31

ENGINEERING SPECIFICATION

CONTINUATION SHEET

TITLE VT8-E ENGINEERING SPECIFICATION

Figure 1
VT8-E CHARACTER FONT

SIZE	CODE	NUMBER	REV
A	SP	VT8-E-3	

ENGINEERING SPECIFICATION

CONTINUATION SHEET

TITLE VT8-E ENGINEERING SPECIFICATION

2.5.7 Buffer Size

A full screen alpha-numeric display requires $1280_{10} = 2400_8$ core locations for 64 characters per line. $640_{10} = 1200_8$ core locations for 32 characters per line. Graphic mode displays $3200_{10} = 6200_8$ words from core.

2.5.8 Processor Loading - each VT8-E

Alpha numeric, 64 characters per line full screen display uses approximately 9% processor time. Alpha numeric, 32 characters per line, full screen display uses approximately 4.5% of processor time. Graphic display uses approximately 25% of processor time.

2.6 Variations

The VT8-E is available in the following eight variations.

VT8-EA 64 normal characters per line, 60 HZ, 115V

VT8-EB 64 normal characters per line, 60 HZ, 230V

VT8-EC 64 normal characters per line, 50 HZ, 115V

VT8-ED 64 normal characters per line, 50 HZ, 230V

VT8-EE 32 enlarged characters per line, 60 HZ, 115V

VT8-EF 32 enlarged characters per line, 60 HZ, 230V

VT8-EH 32 enlarged characters per line, 50 HZ, 115V

VT8-EJ 32 enlarged characters per line, 50 HZ, 230V

SIZE	CODE	NUMBER	REV
A	SP	VT8-E-3	

000 101

ENGINEERING SPECIFICATION		CONTINUATION SHEET													
TITLE VT8-E ENGINEERING SPECIFICATION															
Control modules are manufactured in the 64 character, 60 Hz configuration. Jumpers on the M8336, M8337 allow the control to be changed to any of the other three variations. The video terminal power line differs between the 50 Hz and 60 Hz configurations. On the M8336 there are four sets of jumpers, which together select 64 or 32 character operation. A jumper set looks like this 64 32 or this 32 64 If all 64/32 jumper sets are set in the 64 position as shown above, the VT8-E will display normal size characters. There is also one 64/32 jumper set on the M8337 module. 50 Hz or 60 Hz operation is selected by two sets of jumpers on the M8336. Jumper set locations and jumper positions are shown on the cover sheets and physical of the M8336 and M8337. Priority Selection The VT8-E can be operated on any of the three lowest priorities 9, 10, 11. Priority is selected by jumpers. On the M8337 a jumper in location W1, W2, or W3 corresponds to priorities 9, 10, and 11. On the M8335 there are four possible jumper positions F10, F10', F9, F9'. These should be arranged as indicated by the table below. Care must be taken to select the same priorities for both modules. <table><tr><td>Priority</td><td>M8337 jumper inserted</td><td>M8335 jumpers</td></tr><tr><td>9</td><td>W1</td><td>F9 F10</td></tr><tr><td>10</td><td>W2</td><td>F9' F10</td></tr><tr><td>11</td><td>W3</td><td>F9' F10'</td></tr></table>				Priority	M8337 jumper inserted	M8335 jumpers	9	W1	F9 F10	10	W2	F9' F10	11	W3	F9' F10'
Priority	M8337 jumper inserted	M8335 jumpers													
9	W1	F9 F10													
10	W2	F9' F10													
11	W3	F9' F10'													
SIZE A	CODE SP	NUMBER VT8-E-3	REV												

ENGINEERING SPECIFICATION		CONTINUATION SHEET	
TITLE VT8-E ENGINEERING SPECIFICATION			
3.0 Specifications of Vendor Supplied Equipment Refer to Purchase Specifications Raster Display Module DEC #3010326 Purchase Spec A-PS-3010326-0 LK01 Keyboard DEC #3010166-0 Purchase Spec A-PS-3010166-0 Auxiliary Keyboard DEC #2010166-1 Purchase Spec A-PS-3010166-0 4.0 Programming 4.1 Device codes are originally set to 05 for the display, 03 for the keyboard, and 04 for the printer. However, split lugs and jumpers allow selection of any device code between 00 and 77 for the display, keyboard and printer. The device code selection jumpers are on the M8335. They are arranged as shown below. The device codes indicated are the standard 05, 03, and 04. GROUP A GROUP B GROUP C GROUP D GROUP E GROUP F DIS PLAY KEY BOARD PRIN TER			
SIZE A	CODE SP	NUMBER VT8-E-3	REV

ENGINEERING SPECIFICATION		CONTINUATION SHEET																																																																																																																																																																																																																																																				
TITLE VT8-E ENGINEERING SPECIFICATION																																																																																																																																																																																																																																																						
Jumper positions for all 64 device codes are listed in the following table. This table indicates which split lugs are to be connected in each of the six groups (A-F) for any desired device code. Each of the three devices has a row of split lug groups. The table is used for all three devices. Care must be taken that the row of split lugs altered is for the correct device. Refer to the cover sheet for the M8335 for split lug locations.																																																																																																																																																																																																																																																						
<table><tr><th>Device Code</th><th>Group A</th><th>Group B</th><th>Group C</th><th>Group D</th><th>Group E</th><th>Group F</th></tr><tr><td>00</td><td>2-3</td><td>2-3</td><td>2-3</td><td>2-3</td><td>2-3</td><td>2-1</td></tr><tr><td>01</td><td>2-1</td><td>2-3</td><td>2-3</td><td>2-3</td><td>2-3</td><td>2-1</td></tr><tr><td>02</td><td>2-3</td><td>2-3</td><td>2-3</td><td>2-1</td><td>2-3</td><td>2-1</td></tr><tr><td>03</td><td>2-1</td><td>2-3</td><td>2-3</td><td>2-1</td><td>2-3</td><td>2-1</td></tr><tr><td>04</td><td>2-3</td><td>2-3</td><td>2-3</td><td>2-3</td><td>2-1</td><td>2-1</td></tr><tr><td>05</td><td>2-1</td><td>2-3</td><td>2-3</td><td>2-3</td><td>2-1</td><td>2-1</td></tr><tr><td>06</td><td>2-3</td><td>2-3</td><td>2-3</td><td>2-1</td><td>2-1</td><td>2-1</td></tr><tr><td>07</td><td>2-1</td><td>2-3</td><td>2-3</td><td>2-1</td><td>2-1</td><td>2-1</td></tr><tr><td>10</td><td>2-3</td><td>2-3</td><td>2-1</td><td>2-3</td><td>2-3</td><td>2-1</td></tr><tr><td>11</td><td>2-1</td><td>2-3</td><td>2-1</td><td>2-3</td><td>2-3</td><td>2-1</td></tr><tr><td>12</td><td>2-3</td><td>2-3</td><td>2-1</td><td>2-1</td><td>2-3</td><td>2-1</td></tr><tr><td>13</td><td>2-1</td><td>2-3</td><td>2-1</td><td>2-1</td><td>2-3</td><td>2-1</td></tr><tr><td>14</td><td>2-3</td><td>2-3</td><td>2-1</td><td>2-3</td><td>2-1</td><td>2-1</td></tr><tr><td>15</td><td>2-1</td><td>2-3</td><td>2-1</td><td>2-3</td><td>2-1</td><td>2-1</td></tr><tr><td>16</td><td>2-3</td><td>2-3</td><td>2-1</td><td>2-1</td><td>2-1</td><td>2-1</td></tr><tr><td>17</td><td>2-1</td><td>2-3</td><td>2-1</td><td>2-1</td><td>2-1</td><td>2-1</td></tr><tr><td>20</td><td>2-3</td><td>2-1</td><td>2-3</td><td>2-3</td><td>2-3</td><td>2-1</td></tr><tr><td>21</td><td>2-1</td><td>2-1</td><td>2-3</td><td>2-3</td><td>2-3</td><td>2-1</td></tr><tr><td>22</td><td>2-3</td><td>2-1</td><td>2-3</td><td>2-1</td><td>2-3</td><td>2-1</td></tr><tr><td>23</td><td>2-1</td><td>2-1</td><td>2-3</td><td>2-1</td><td>2-3</td><td>2-1</td></tr><tr><td>24</td><td>2-3</td><td>2-1</td><td>2-3</td><td>2-3</td><td>2-1</td><td>2-1</td></tr><tr><td>25</td><td>2-1</td><td>2-1</td><td>2-3</td><td>2-3</td><td>2-1</td><td>2-1</td></tr><tr><td>26</td><td>2-3</td><td>2-1</td><td>2-3</td><td>2-1</td><td>2-1</td><td>2-1</td></tr><tr><td>27</td><td>2-1</td><td>2-1</td><td>2-3</td><td>2-1</td><td>2-1</td><td>2-1</td></tr><tr><td>30</td><td>2-3</td><td>2-1</td><td>2-1</td><td>2-3</td><td>2-3</td><td>2-1</td></tr><tr><td>31</td><td>2-1</td><td>2-1</td><td>2-1</td><td>2-3</td><td>2-3</td><td>2-1</td></tr><tr><td>32</td><td>2-3</td><td>2-1</td><td>2-1</td><td>2-1</td><td>2-3</td><td>2-1</td></tr><tr><td>33</td><td>2-1</td><td>2-1</td><td>2-1</td><td>2-1</td><td>2-3</td><td>2-1</td></tr><tr><td>34</td><td>2-3</td><td>2-1</td><td>2-1</td><td>2-3</td><td>2-1</td><td>2-1</td></tr><tr><td>35</td><td>2-1</td><td>2-1</td><td>2-1</td><td>2-3</td><td>2-1</td><td>2-1</td></tr><tr><td>36</td><td>2-3</td><td>2-1</td><td>2-1</td><td>2-1</td><td>2-1</td><td>2-1</td></tr><tr><td>37</td><td>2-1</td><td>2-1</td><td>2-1</td><td>2-1</td><td>2-1</td><td>2-1</td></tr><tr><td>40</td><td>2-3</td><td>2-3</td><td>2-3</td><td>2-3</td><td>2-3</td><td>2-3</td></tr><tr><td>41</td><td>2-1</td><td>2-3</td><td>2-3</td><td>2-3</td><td>2-3</td><td>2-3</td></tr></table>		Device Code	Group A	Group B	Group C	Group D	Group E	Group F	00	2-3	2-3	2-3	2-3	2-3	2-1	01	2-1	2-3	2-3	2-3	2-3	2-1	02	2-3	2-3	2-3	2-1	2-3	2-1	03	2-1	2-3	2-3	2-1	2-3	2-1	04	2-3	2-3	2-3	2-3	2-1	2-1	05	2-1	2-3	2-3	2-3	2-1	2-1	06	2-3	2-3	2-3	2-1	2-1	2-1	07	2-1	2-3	2-3	2-1	2-1	2-1	10	2-3	2-3	2-1	2-3	2-3	2-1	11	2-1	2-3	2-1	2-3	2-3	2-1	12	2-3	2-3	2-1	2-1	2-3	2-1	13	2-1	2-3	2-1	2-1	2-3	2-1	14	2-3	2-3	2-1	2-3	2-1	2-1	15	2-1	2-3	2-1	2-3	2-1	2-1	16	2-3	2-3	2-1	2-1	2-1	2-1	17	2-1	2-3	2-1	2-1	2-1	2-1	20	2-3	2-1	2-3	2-3	2-3	2-1	21	2-1	2-1	2-3	2-3	2-3	2-1	22	2-3	2-1	2-3	2-1	2-3	2-1	23	2-1	2-1	2-3	2-1	2-3	2-1	24	2-3	2-1	2-3	2-3	2-1	2-1	25	2-1	2-1	2-3	2-3	2-1	2-1	26	2-3	2-1	2-3	2-1	2-1	2-1	27	2-1	2-1	2-3	2-1	2-1	2-1	30	2-3	2-1	2-1	2-3	2-3	2-1	31	2-1	2-1	2-1	2-3	2-3	2-1	32	2-3	2-1	2-1	2-1	2-3	2-1	33	2-1	2-1	2-1	2-1	2-3	2-1	34	2-3	2-1	2-1	2-3	2-1	2-1	35	2-1	2-1	2-1	2-3	2-1	2-1	36	2-3	2-1	2-1	2-1	2-1	2-1	37	2-1	2-1	2-1	2-1	2-1	2-1	40	2-3	2-3	2-3	2-3	2-3	2-3	41	2-1	2-3	2-3	2-3	2-3	2-3
Device Code	Group A	Group B	Group C	Group D	Group E	Group F																																																																																																																																																																																																																																																
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ENGINEERING SPECIFICATION

0190001

CONTINUATION SHEET

TITLE VT8-E ENGINEERING SPECIFICATION

4.2 Display Instruction Set

Mnemonic	Code	Function
DPLA	6050	Load starting address register with the contents of AC 0-11 and clear the AC. (AC) $\rightarrow$ SAR 0 $\rightarrow$ AC
DPGO	6051	Load the extended starting address register with the contents of AC 6-8 and GO in Alpha or Graphic mode, with real time clock interrupt enabled or disabled as specified by the contents of AC 10, 11. AC 10 AC 11 $\emptyset$ $\emptyset$ Alpha, interrupt disabled $\emptyset$ 1 Alpha, interrupt enabled 1 $\emptyset$ Graphic, interrupt disabled 1 1 Graphic, interrupt enabled Clear the AC (AC 6-8) $\rightarrow$ XSAR GO 0 $\rightarrow$ AC
DPSM	6052	Stop the display. Inhibit video and device initiated data breaks. Enter Maintenance mode and if AC11 = 1 Load extended starting address register with the contents of AC 6-8.

SIZE	CODE	NUMBER	REV
A	SP	VT8-E-3	

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0190001

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TITLE VT8-E ENGINEERING SPECIFICATION

		AC11 = $\emptyset$ Transfer contents of starting address registers to the address counters. Prepare for a maintenance break. $\emptyset \rightarrow$ AC
DPMB	6053	Maintenance instruction. Perform one, one-cycle data break. The contents of the location specified by the address counter is transferred to the data buffer, and the address counter is incremented by one.
DPMD	6054	Maintenance instruction. Jam transfer the output of the data buffer to the AC. (Data Buffer) $\rightarrow$ AC
DPMS	6055	Maintenance instruction. Read the contents of the extended address counter into AC 6-8 and the state of the sense switch into AC $\emptyset$. (XAC) $\rightarrow$ AC 6-8 Sense Sw $\rightarrow$ AC $\emptyset$
DPCL	6056	Skip next sequential instruction if real time clock flag is set and clear the flag.
DPBL	6057	Generate a half second audible tone for use as a BELL.

SIZE	CODE	NUMBER	REV
A	SP	VT8-E-3	

ENGINEERING SPECIFICATION		CONTINUATION SHEET	
TITLE VT8-E ENGINEERING SPECIFICATION			
4.3 Keyboard Instruction Set			
Mnemonic	Code	Function	
DKCF	6030	Clear keyboard flag.	
DKSK	6031	Skip next sequential instruction if keyboard flag is set.	
DKCC	6032	Clear keyboard flag and clear the AC.	
	6033	Not used.	
DKOB	6034	Logically OR the contents of the keyboard buffer with AC 5-11 and deposit in AC 5-11. Transfer a 1 to AC 4. AC 0-3 remains unchanged. (Key Buf) 'OR' AC 5-11 → AC 5-11 1 → AC 4 (AC 0-3) → AC 0-3	
DKIN	6035	Enable keyboard-printer interrupt if AC 11 = 1. Disable if AC 11 = 0.	
DKRB	6036	Read keyboard buffer. Jam transfer the contents of keyboard buffer to AC 5-11. Set AC 4. Clear AC 0-3. Clear keyboard flag.	
		SIZE A	CODE SP
		NUMBER VT8-E-3	
		REV	

ENGINEERING SPECIFICATION		CONTINUATION SHEET	
TITLE VT8-E ENGINEERING SPECIFICATION			
4.4 Printer Instruction Set			
Mnemonic	Code	Function	
PNSF	6040	Set printer flag.	
PNSK	6041	Skip next sequential instruction if print done flag is set.	
PNCF	6042	Clear printer flag.	
	6043	Not used.	
PNLP	6044	Load printer buffer from AC 5-11 and print. Clear AC.	
PNSI	6045	Skip if about to interrupt. Skip if interrupt is enabled and either the keyboard flag or print done flag is set.	
PNPC	6046	Load printer buffer from AC 5-11. Clear printer done flag and print. Clear AC.	
4.5 Maintenance Features			
The maintenance instructions enable the programmer to verify the correct operation of the extended starting address register, extended address counter, sense switch, data break control, data buffer, starting address register, and address counter. The VT8-E diagnostics MAINDEC-08-DAVTA-A-PB and MAINDEC-08-DHVTB-A-PB) exercise the VT8-E in all display modes and aid in troubleshooting.			
Description of Maintenance Instructions:			
DPSM	This instruction stops the display and sets maintenance mode by blanking the screen, inhibiting display initiated data breaks, inhibiting clocking of data buffer and locking the data buffer into the load state. During maintenance mode, the programmer can force a data break at any address thus shifting known data		
		SIZE A	CODE SP
		NUMBER VT8-E-3	
		REV	

TITLE VT8-E ENGINEERING SPECIFICATION

into the data buffer, using instruction DPMB. As the data is shifted out of the buffer (31 or 63 shifts after it is shifted in) the data can be verified via instruction DPMD.

DPSM prepares for a single one-cycle data break by

- 1) Loading extended starting address register with the contents of AC 6-8 if AC 0 = 1.
- 2) Transferring the contents of the starting address registers to the address counters if AC 0 = 0. DPSM clears the AC.

DPMB This instruction initiates a single one-cycle data break. One data word is transferred from the address specified by the address counter to the data buffer. This shifts the previous contents of the data buffer one position closer to the data buffer output. The DPMB also causes the address counter to be incremented. This instruction is inhibited unless in maintenance mode.

DPMD This instruction reads the output of the data buffer into the AC.

DPMS This instruction reads the contents of the extended address counter into AC 6-8 and the state of the sense switch into AC 0.
Sense ON AC 0 = 1
Sense OFF AC 0 = 0
The sense switch is a rocker switch located below the power ON/OFF switch on the auxiliary keyboard.

Maintenance mode is always entered by DPSM and can be left only by DPGO. DPSM also doubles as STOP DISPLAY.

TITLE VT8-E ENGINEERING SPECIFICATION

4.6 Data Format

4.6.1 Display, Alpha-numeric Data

MD BIT	0	1	2	3	4	5	6	7	8	9	10	11
Not Used	CB1	CB2	CB3	CB4	← 7-Bit ASCII →							
						7	6	5	4	3	2	1

Most significant ASCII bit.

CB1, CB2 Visible Field control bits.

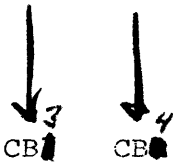
0 0 NOP If in visible field, display character in bits 5-11 according to CB3, CB4.

0 1 EBF End blank field. Enable video starting with this character.

1 0 BBF Begin blank field. Disable video for this character and those following. Blank field can be terminated by EBF control code.

1 1 EOS End of screen. The previous character is the last to appear on the screen. Video and data breaks are inhibited until the next vertical retrace. This allows abbreviated display buffers when it is not desired to use the entire screen. This saves core buffer space & reduces processor loading.

TITLE VT8-E ENGINEERING SPECIFICATION



Character Display Mode Control Bits

0	0	Normal	Display the character in bits 5-11 at normal intensity if in visible zone.
0	1	Blink	Elink this character at a 1.9 Hz rate (1.6 Hz for 50 Hz systems) if in visible zone.
1	0	Bold	Display this character at in-creased intensity if in visible zone.
1	1	Cursor	Display this character as a cursor if in a visible zone. The character and its dot matrix compliment are displayed alter-nately at a 3.7 Hz rate (3.1 Hz for 50 Hz systems).

4.6.2 Display, Graphic Data

The graphic display field is a dot matrix, 189 dots wide by 200 dots high. Each dot position corresponds to a bit of a data word in the core buffer. The first word of the buffer defines the first 12 dots on the first row. Bit 0 is the first to be displayed, bit 11 the last. If a bit is a 1, a dot will be displayed; if it is a 0, no dot is displayed. Thus, if the first three words of the buffer were 7070, 5252, 0777, the corresponding display would be

•••••
|| 7 | 0 | 7 | 0 || 5 | 2 | 5 | 2 || 0 | 7 | 7 | 7

It requires 16 words to define one line of graphic data. The last three bits of the 16th word on a line are not displayed. When in graphic mode there is no way to terminate the buffer short of 3200 words; thus the entire buffer must be defined even if a major portion is blank.

TITLE VT8-E ENGINEERING SPECIFICATION

4.6.3 Display, Extended Address Counter and Sense Switch Data

DATA BITS	0	1	2	3	4	5	6	7	8	9	10	11
Sense Sw.							XA0	XA1	XA2			

4.6.4 Keyboard Data

DATA BITS	0	1	2	3	4	5	6	7	8	9	10	11
					1	7 Bit ASCII						
						7	6	5	4	3	2	1

↑ Most Significant ASCII Bit

4.6.5 Printer Data

DATA BITS	0	1	2	3	4	5	6	7	8	9	10	11
					8	7	6	5	4	3	2	1

↑ Most Significant ASCII Bit

→ Ignored by Printer

4.7 Timing of Signals Available to Programmer

Data read into the AC during the DPMD and DPMS is gated onto the data bus during I/O Pause.

Real time clock flag sets every 16 2/3 ms. (20 ms. for 50 Hz systems). The setting of the flag corresponds to the beginning of the vertical retrace on the display. If the programmer wishes to change between alpha and graphic modes, this must be done within 150 μs. after the real time clock flag sets.

TITLE VT8-E ENGINEERING SPECIFICATION

4.8 Operatpr's Controls

4.8.1 Volume of 'beep' is controlled by R25 on the M8336.

4.8.2 Video Terminal Controls

Horizontal Hold - Stablizes picture in horizontal direction.

Vertical Hold - Stablizes picture in vertical direc-tion.

Brightness - Adjusts intensity of raster.

Contrast - Adjusts contrast.

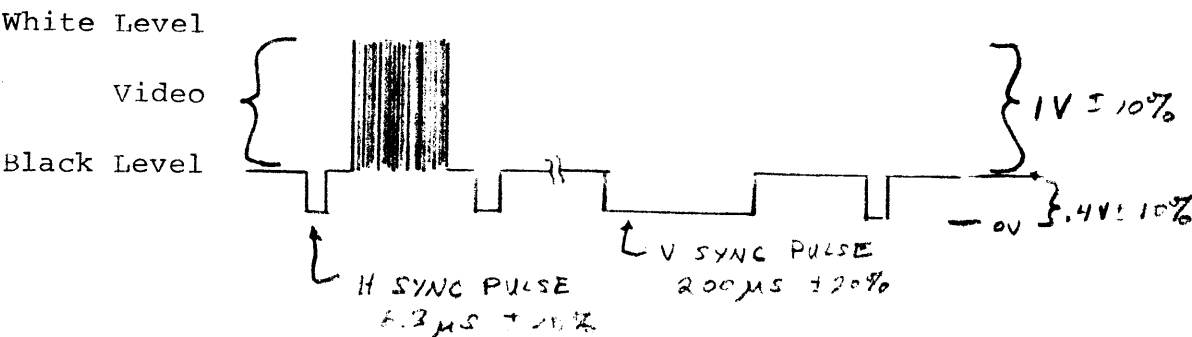
The above controls are potentiometers located on the right side of the housing.

Power ON/OFF - Applies line power to display module located on auxiliary keyboard.

Sense ON/OFF - The position of this switch is read into ACØ by the DPMS instruction ON = 1, OFF = 0.
The meaning of this switch is defined by the programmer.

5.0 Interface Specifications

A composite video signal is available from J1 of the M8336. The signal appears as below.



[illegible]

DEC FORM NO.
DRA 120

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DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

ENGINEERING SPECIFICATION

DATE 01/16/73

TITLE VT8E IN HOUSE ACCEPTANCE PROCEDURE

REVISIONS

REV	DESCRIPTION	CHG NO	ORIG	DATE	APPD BY	DATE

ENG P. Kotschenrauthen	APPD <i>Jim Parker</i>	SIZE A	CODE AP	NUMBER VT8-E-6	REV
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DEC FORM NO.
DRA 107

SHEET 1 OF 11

ENGINEERING SPECIFICATION

CONTINUATION SHEET

TITLE VT8E IN HOUSE ACCEPTANCE PROCEDURE

1.0 SCOPE

- 1.1 This specification sets forth the procedure for inspection of the VT8E alpha/graphic display terminal and control in accordance with the Workmanship Manual, DEC Standards, ECO's, VT8E specifications and prints. The monitor shall meet the standards set forth in the purchase specifications.
- Motorola #3010326
- 1.2 All units submitted to acceptance must successfully complete the production checkout procedure.
- 1.3 Any unit which fails any of the requirements of this procedure will be classified as defective and returned to production for rework.
- 1.4 Units submitted to Acceptance after rework may be recycled through the entire acceptance procedure or any portion thereof at the discretion of the acceptance operator.
- 1.5 Any unit may be checked for compliance with the engineering specifications at the discretion of Acceptance personnel.
- 1.6 Approximate Run Time 2½ hours.
- 1.7 All picture quality shall be matched with the overlay and quality picture

2.0 REQUIRED DOCUMENTS

- 2.1 VT8E Display Test 1 - MAINDEC-08-DHVTA-A
- 2.2 VT8E Display Test 2 - MAINDEC-08-DHVTB-A
- 2.3 LA30 MAINDEC - 8E-D2FB-PB
- 2.4 VT8E Engineering Specifications
- 2.5 MAINDEC 8E-D2FB-D

DEC FORM NO 16-1022
DRA 108

SHEET 2 OF 11

ENGINEERING SPECIFICATION		digital		CONTINUATION SHEET	
TITLE VT8E IN HOUSE ACCEPTANCE PROCEDURE					
3.0 REQUIRED TEST EQUIPMENT					
3.1 PDP8/E or PDP8/M					
3.2 Checked out LA30A-PA					
4.0 ACCEPTANCE PROCEDURE					
4.1 Mechanical Inspection					
4.1.1 Check unit against construction requisition.					
4.1.2 Inspect modules for workmanship.					
4.1.3 Check all modules for proper circuit and etch revisions and verify against ECO status sheet and key sheet.					
4.1.4 Check for final inspection stamp on all modules including the H851 over the top connectors.					
4.1.5 Inspect the H851's for cracks.					
4.1.6 Hardware Inspection					
4.1.6.1 Check switches for proper mounting and freedom of operation.					
4.1.6.2 Check wiring dress, cable and mechanical connections for compliance with hardware. Assemblies Standard (A-SP-7665099-0-0).					
4.1.6.2 Insure all mounting screws and bolts are installed through the base plate into casting.					
4.1.6.4 Check for high voltage warning signs on the monitor and interlock switch.					
4.1.6.5 Insure the unit is clean and free of all foreign material.					
4.1.6.6 Insure proper alignment of control knobs.					
		SIZE	CODE	NUMBER	REV
		A	AP	VT8-E-6	

ENGINEERING SPECIFICATION		digital		CONTINUATION SHEET	
TITLE VT8E IN HOUSE ACCEPTANCE PROCEDURE					
4.0 ACCEPTANCE PROCEDURE (Continued)					
4.1 Mechanical Inspection (Continued)					
4.1.6 (Continued)					
4.1.6.7 Insure presence of interlock switch insulating shield.					
4.1.6.8 Insure proper grounding throughout unit.					
4.1.6.9 Check for inspection stamps on the monitor and keyboard if applicable.					
4.1.6.10 Insure all crimp connectors are secured properly.					
4.1.6.11 Insure the device codes are labeled on the M8335 module.					
4.1.6.12 Check to insure all device codes on the M8335 are selected correctly.					
NOTE: Due to a lack of off line testing capabilities a close visual inspection of the electrical test section will have to be performed.					
4.2 Electrical Test					
NOTE: Halt the diagnostic programs with SW 0=1 only. Do not use the halt switch. Turn one monitor.					
4.2.0 Real Time Clock Test					
Load the following program into core.					
ADDRESS					
0000 0000					
0001 1510					
1500 6002					
1501 6056					
1502 7000					
1503 7201					
		SIZE	CODE	NUMBER	REV
		A	AP	VT8-E-6	

ENGINEERING SPECIFICATION

digital

CONTINUATION SHEET

TITLE VT8E ACCEPTANCE PROCEDURE (IN HOUSE)

4.0 ACCEPTANCE PROCEDURE (Continued)

4.2 Electrical Test (Continued)

4.2.0 Real Time Clock Test (Continued)

ADDRESS

1504	6051
1505	6052
1506	6001
1507	5306
1510	6056
1511	7402
1512	5300

Load and start at address 1500. Using a scope examine inter ROST L at CPl on the omnibus. This should occur every 16 2/3 ms. A halt at location 1511 indicates the program could not skip on the RTC flag after an interrupt was generated. The M8335 module fails if the interrupts are observed to occur other than every 16 2/3ms or if the error halt occurs.

4.2.1 Load the alpha-numerical diagnostic, VT8E video display Test 1, MAINDEC 08-DHVTA-A using normal binary loading procedures. Program assumes normal IOT's if different use SA70 to change the device codes in the program.

4.2.2 Selected Character Test

4.2.2.1 Load Address 0074

Set any character code in SR 5-11. Press clear and continue. Program halts, clear all switches. Set SR 2=1 press continue. A full screen of the character selected will be shown.

4.2.2.2 Turn brightness and contrast controls fully counter-clockwise. Insure that screen is dark.

ENGINEERING SPECIFICATION

digital

CONTINUATION SHEET

TITLE VT8E IN HOUSE ACCEPTANCE PROCEDURE

4.0 ACCEPTANCE PROCEDURE (Continued)

4.2 Electrical Test (Continued)

4.2.2 Selected Character Test (Continued)

4.2.2.3 Turn brightness control fully clockwise. Insure that screen is illuminated.

4.2.2.4 Turn brightness control counter-clockwise until screen just becomes dark. Turn contrast control clockwise until characters are visible.

4.2.2.5 Check the operation of the vertical hold control by turning it all the way clockwise and then counter-clockwise until the picture is distorted then re-adjust.

4.2.2.6 Check the operation of the horizontal hold control by turning it all the way clockwise and counter-clockwise, until the picture is distorted then readjust.

4.2.2.7 Readjust picture to correct image and put SR 2=0. Characters should change approximately every second. Run on complete pass through the character codes. Set sense switch on display to OFF.

4.2.3 Run the alpha-numerical diagnostic MAINDEC-08-DHVTA-A. Consult diagnostic listing for switch settings. Run for 2 passes, approximately 40 minutes. After starting, program will halt at address 0264, put sense switch to ON and continue, this checks the condition of the sense switch.

4.2.4 Run Keyboard Test

4.2.4.1 Load SA 0072. Start 0000.

ENGINEERING SPECIFICATION

01911a1

CONTINUATION SHEET

TITLE VT8E IN HOUSE ACCEPTANCE PROCEDURE

4.0 ACCEPTANCE PROCEDURE (Continued)

4.2 Electrical Test (Continued)

4.2.4 Run Keyboard Test

- 4.2.4.1 The keyboard test has three (3) sections to it and by depressing CR the program goes to the next section or ends the test after Section 3.
- 4.2.4.2 Section 1. Check lower case operation by typing all the keys on the keyboard. Do not type "CR"
- 4.2.4.3 Check upper case operation by depressing shift key and typing all the appropriate keys on the keyboard.
- 4.2.4.4 Type one complete line of any character and count the number of characters. Should be 32 or 64.
- 4.2.4.5 Depress "CR" for Section 2.
- 4.2.4.6 Check the cursor right operation by depressing the "→" key and observe the word right on the screen.
- 4.2.4.7 Check the cursor left operation by depressing the "←" key and observe the word left on the screen.
- 4.2.4.8 Check the down cursor operation by depressing the "↓" key and observe the word down on the screen.
- 4.2.4.9 Check cursor up operation by depressing the "↑" key and observe the word up on the screen.
- 4.2.4.10 Depress the home key and observe the word home on the screen.

SIZE	CODE	NUMBER	REV
A	AP	VT8-E-6	

SHEET 7 OF 11

ENGINEERING SPECIFICATION

01911a1

CONTINUATION SHEET

TITLE VT8E IN HOUSE ACCEPTANCE PROCEDURE

4.0 ACCEPTANCE PROCEDURE (Continued)

4.2 Electrical Test (Continued)

4.2.4 Run Keyboard Test (Continued)

- 4.2.4.11 Depress "CR" for Section 3.
Depressing a key will show on the screen the ASCII code for the character, and the position of the sense switch. Depressing A shows:
- A = 301 SW = 1 (Switch ON)
A = 301 SW = 0 (Switch OFF)
- Check all character Codes.
- Depress "CR" end of keyboard test. Program will recycle.
- 4.2.4.12 Check the spot burn protection circuitry of the monitor as the monitor should now be thoroughly warmed up. Turn brightness control full counter clockwise and shut the AC power off while looking at the screen. The raster should collapse to a spot which should not last more than 5 seconds. If the spot burn protection circuitry is faulty, the spot will be very bright lasting much longer than 5 seconds. Readjust brightness control.

- 4.2.5 Load the graphic test tape (VT8E Video Display Test 2) using normal binary loader procedures.

MAINDEC #08-DHVTB-A

- 4.2.5.1 Load SA 0200 with the IF and DF set to the program field. Start with SR 4 = to 60 or 50 cycles and SR 6 = to characters per line.

SR4=0 = 60 cycle SR6=0 64 characters

SR4=1 = 50 cycle SR6=1 32 characters

SIZE	CODE	NUMBER	REV
A	AP	VT8-E-6	

SHEET 8 OF 11

ENGINEERING SPECIFICATION		CONTINUATION SHEET	
TITLE VT8E IN HOUSE ACCEPTANCE PROCEDURE			
4.0 ACCEPTANCE PROCEDURE (Continued) 4.2 Electrical Test (Continued) 4.2.5 (Continued) 4.2.5.1 Run for 30 minutes. Ensure visual monitor meets specifications. 4.2.5.2 Check for proper execution of the particular starting addresses. Load address of each test below and follow the switch settings of Section 4.2.5.1. 0072 - Full Screen 0073 - Full Blank Screen 0074 - Checkerboard Pattern 0075 - Vertical Grid Pattern 0076 - Flash a Full Screen of dots followed by a Blank Screen. 0077 - Display alpha with a screen dots 0100 - Display alpha with the vertical grid pattern. Run each starting address for two (2) minutes. 4.3 Printer Control Connect known good LA30A-PA to VT8E control. Load printer diagnostic MAINDEC 8E-D2FB-PB using normal binary loading procedures. Run printer tests referencing 8E-D2FB-D diagnostic write-up, The VT8E keyboard is used in place of the LA30 keyboard to run through the diagnostic. No errors are allowed. 4.4 System Acceptance 4.4.1 Run both diagnostics for a minimum of two passes on the VT8E video display test 1 and for a minimum of 30 minutes with VT8E video display test 2.			
SIZE	CODE	NUMBER	REV
A	AP	VT8-E-6	

ENGINEERING SPECIFICATION		CONTINUATION SHEET	
TITLE VT8E IN HOUSE ACCEPTANCE PROCEDURE			
4.0 ACCEPTANCE PROCEDURE (Continued) 4.4 System Acceptance (Continued) 4.4.2 Run DECX8 Rev. B with the VT8E module. Insure that the system configuration meets the required standards set forth regarding the running of DECX8 on the system. 4.4.3 Run Section 4.3 if applicable. 4.5 Preparation for Shipment and Document Check 4.5.1 Insure the unit is clean and free of any foreign material. 4.5.2 Insure the foam strip, mask and protective screen are installed in the cover. 4.5.3 The cover shall meet finish specifications described in DEC Standard 092-00100. 4.5.4 Install and secure the cover. Insure proper alignment of the keyboard and interlock switch. 4.5.5 Check for accessories in accordance with the accessory check list, drawing number A-AL-VT8E-8. 4.5.6 Check for correct diagnostic tapes and listings, with the Software Accessory Checklist, drawing number A-SL-VT8E-7. 4.5.7 Requirements for customer envelope preparation. 4.5.7.1 Construction Requisition (1 copy) 4.5.7.2 Keysheets (2 copies) 4.5.7.3 Blanket Waiver (if one) (one copy) 4.5.7.4 Waiver (all copies except yellow copy) 4.5.8 Customer Envelope Contents 4.5.8.1 Customer Acceptance Report 4.5.8.2 Keysheet (2 copies)			
SIZE	CODE	NUMBER	REV
A	AP	VT8-E-6	

ENGINEERING SPECIFICATION		digital		CONTINUATION SHEET	
TITLE		VT8E IN HOUSE ACCEPTANCE PROCEDURE			
4.0 ACCEPTANCE PROCEDURE (Continued) 4.5 Preparation for Shipment and Document Check (Con't) 4.5.8 Customer Envelope Contents (Continued) 4.5.8.3 ECO Status Sheets (yellow copy) 4.5.9 T & I Envelope Contents (Continued) 4.5.9.1 ECO Status Sheet (2 copies) 4.5.9.2 Keysheets (3 copies, minimum) 4.5.9.3 Waiver (Yellow copy) 4.5.9.4 Blanket Waiver (1 copy) 4.5.9.5 Acceptance Log and Check Sheets.					
		SIZE	CODE	NUMBER	REV
		A	AP	VT8-E-6	

[illegible]

TITLE	VT8E FIELD INSTALLATION AND ACCEPTANCE PROCEDURE			
INSTALLATION The VT8E Video Display and Control are installed on-site by DEC Field Service personnel. The customer should not attempt to unpack, inspect, install, checkout or service the equipment. 1.0 UNPACKING The VT8F Display Monitor is packed in a specially designed carton to avoid damage during shipment. NOTE: Carefully examine the VT8E for damage. Any damage should be reported immediately. Unpack the VT8E Display Monitor as follows: 1.1 Remove the Display Monitor from the shipping container. 1.2 Remove the polyethylene cover. 1.3 Remove any tape, etc., from the display monitor cabinet. 1.4 Remove the display monitor from the shipping skid. 1.5 Install nylon screws and washers (feet) into the bottom of the display chassis. 1.6 Place the display monitor in the desired location. 2.0 SHIPPING CHECKLIST A shipping checklist is provided with each VT8E to ensure that the following have been accomplished and/or included: 2.1 Quality Control check. 2.2 Manuals - VT8E Maintenance Manual (Part of PDP8/E, PDP8/F, PDP8/M Maintenance Manual, Volumes 1, 2 and 3). 2.3 Customer Acceptance Procedure 2.4 Interconnecting cable. 2.5 Diagnostic Software.				
	SIZE	CODE	NUMBER	REV
	A	EI	VT8-E-7	

ENGINEERING SPECIFICATION

digital

CONTINUATION SHEET

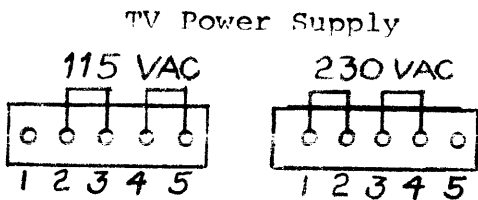
TITLE VT8E FIELD INSTALLATION AND ACCEPTANCE PROCEDURE

3.0 PRIMARY POWER (AC)

3.1 The VT8E uses a single (permanently connected) AC power cable to connect the site power source to the VT8E Display power supply. The VT8E operates at 100-130 VAC, 50-60 Hz, single phase or 200-260 VAC 50-60 Hz, 1A, single phase.

CAUTION: Before proceeding, ensure that the VT05 power transformer windings are correctly connected (for 115V or 230 V operation) to correspond to the installation site power source as shown in Figure 2-1 and drawings D-UA-VT8E-0-0.

Figure 2-1



Sylvania

NOTE: If display monitor is Motorola check TV voltage selection switch on the side of the display chassis. Figure 2-1 does not apply in this case.

Each wire in the power cable is color-coded as shown in Table 2-1.

Table 2-1

POWER CABLE LINE IDENTIFICATION

Pigtail Information		Terminal Strip Nomenclature
Line	Wire Color	
Frame Ground	Green	Frame Ground
Neutral/Line 2	White	Neutral or Line 2
Line 1	Black	Line 1

SIZE CODE NUMBER REV
A FI VT8-E-7

ENGINEERING SPECIFICATION

digital

CONTINUATION SHEET

TITLE VT8E FIELD INSTALLATION AND ACCEPTANCE PROCEDURE

3.0 PRIMARY POWER (AC) (Continued)

NOTE: The green wire is the cabinet frame ground and does not carry load current but must be connected for personnel safety. The white wire is the neutral, common, AC return, or cold load and should never be used for VT8E grounding purposes.

The VT8E is normally supplied with a 15A connector. The selected AC service outlet must be capable of at least 2A, 110 VAC, 50 or 60 Hz or 1A, 200 VAC, 50 or 60 Hz single phase.

3.2 Initial Setup

3.2.1 VT8E Power Connections

Use the following procedure for the initial power check of the VT8E:

- Ensure the main power switch on the right front of the VT8E is off.
- Meter the wall receptacle to ensure that the hot, neutral, and ground connections conform to the VT8E requirements.
- Turn main power on to insure display monitor is getting power.
- Turn off main power.

4.0 MODULE AND I/O INSTALLATION

4.1 I/O Cable Installation

- Connect J3 Winchester connector to the mating connector located at the rear of the video display terminal.
- Connect J1 cable connector to J1 on the M8336.
- Connect J2 cable connector to J1 on the M8335.
- If an LA30A-PA or Centronics type line printer or equivalent type printer only device is to be installed connect the printer cable to J2 on the M8335.

SIZE CODE NUMBER REV
A FI VT8-E-7

ENGINEERING SPECIFICATION

digital

CONTINUATION SHEET

TITLE VT8E FIELD INSTALLATION AND ACCEPTANCE PROCEDURE

4.0 MODULE AND I/O INSTALLATION (Continued)

4.1 I/O Cable Installation

NOTE: Due to space limitations, it is advisable to connect the interconnecting cables to the interface modules before inserting the modules into the omnibus.

4.2 Plug the M8336, M8337, M8335 control modules into the omnibus per the "Recommended Slot Assignment List" in the 8E, 8M, 8F Maintenance Manual Table 2-3, Volume 1. The VT8E is a non-memory option.

4.3 The VT8E modules are plugged into adjacent omnibus slots in this order:

M8336 - First
M8337 - Middle
M8335 - Last

4.4 Install the H851 top connectors between M8336H and M8337H, M8337 E and F and M8335 E and F.

4.5 When installing more than one VT8E control (up to four may be installed in one system) the next control goes into the system directly behind the first. The two controls are interconnected by an H851 top connector located at M8335 J of the first control to M8336 J of the second one.

5.0 CUSTOMER ACCEPTANCE

Customer Acceptance consists of ensuring system operation by running all diagnostic programs provided, running an operating test of the system software, inspecting the shipping checklist, and completing a physical inspection of the VT8E. There should be no physical damage, and the shipping checklist should be complete.

5.1 Customer Acceptance Procedure

Prior to running of customer acceptance, the VT8E should be installed in accordance with the procedure, in Section 1.0 and 4.5.

Enclosed with the VT8E you will find a large envelope containing the following items:

SIZE	CODE	NUMBER	REV
A	FI	VT8-E-7	

ENGINEERING SPECIFICATION

digital

CONTINUATION SHEET

TITLE VT8E FIELD INSTALLATION AND ACCEPTANCE PROCEDURE

5.0 CUSTOMER ACCEPTANCE (Continued)

5.1 Customer Acceptance Procedure (Continued)

5.1.1 Customer Acceptance Forms

Upon successful completion of acceptance, the field serviceman must list any exceptions to proper acceptance on this form. The exceptions must include missing items, incomplete shipments or specification conflicts. The customer must sign the Acceptance Form.

5.1.2 Accessory Checklist

This is a list of all items which were shipped with the VT8E and should be used to inventory the shipment. The customer should be present during this inventory. Any missing items should be noted on the Customer Acceptance Form.

Customer Acceptance is a demonstration to the customer, that the VT8E operates according to specification. The demonstration shall consist of operating the appropriate diagnostics in the customers presence.

1. Consult the supplied diagnostic write-ups for proper set-up and operation.

2. Run the diagnostic for one complete pass.

Successful completion of 1 and 2 shall constitute completion of VT8E Customer Acceptance. Discrepancies must be listed on the Customer Acceptance Form, and signed by the customer.

SIZE	CODE	NUMBER	REV
A	FI	VT8-E-7	

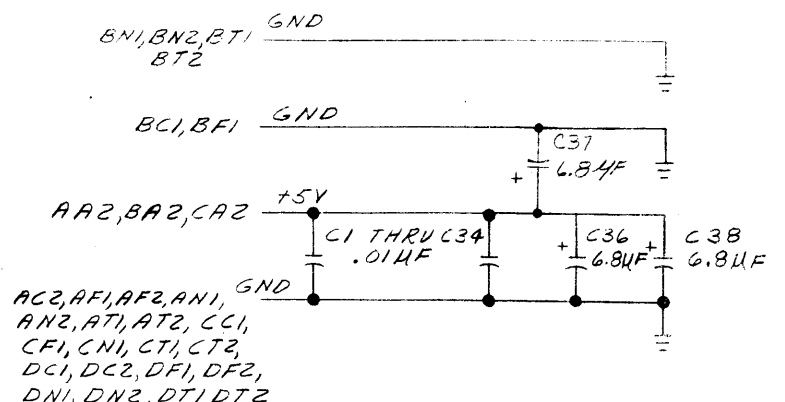
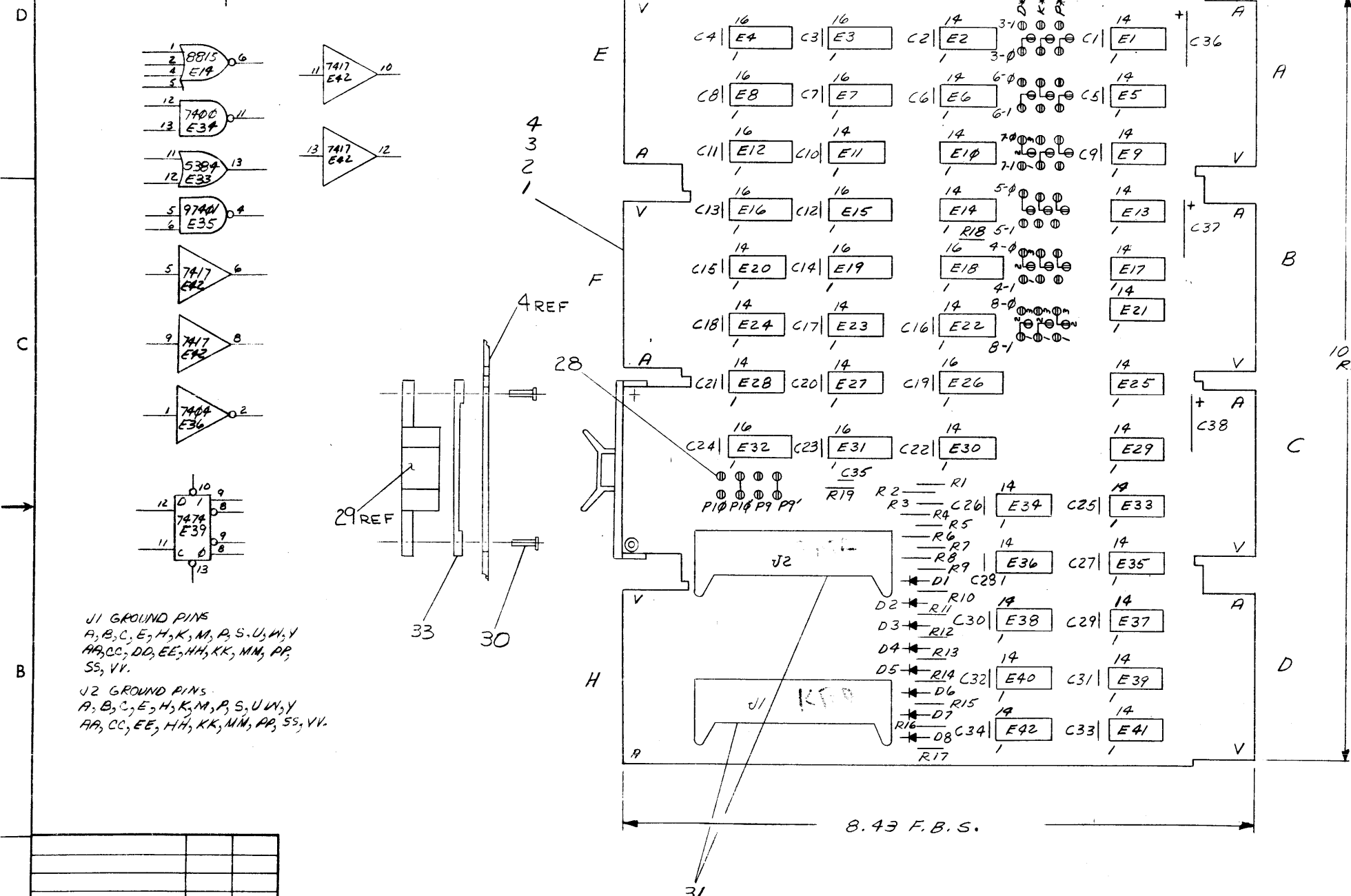
PAGE REVISION CONTROL SHEET

[illegible]

d i g i t a EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS		TITLE VT8-E KEYBOARD PRINTER CONTROL		SIZE B CS	CODE CS	NUMBER M8335-0-1	REV. C
DRN. <i>M. Poirier</i>	DATE 1-11-72	ENG. <i>[Signature]</i>	DATE 1-16-73	SIZE B	CODE CS	NUMBER M8335-0-1	REV. C
CHK'D <i>[Signature]</i>	DATE 1-16-73	PROJ. ENG. <i>[Signature]</i>	DATE 1-16-73	SIZE B	CODE CS	NUMBER M8335-0-1	REV. C
PROD. <i>[Signature]</i>	DATE 1-16-73	NEXT HIGHER ASSY. B-DD-VT8-E	DATE 1-16-73	SIZE B	CODE CS	NUMBER M8335-0-1	REV. C
SCALE 1 OF 6				SIZE B	CODE CS	NUMBER M8335-0-1	REV. C
SHEET				SIZE B	CODE CS	NUMBER M8335-0-1	REV. C

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NOTES:
1. UNLESS OTHERWISE SPECIFIED ALL CAPACITATORS ARE IN MICROFARADS & ALL RESISTORS ARE IN OHMS.
2. * D=DISPLAY, K=KEYBOARD, P=PRINTER



J1 GROUND PINS
A, B, C, E, H, K, M, P, S, U, W, Y
AA, CC, DD, EE, HH, KK, MM, PP,
SS, VV.
J2 GROUND PINS
A, B, C, E, H, K, M, P, S, U, W, Y
AA, CC, EE, HH, KK, MM, PP, SS, VV.

IC TYPE	GND	+ 5V
DEC 74193	B	16
DEC 74175	B	16
DEC 74174	B	16
DEC 7442	B	16
IC TYPE	GND	+ 5V
GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY. EXCEPTIONS ARE STATED ABOVE.		
IC PIN LOCATIONS		

REF	WIRE LIST	A-WL-M8335-0-9	34
1	SPACER, CABLE CLAMP	1202709	33
AA	#30 AWG SOLID WIRE (YEL)	9105740-44	32
2	J1, J2	CONN. RIGHT ANGLE HEADER	1209991
2	EYELET (G54-7)	9006732	30
1	HANDLE, FLIP CHIP MAGENTA	9008337-6	29
62	SPLIT LUGS	9006735	28
1	E41	I.C. DEC 7440	1905579
2	E40, E42	I.C. DEC 7417	1909929
3	E37-E39	I.C. DEC 7474	1905547
1	E33	I.C. DEC 5384	1910394
2	E30, E36	I.C. DEC 7404	1909686
2	E22, E29	I.C. DEC 7402	1909004
1	E21	I.C. DEC 7400	1909056
2	E18, E26	I.C. DEC 7442	1910046
3	E17, E25, E34	I.C. DEC 7400	1905575
2	E14, E20	I.C. DEC 8815	1907713
4	E13, E27, E28, E35	I.C. DEC 7440	1909473
3	E7, E15, E19	I.C. DEC 74174	1910652
4	E4, E8, E12, E16	I.C. DEC 74173	1910018
3	E3, E31, E32	I.C. DEC 74175	1910651
6	E2, E6, E10, E11, E23, E24	I.C. DEC 5380	1910392
3	E1, E5, E9	I.C. DEC 5314	1910391
1	R18	RES. 1K 1/4W 5%	1300365
9	R10-R17, R19	RES. 330 1/4W 5%	1300295
9	R1-R9	RES. 220 1/4W 5%	1300271
8	D1-D8	DIODE D664	1000114
3	C36-C38	CAP. 6.8uF 35V 20% STANT	1000067
1	C35	CAP. 470 PF 100V 5% DM	1000024
34	C1-C34	CAP. 0.01uF 100V 20% DISC	1001610
1		ETCHED CIRCUIT BOARD	5010070
REF		MODULE ECO HISTORY	B-MH-M8335-0-6
REF		ASSY/DRILLING HOLE LAYOUT	D-AH-M8335-0-5
REF		X-Y COORDINATE HOLE LOCATION	K-LD-M8335-0-4

VT8-E

ETCH BOARD REV B

DRN DATE 6/15/72

CHK DATE 7/1/72

ENG DATE 7/1/72

PROD DATE 7/1/72

PROJ. ENG DATE 7/1/72

PROD DATE 7/1/72

SCALE 1:1

SHEET 1 OF 1

digital EQUIPMENT CORPORATION

VT8-E KEYBOARD PRINTER CONTROL

SIZE CODE DCS M8335-0-1

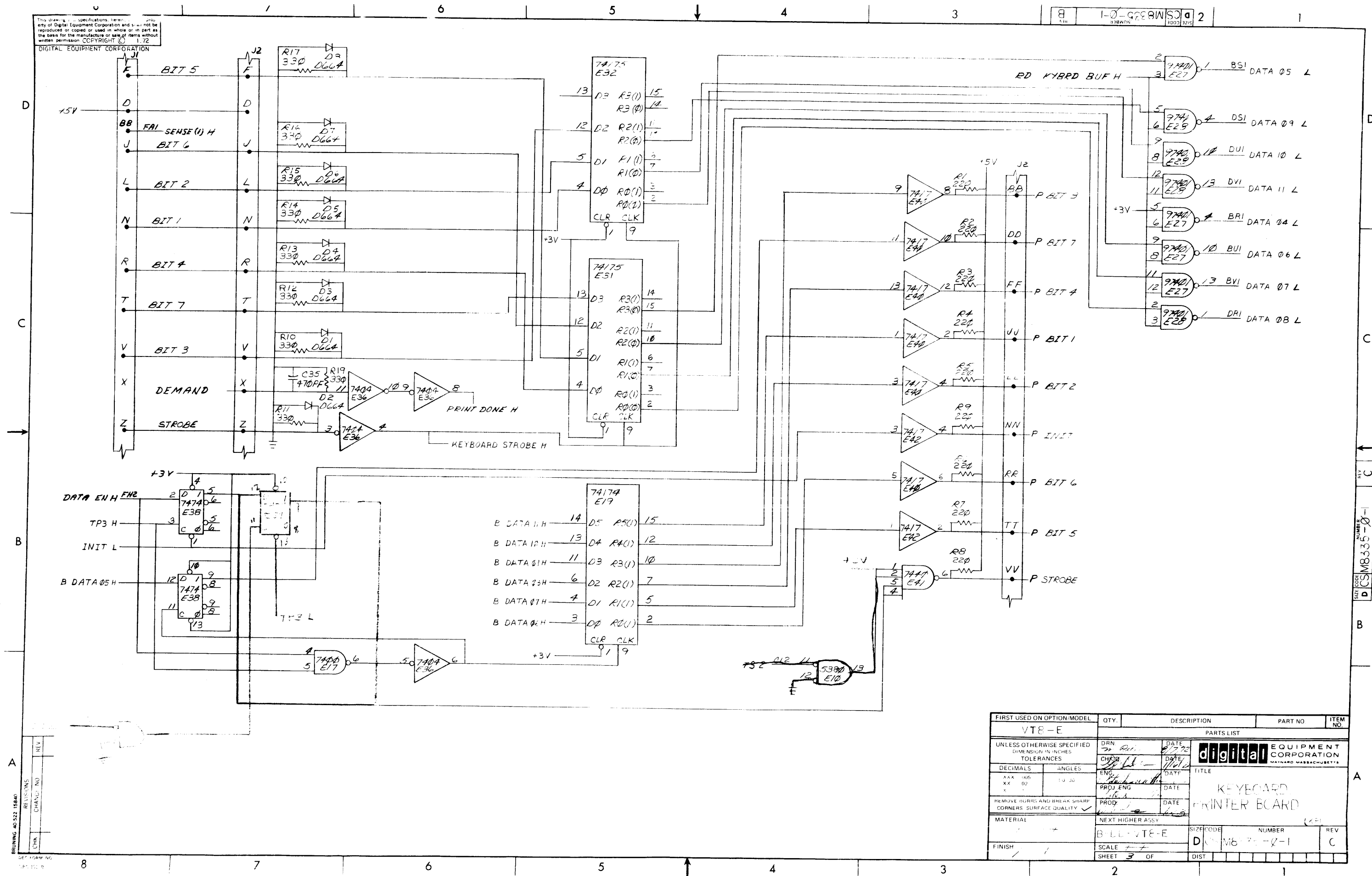
NUMBER 1

REV. C

SEMICONDUCTOR CONVERSION CHART

DEC NO.	EIA NO.	DEC NO.	EIA NO.

BRUNING 40-522 16659



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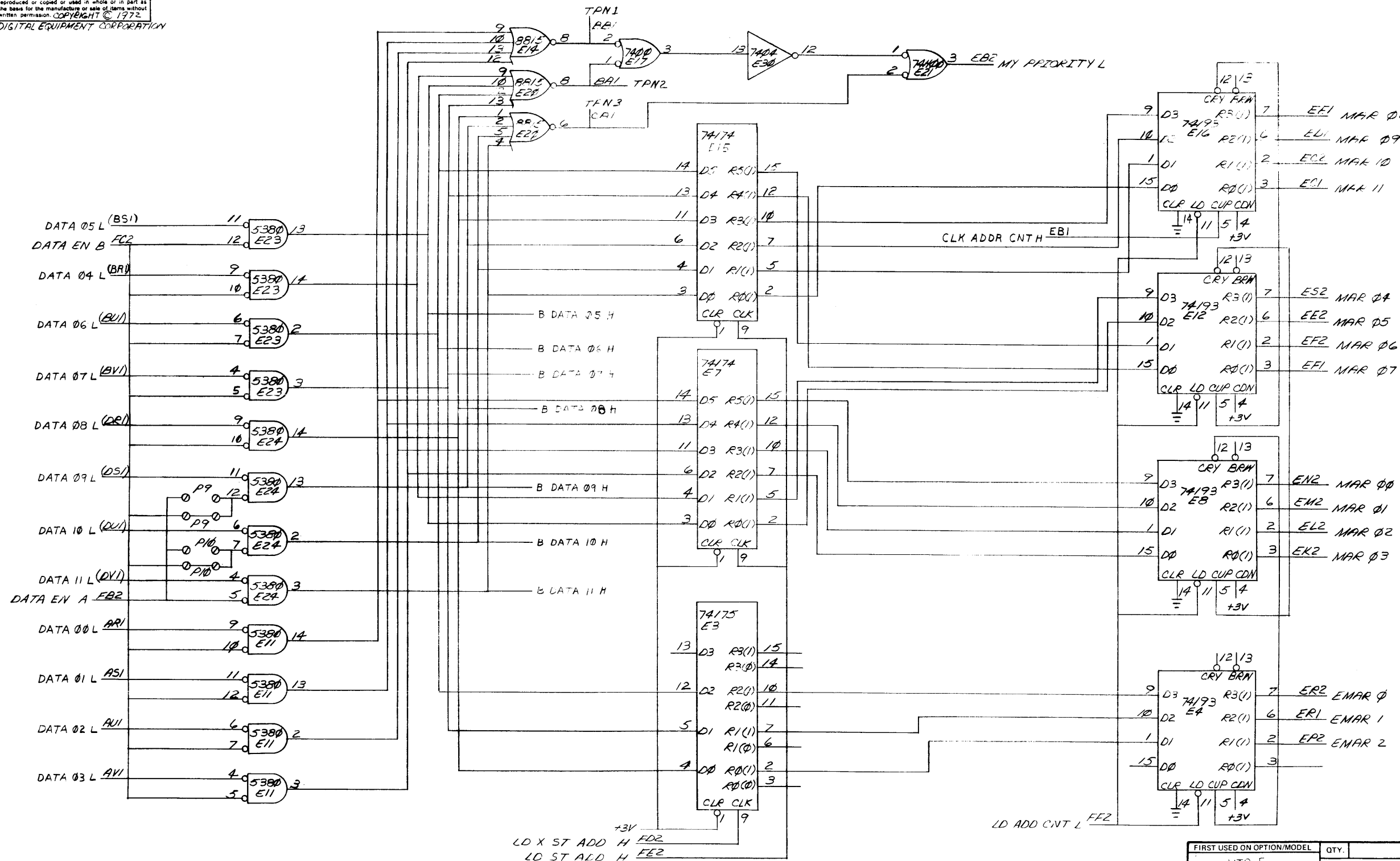
C

B

A

REV	CHG	NO
1	1	1

BRUNING 40522 15840
DEC FORM NO
DRD 102-R



FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
VT8-E				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN DATE 1/1/72	DATE 1/1/72	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
DECIMALS .005 ANGLES ±0° 30'	ENG. DATE 1/1/72	DATE 1/1/72		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	PROD. ENG. DATE 1/1/72	DATE 1/1/72	KEYBOARD PRINTER BOARD (KP2)	
MATERIAL	PROD. DATE 1/1/72	DATE 1/1/72		
FINISH	NEXT HIGHER ASSY.		SIZE CODE	NUMBER
	B-PD-VT8-E		DCS M8335-0-1	REV. C
	SCALE		DIST.	
	SHEET 4 OF			

REV

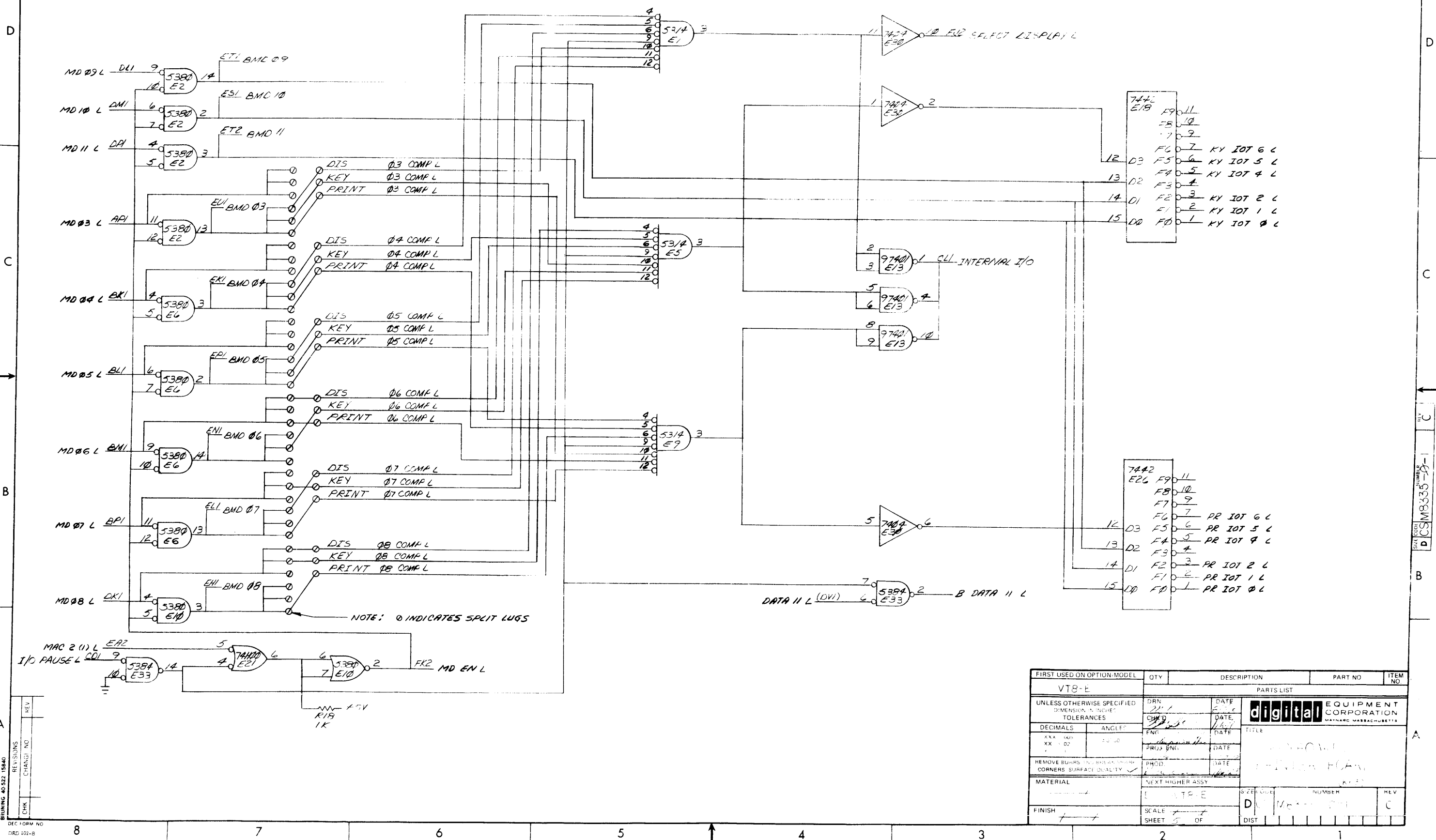
NUMBER

REV

B

A

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PAGE REVISION CONTROL SHEET

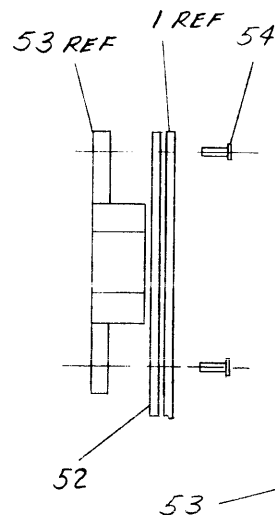
[illegible]

digital		EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS					
TITLE		VT8-E FREQUENCY DIVIDER					
DRN.	J. Vincent	DATE	1-11-73	SIZE	CODE	NUMBER	REV.
CHECKED	<i>[Signature]</i>	DATE	1/16/73	B	CS	M8336-Ø-1	B
ENG	<i>[Signature]</i>	DATE	1/16/73	B-DD-VT8-E SCALE SHEET 1 OF 5			
PROJ. ENG.	<i>[Signature]</i>	DATE	1/16/73				
PROD.	<i>[Signature]</i>	DATE					
NEXT HIGHER ASSY.							
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NOTES:

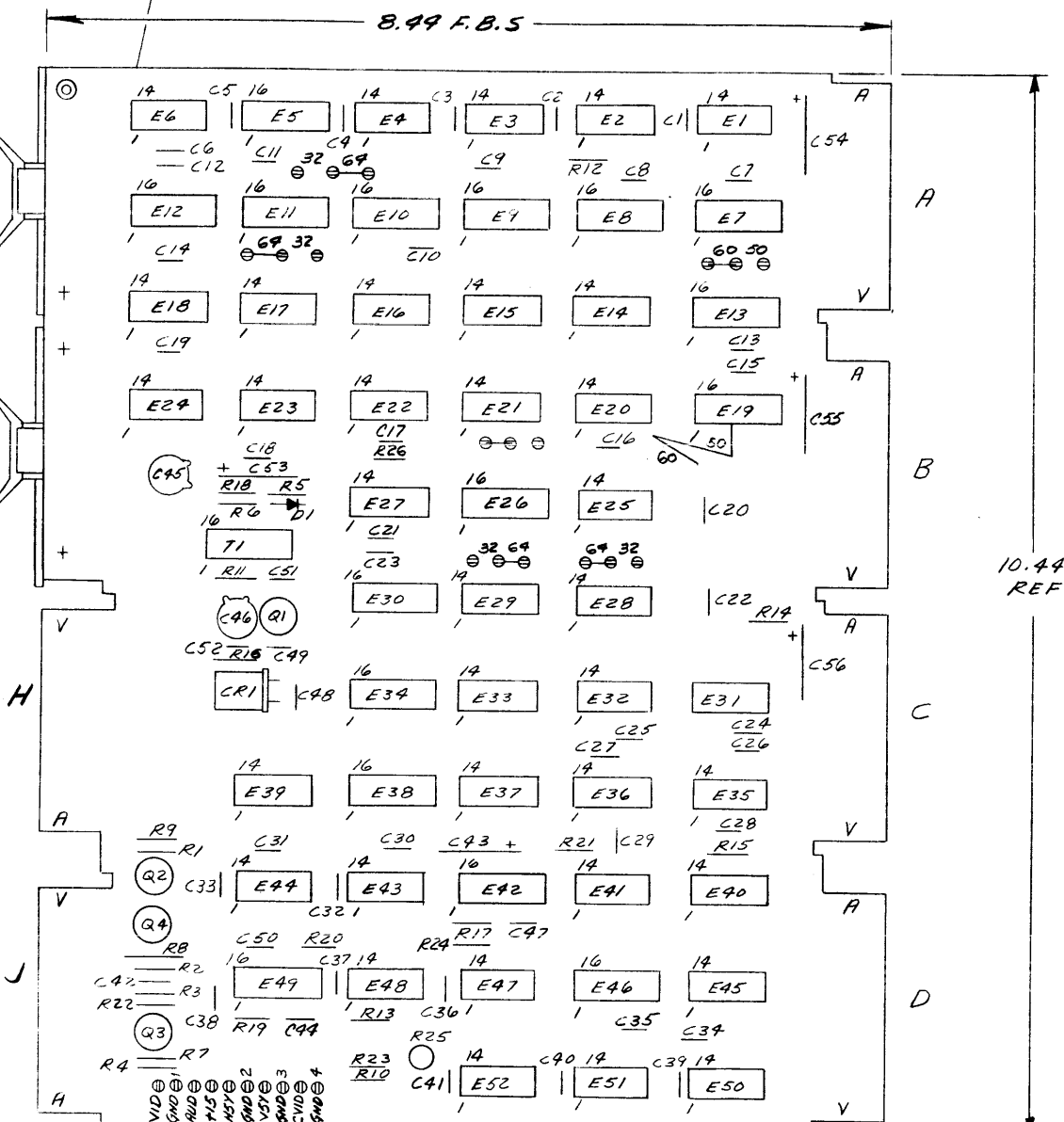
- UNLESS OTHERWISE SPECIFIED ALL CAPACITORS ARE IN MICROFARADS AND ALL RESISTORS ARE IN OHMS.
- SEE WIRE TABLE FOR CONNECTIONS FROM CABLE (ITEM #29) TO SPLIT LUGS.



WIRE TABLE						
ITEM NO	DESCRIPTION	FROM		TO		
		AWG	COLOR	CONNECTION	WITH	
29	*22	BRN	PI-1	—	BI-VID	SOLDER
		RED	PI-2	—	BI-GND 1	
		ORN	PI-3	—	BI-HSY	
		YEL	PI-4	—	BI-GND 2	
		GRN	PI-5	—	BI-VSY	
		BLU	PI-6	—	BI-GND 3	
		VIO	PI-7	—	BI-AUD	
		GRY	PI-8	—	BI-+15	
		WHT	PI-9	—	BI-CVID	
*29	*22	BLK	PI-10	—	BI-GND 4	SOLDER

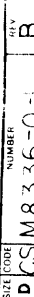
IC TYPE	GND	+5V
DEC 7442	8	16
DEC 74193	8	16
DEC 8266	8	16
IC TYPE	GND	+5V
GND AND 5V ARE USUALLY PIN 7 AND 14 RESPECTIVELY. EXCEPTIONS ARE STATED ABOVE.		
IC PIN LOCATIONS		

AC2, AF1, AF2, AN1, AN2, AT1, AT2, BC1, BC2, BF1, BF2, BM1, BM2, BT1, BT2, CC1, CC2, CF1, CF2, CN1, CN2, CT1, CT2, DC1, DC2, DF1, DF2, DN1, DN2, DT1, DT2.

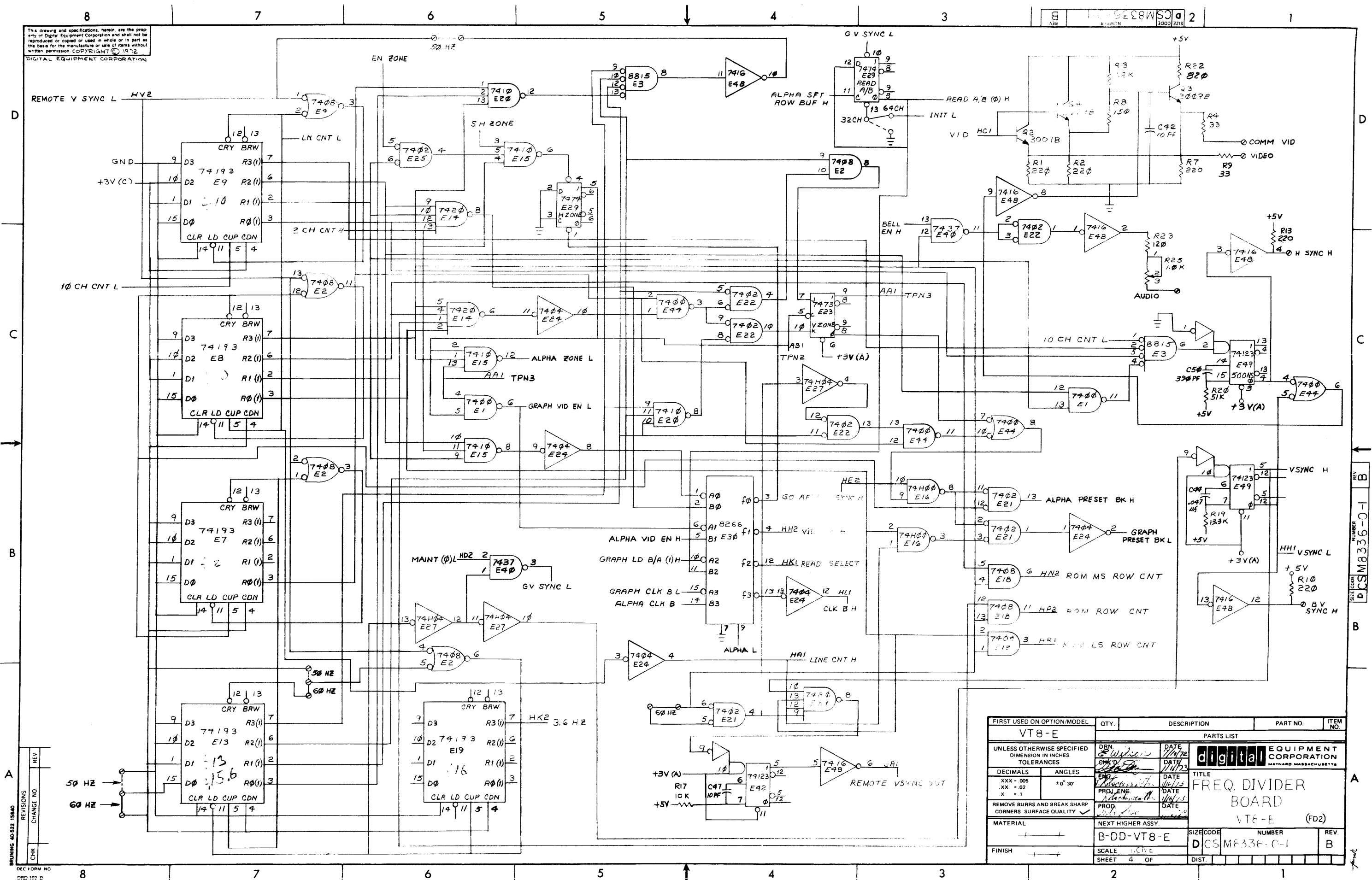


REF	WIRE LIST	QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
YR	*30AWG SOLID WIRE (1/2")	1			105740-44	56
28	SPLIT LUGS (GS4-11)	52			7006735	57
4	EYELETS	54			9006730	58
2	HANDLE FLIP CHIP (MAGENTA)	53			9008337-6	59
2	SPACER (CABLE CLAMP)	52			1202709	60
1 E51	I.C. DEC 7450	51			1905580	61
1 E48	I.C. DEC 7416	52			1909928	62
2 E45, E50	I.C. DEC 5380	51			1910392	63
2 E42, E49	I.C. DEC 74123	50			1910430	64
1 E40	I.C. DEC 7437	49			1910091	65
1 E35	I.C. DEC 97401	48			1909973	66
3 E30, E34, E38	I.C. DEC 8266	47			1907934	67
5 E28, E29, E37, E41, E43	I.C. DEC 7474	46			1905547	68
1 E27	I.C. DEC 74404	45			1909931	69
4 E24, E31, E32, E52	I.C. DEC 7453	44			1909656	70
2 E17, E23	I.C. DEC 7473	43			1905587	71
1 E16	I.C. DEC 74400	42			1909056	72
2 E15, E20	I.C. DEC 7410	41			1905576	73
2 E14, E39	I.C. DEC 7420	40			1905577	74
2 E12, E46	I.C. DEC 7442	39			1910046	75
7 E6, E21, E22, E25, E33, E36, E47	I.C. DEC 7402	38			1909004	76
9 E5, E7-E11, E13, E19, E26	I.C. DEC 74193	37			1910018	77
1 E3	I.C. DEC 8815	36			1909713	78
3 E2, E4, E18	I.C. DEC 7408	35			1910155	79
2 E1, E44	I.C. DEC 7400	34			1905575	80
1 CR1	CRYSTAL 21.840 MHZ	33			1809850-05	81
1 T1	TRANSFORMER 8010	32			1609651	82
4 Q1-Q4	TRANSISTOR DEC 3009B	31			1503100	83
1 R25	RES. 10K 1/2W 30% T.POT	30			1309150-03	84
1	CABLE MODULE	29			020709054-0-0	85
1 R23	RES. 120 1/2W 5%	28			1300243	86
1 R22	RES. 820 1/4W 5%	27			1301775	87
1 R21	RES. 47K 1/4W 5%	26			1302177	88
1 R20	RES. 51K 1/4W 5%	25			1304839	89
1 R19	RES. 13.3K 1/8W 1%	24			1302412	90
1 R18	RES. 3.3K 1/4W 5%	23			1300437	91
2 R16, R17	RES. 10K 1/4W 5%	22			1300479	92
4 R14, R15, R24, R26	RES. 1K 1/4W 5%	21			1300365	93
1 R8	RES. 150 1/4W 5%	20			1300250	94
2 R5, R6	RES. 470 1/4W 5%	19			1300316	95
2 R4, R9	RES. 33 1/4W 5%	18			1300181	96
1 R3	RES. 1.2K 1/4W 5%	17			1301320	97
7 R1, R2, R7, R10-R13	RES. 220 1/4W 5%	16			1300271	98
1 D1	DIODE D662	15			1100113	99
4 C53-C56	CAP. 6.8UF 35V 20% 5.7MM	14			1000067	100
1 C52	CAP. 100PF 100V 5% DM	13			1000016	101
1 C51	CAP. 68 PF 100V 5% DM	12			1000014	102
1 C50	CAP. 390 PF 100V 5% DM	11			1001631	103
1 C49	CAP. 33 PF 100V 5% DM	10			1000009	104
2 C45, C46	CAP. .047UF 16V 20% DISC	9			1009479	105
1 C44	CAP. .047UF 200V 10%	8			1036553	106
1 C43	CAP. 39UF 10V 10% 5.7MM	7			1000076	107
3 C42, C47, C48	CAP. 10PF 100V 5% DM	6			1000006	108
4 C1-C41	CAP. .01UF 100V 20% DISC	5			1001610	109
1	ETCHED CIRCUIT BOARD	4			5015071	110
REF	MODULE ECO HISTORY	3			B-MH-M8336-4	111
REF	ASSY DRILLING HOLE LAYOUT	2			D-AH-M8336-4.5	112
REF	X-Y COORDINATE HOLE LOC.	1			K-G-M8336-4.4	113

FIRST USED ON OPTION MODEL		VT8-E	
ETCH BOARD REV		A	
ORIGINATED NO.		3009B	
REVISIONS		2N3646	
CHANGE NO.		D662	
REV		INC45	
DEC NO.		EIA NO.	
SEMICONDUCTOR CONVERSION CHART			
SHEET 2 OF			
DATE		11/15/72	
TITLE		VT8-E FREQUENCY DIVIDER	
NEXT HIGHER ASSY		B-DD-VT8-E	
SCALE		D	
SIZE CODE		CSM8336-4.1	
NUMBER		REV. B	



FIRST USED ON OPTION MODEL		QTY.	DESCRIPTION		PART NO.		ITEM NO.	
VT8-E		PARTS LIST						
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN 1/2	DATE 11-22	 DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS				
		CHK'D 11-22	DATE 11-22					
DECIMALS	ANGLES	ENG	DATE	TITLE				
XXX .001		PROD. ENG	DATE	PLATE 1				
XX .02		PROD	DATE	PLATE 2				
X .1				PLATE 3 (FBI)				
REMOVE ITD AND BREAK THE 4 CORNERS. SURFACE QUALITY ☒		NEXT HIGHER ASSY		SIZE (INCH)				
MATERIAL		B-DD-VT8-E		NUMBER		REV		
FINISH		SCALE		DOWNSIDE-C1		B		
		SHEET 3 OF		DIST				



FIRST USED ON OPTION MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
VT8-E			PARTS LIST		
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN <i>E. Wilson</i>	DATE <i>1/16/72</i>	 DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
		CHK'D <i>[Signature]</i>	DATE <i>1/16/72</i>		
DECIMALS	ANGLES	END <i>[Signature]</i>	DATE <i>1/16/72</i>		
XXX - .005 XX - .02 X - .1	±0° 30'	PROJ. ENG. <i>[Signature]</i>	DATE <i>1/16/72</i>		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE CHECK ✓		PROD. <i>[Signature]</i>	DATE <i>[Signature]</i>	TITLE FREQ. DIVIDER BOARD VT8-E (FD2)	
MATERIAL + + + + +		NEXT HIGHER ASSY. B-DD-VT8-E		SIZE CODE D	NUMBER MF336-C-1
FINISH + + + + +		SCALE 1:1		REV. B	
		SHEET 4 OF 6		DIST.	

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D

C

B

A

REV. NO. CHANGE NO. CHK

BRUNN 40-522 158-60

DRD 102-B

8

7

6

5

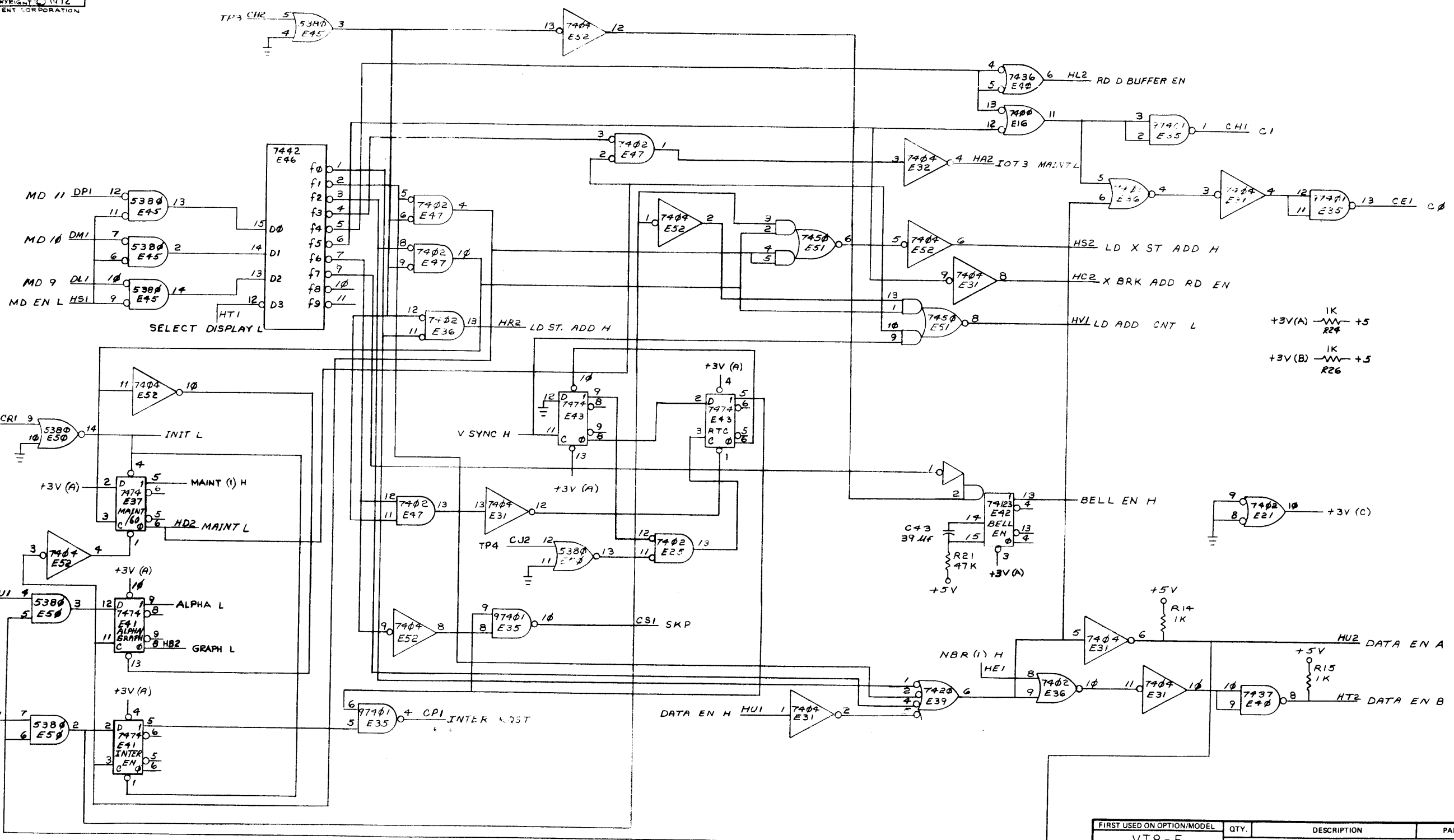
4

3

2

1

1-C-5558W50 2
A38 838W/N 3003 3215



D

C

B

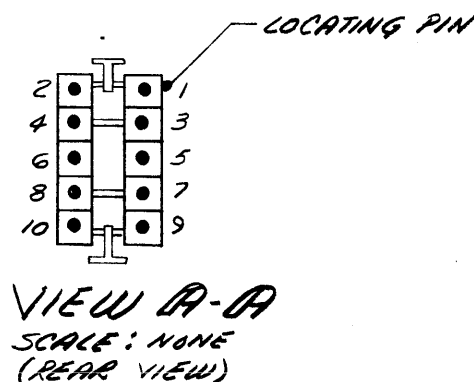
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REV. NO. CHANGE NO. CHK
BRUNN 40-522 158-60
DRD 102-B

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
VT8-E		PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN. <i>E. Wilson</i>	DATE <i>7/9/71</i>	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
		CHDR <i>Joe</i>	DATE <i>11/6/73</i>		
		ENG <i>W. J. Wilson</i>	DATE <i>11/6/73</i>		
		PROJ. ENG. <i>W. J. Wilson</i>	DATE <i>11/6/73</i>		
		PROD. <i>W. J. Wilson</i>	DATE <i>11/6/73</i>		
DECIMALS	ANGLES	TITLE			
.XXX - .005 .XX - .02 .X - .1	±0° 30'	FREQ. DIVIDER BOARD VT8-E (FD3)			
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓					
MATERIAL		NEXT HIGHER ASSY.		SIZE CODE	NUMBER
		B-DD-VT8-E		DCS	M8336-C-1
FINISH		SCALE NONE		REV.	
		SHEET 5 OF		B	
		DIST.			

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* (ASTERICK) INDICATES STRIP AND TIN

DEC FORM NO.
1300-100-2

PAGE REVISION CONTROL SHEET

[illegible]

DRN.	DATE
<i>M. P. Jones</i>	1-11-72
CHKD.	DATE
<i>M. P. Jones</i>	

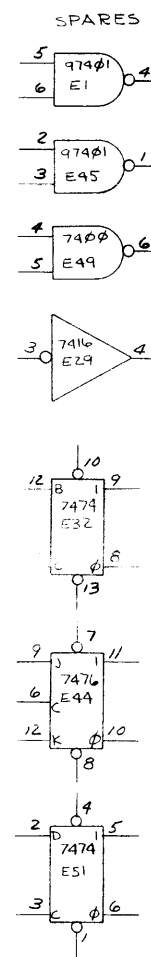
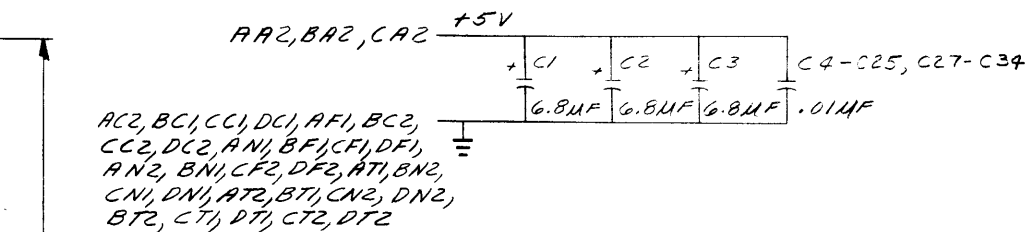
digital

EQUIPMENT CORPORATION
 MAYNARD, MASSACHUSETTS

DATE	TITLE	SIZE	CODE	NUMBER	REV.
ENG 10/18/66	VT8-E LINE BUFFER	B	CS	M8337-O-1	A
PROJ. ENG. 10/18/66					
DATE					
PROD. 10/18/66					
DATE					
NEXT HIGHER ASSY.					
B-DD-VT8-E					
SCALE					
SHEET					
F					

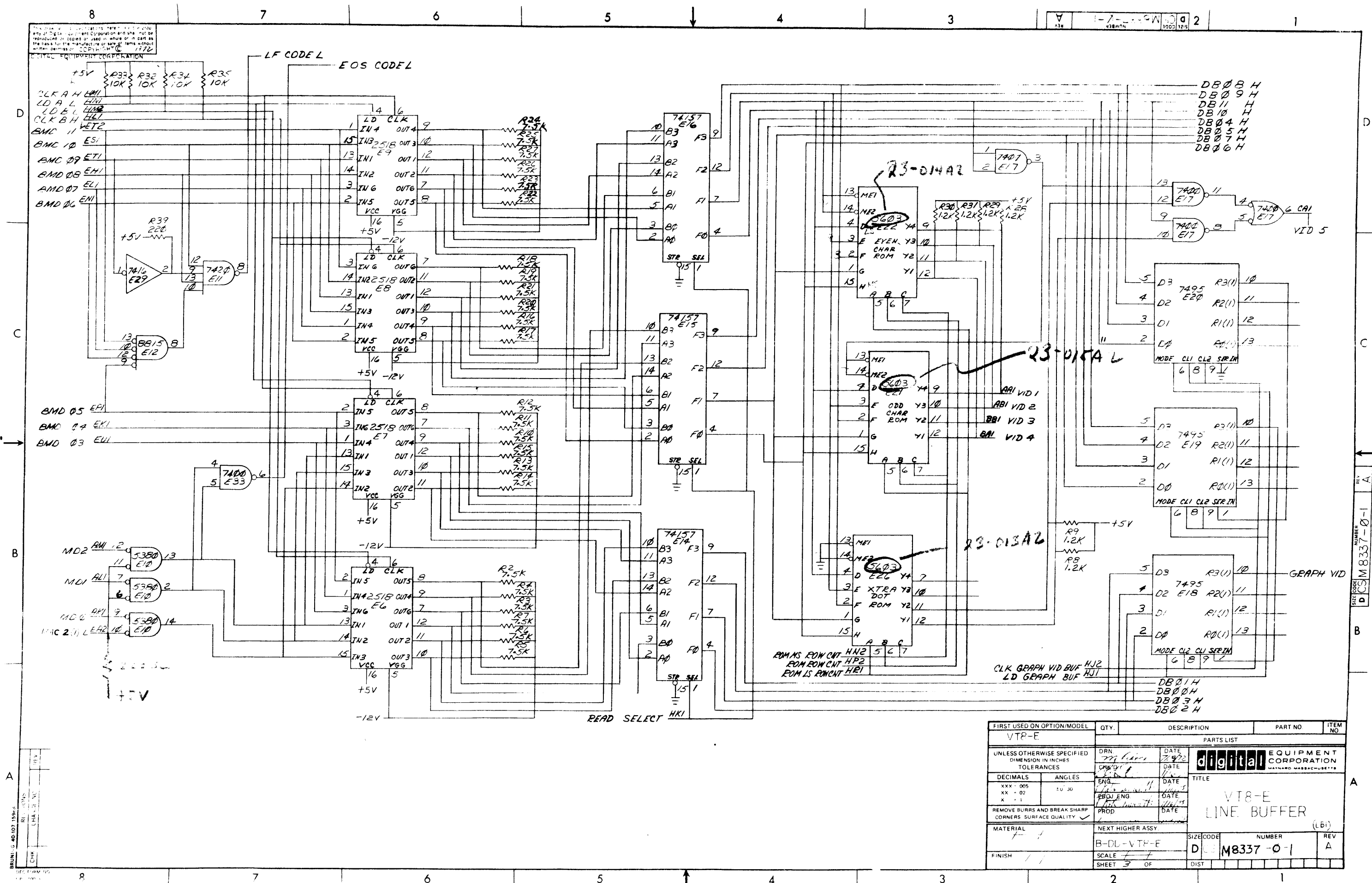
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UNLESS OTHERWISE SPECIFIED
ALL CAPACITORS ARE IN MICROFARADS &
ALL RESISTORS IN OHMS.

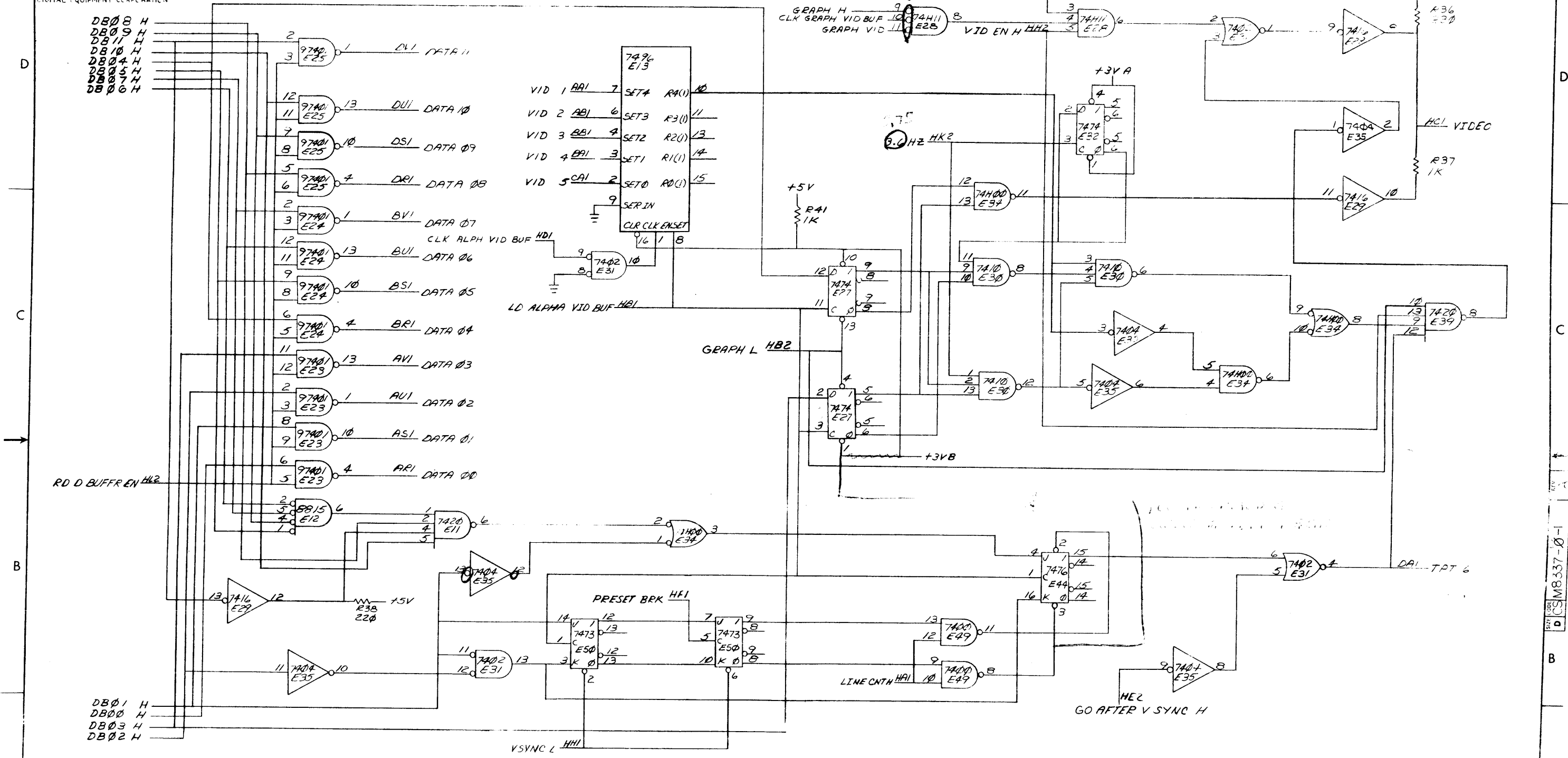


QTY	REF DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
1		SPACER, CABLE CLAMP	1202 704	43
REF		WIRE LIST	A-WLM8337-0-B	42
1	E21	I.C. DEC 5603	23-01542-03Y	41
1	E22	I.C. DEC 5603	23-01442-03Y	40
1	E26	I.C. DEC 5603	23-01342-03Y	39
10		SPLIT LVGS	9006735	38
3	E47, E48, E50	I.C. DEC 7473	1905587	37
1	E46	I.C. DEC 74474	1909667	36
1	E44	I.C. DEC 7476	1905585	35
1	E36	I.C. DEC 5384	1910394	34
2	E35, E37	I.C. DEC 7404	1909686	33
1	E34	I.C. DEC 74400	1909056	32
2	E31, E38	I.C. DEC 7402	1909004	31
2	E30, E52	I.C. DEC 7410	1905576	30
1	E29	I.C. DEC 7416	1909928	29
1	E28	I.C. DEC 74411	1909267	28
5	E27, E32, E41, E43, E51	I.C. DEC 7474	1905547	27
1	E53	I.C. DEC 74193	1910018	26
3	E18-E20	I.C. DEC 7495	1909055	25
4	E17, E33, E49, E42	I.C. DEC 7400	1905575	24
3	E14-E16	I.C. DEC 74157	1910655	23
1	E13	I.C. DEC 7496	1910363	22
1	E12	I.C. DEC 8815	1909713	21
2	E11, E39	I.C. DEC 7420	1905977	20
1	E10	I.C. DEC 5380	1910392	19
4	E6-E9	I.C. DEC 2518	2111049	18
10	E1-E5, E23, E24, E25, E40, E45	I.C. DEC 97401	1909973	17
2		EYELET STIMPSON (G54-7)	9006732	16
1		HANDLE, FLIPCHIP MAGENTA	9008337-6	15
4	R38-R40, R43	RES 220 Ω 1/4W 5%	1300271	14
3	R37, R41, R42	RES 1K 1/4W 5%	1300365	13
1	R36	RES 330 Ω 1/4W 5%	1300295	12
4	R32-R35	RES 10K 1/4W 5%	1300479	11
6	R8, R9, R28-R31	RES. 12K 1/4W 5%	1301320	10
24	R2-R7, R10-R27	RES. 7.5K 1/4W 5%	1301422	9
1	R1	RES. 27 Ω 1/2W 5%	1302253	8
1	D1	DIODE 1N4742 (ZENER)	1109502	7
30	C4-C25, C27-C34	CAP .01 μ F 100V 20% STANT	1001610	6
3	C1-C3	CAP 6.8 μ F 35V 20% STANT	1000067	5
1		ETCHED CIRCUIT BOARD	5010069	4
REF		MODULE ECO HISTORY	B-MH-M8337-0-6	3
REF		ASSY/DRILLING HOLE LAYOUT	D-MH-M8337-0-5	2
REF		X-Y COORDINATE HOLE LOC.	KCO-M8337-0-4	1

		FIRST USED ON OPTION MODEL		QTY		REF DESIGNATION		DESCRIPTION		PART NO.	
		VT8-E		ETCH BOARD REV		B		PARTS LIST			
ORIGINATED	CHANGE NO.	REVISIONS						DRN	DATE	 DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	TITLE
								CHK'D	DATE		
								ENG	DATE		
								PROD. ENG.	DATE		
								PROD.	DATE		
								NEXT HIGHER ASSY			
								B DD-VT8-E			
								SCALE			
								SHEET 2 OF			
								DIST.			

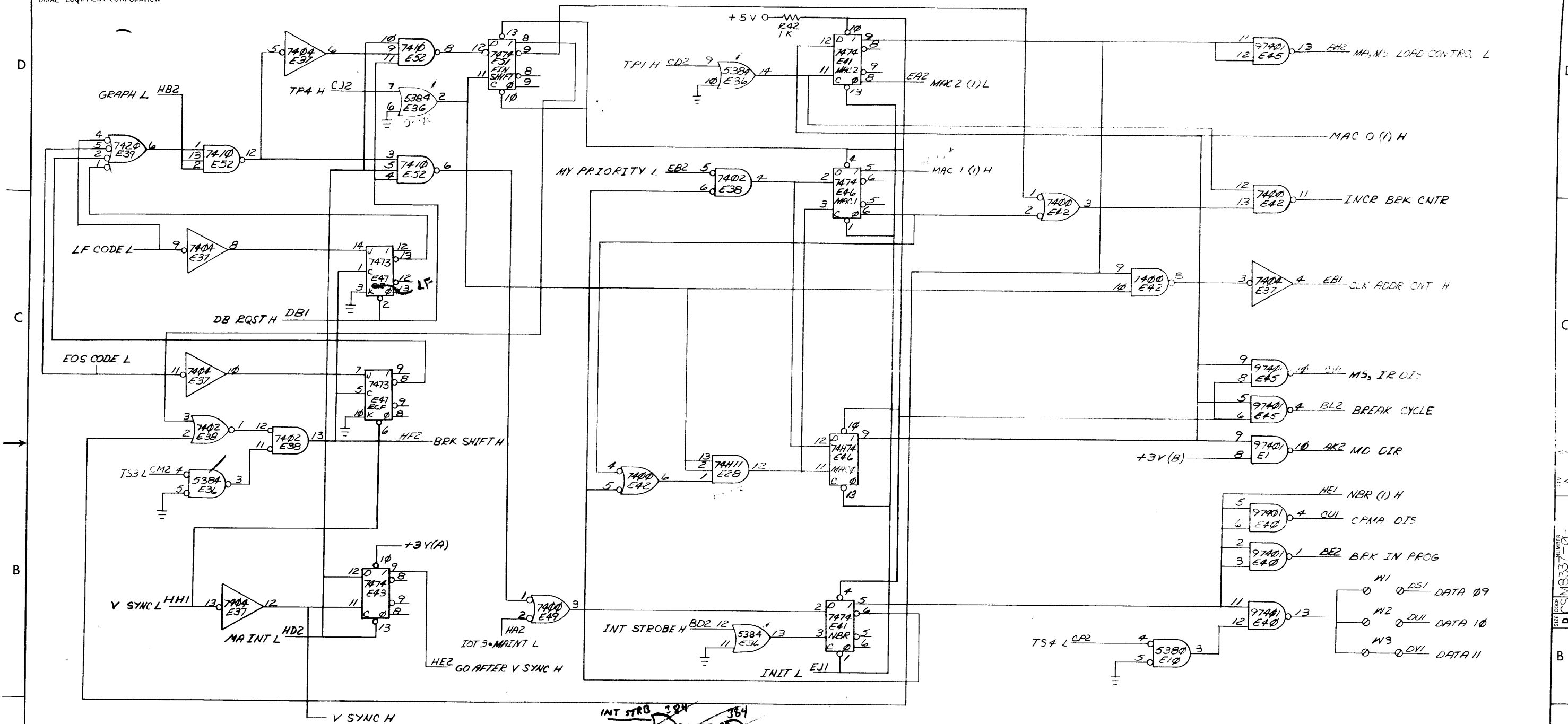


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REV	CHG	NO	DATE
1	1	1	1/2/72

FIRST USED ON OPTION/MODEL	QTY	DESCRIPTION	PART NO	ITEM NO
VT8-E				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRAWN DATE CHK'D DATE ENG DATE PROL'NG DATE PROD DATE	DATE DATE DATE DATE DATE DATE DATE DATE DATE DATE	DATE DATE DATE DATE DATE DATE DATE DATE DATE DATE	DATE DATE DATE DATE DATE DATE DATE DATE DATE DATE
DECIMALS XXX .005 XX .02 X .1	ANGLES 10' 30"	REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY	MATERIAL FINISH	SCALE SHEET 4 OF
NEXT HIGHER ASSY. B-DP VT8-E		TITLE VT8-E LINE BUFFER (LB2)		
SIZE CODE D		NUMBER M8337-0-1		
REV 1		REV 1		



BR/ING 40-107 15868

REV	CHK
REVISIONS CHANGE NO	

STOP L

UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES		DRN <i>m. A. 11/2/72</i>	DATE <i>11/2/72</i>
DECIMALS	ANGLES	CHK'D <i>[initials]</i>	DATE
XXX - .005		ENG <i>[initials]</i>	DATE
XX - .02	10 30	PROJ ENG <i>[initials]</i>	DATE
X - .1		PROD <i>[initials]</i>	DATE
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ☒			
MATERIAL <i>1 - 1</i>		NEXT HIGHER ASSY	
FINISH <i>+ .0004</i>		SCALE <i>NONE</i>	
		SHEET <i>5</i> OF	

DEC 1972
DR: 100-A

8 7 6 5 4 3 2 1

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MAYNARD MASSACHUSETTS

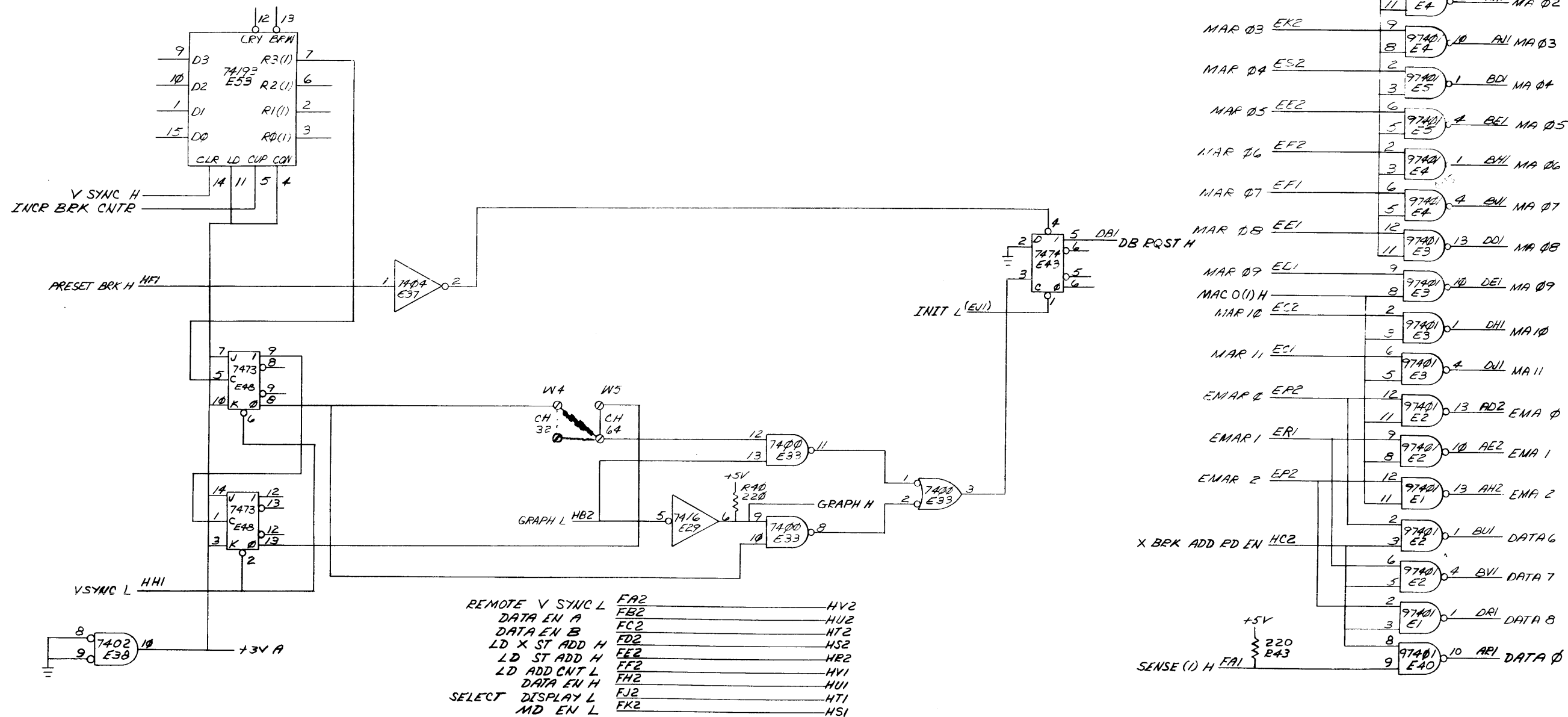
TITLE
LINE BUFFER (LB3)

SIZE CODE
B-11-VI-E

DIST
CS

NUMBER
M8337-0-1

REV
A

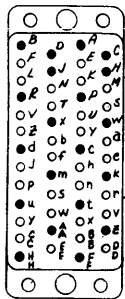


FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
VT8-E		PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES		DRN.	DATE	 digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
		CHK'D.	DATE		
DECIMALS	ANGLES	ENG.	DATE		
XXX : .005 XX : .02 X : .1	± 0° 30'	PROJ. ENG.	DATE		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY ✓		PROD.	DATE		
MATERIAL		NEXT HIGHER ASSY.		TITLE VT8-E LINE BUFFER	
		B-DD-VT8-E			
FINISH		SCALE			
		SHEET 6 OF	SIZE CODE	NUMBER	(LB4)
			D CS	M8337-Ø-1	REV. A
			DIST.		

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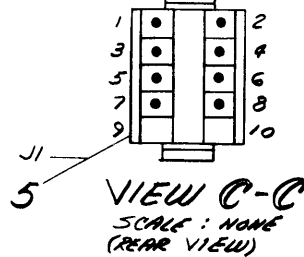
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LEGEND		
NUMBER	VARIATION	
	DIM "X"	DIM "Y" REF
7009042-15	15 FT ± 3 IN	15 FT 4 IN ± 3 IN



VIEW B-B
SCALE: NONE
(REAR VIEW)

WIRE TABLE						
ITEM NO	DESCRIPTION	FROM	TO	WITH	CONNECTION	CUT POINT
9	*22 GRN	J2-F	J3-B	*2		3
11	*22 BLK	J2-J	J3-AA			4
9	*22 BLK	J2-T	J3-FF			8
9	*22 ORN	J2-Z	J3-HH	*2		10
11	*22 BLK	ITEM #7	J1-2			6
12	*22 WHT	ITEM #7	J1-1			6

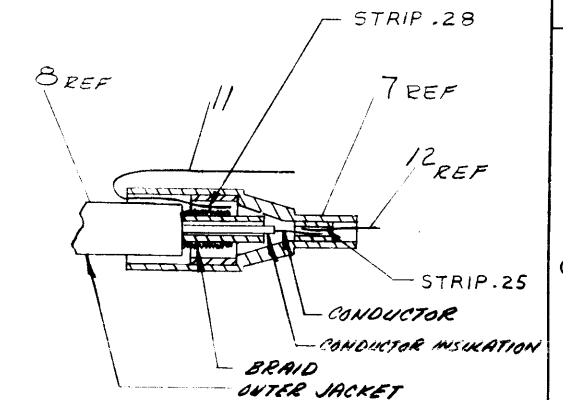


VIEW C-C
SCALE: NONE
(REAR VIEW)

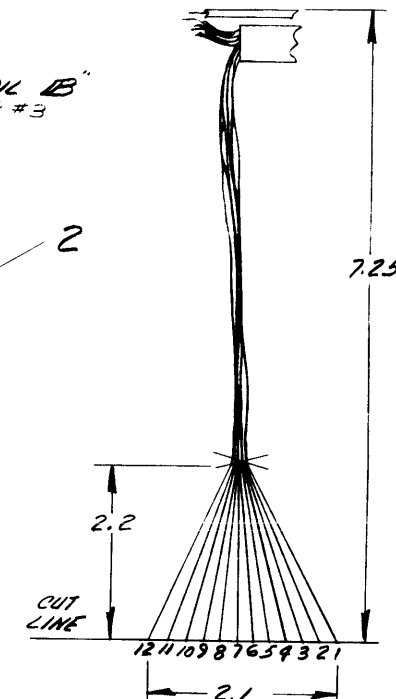
WIRE TABLE						
ITEM NO	DESCRIPTION	FROM	TO	WITH	CONNECTION	CUT POINT
11	*22 BLK	ITEM #7	J3-A	*2		
9	*22 BLK	J1-4	J3-C			
	*22 WHT	J1-3	J3-D			
	*22 BLK	J1-6	J3-H			
	*22 RED	J1-5	J3-J			
	*22 WHT	J1-7	J3-P			
	*22 RED	J1-8	J3-R			
	*22 BLK	J2-DD	J3-W			12
	*22 BRN	J2-BB	J3-X			11
	*22 BLK	J2-C	J3-C			1
	*22 YEL	J2-D	J3-D			2
	*22 BLK	J2-N	J3-K			6
	*22 BLU	J2-L	J3-M			5
	*22 BLK	J2-V	J3-E			9
9	*22 GRN	J2-R	J3-U	*4		7
12	*22 WHT	ITEM #7	J3-B	*2		

NOTES:

1. MANUFACTURING SHOULD USE MACHINE CRIMPER. TOOL FOR CRIMPING PINS (ITEM NO 4) MUST BE HT66 FROM BERG ELECT.
2. INSULATION AND DRAIN WIRE TO BE CUT BACK AS SHOWN ON DRAWING.
3. FOR CRIMPING OF ITEM #7 (SPICE) USE HAND TOOL AMP #69241-1
4. USE BRADY MARKERS FOR M8335.

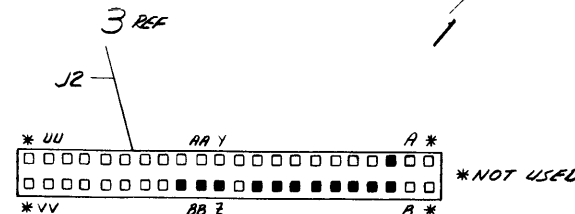


DETAIL "B"
SCALE: NONE
(2 PLACES)



DETAIL "A"

DO NOT REDUCE
FOR MFG. PURPOSES ONLY



VIEW A-A
SCALE: NONE
(REAR VIEW)

(WITH ITEM 13 REMOVED)

1	STRAIN RELIEF	1211166	13
11R	WIRE *22 AWG WHT	9107350-99	12
11R	WIRE *22 AWG BLK	9107350-00	11
11R	TIE WRAP	9007031	10
11R	CABLE *22 AWG	9107687	9
11R	CORX CABLE 174 A/U	9107530	8
2	TERMA-SHIELD SPLICE	1211312	7
8	TERM. PIN (MALE)	1209978-01	6
1	CONN. 10 PIN	1210882-10	5
12	SOCKET PINS	1210089-4	4
1	HOUSING PIN	1210918-15	3
20	SOCKET CONTACT *100-1020S	1210290-1	2
1	CONN. PLUG	1209569-0	1

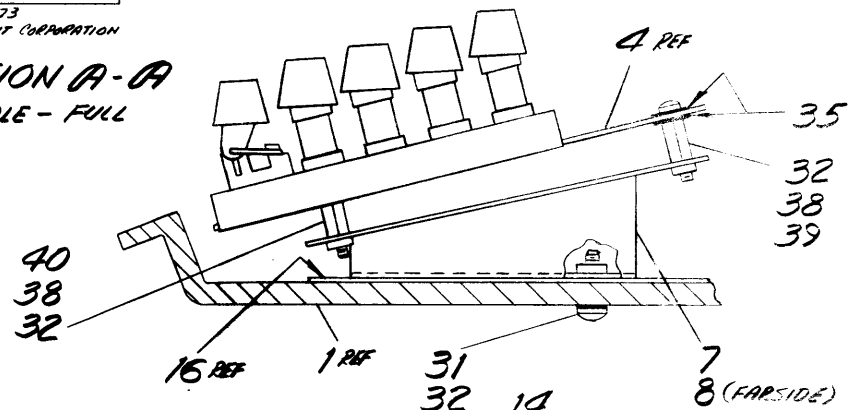
FIRST USED ON OPTION/MODEL VT8-E	QTY.	DESCRIPTION	PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	DATE	PARTS LIST	
XXX .005	±0.00	12/1/72	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
XX .01		12/1/72	TITLE VT8-E	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		DATE	REV	
MATERIAL SEE PARTS LIST		DATE	DIA 7009042-0-C	
FINISH		SCALE	SHEET 1 OF 1	

BRUNING 40-107 15968
REV
CHANGE NO
CHK
DRG 100-A

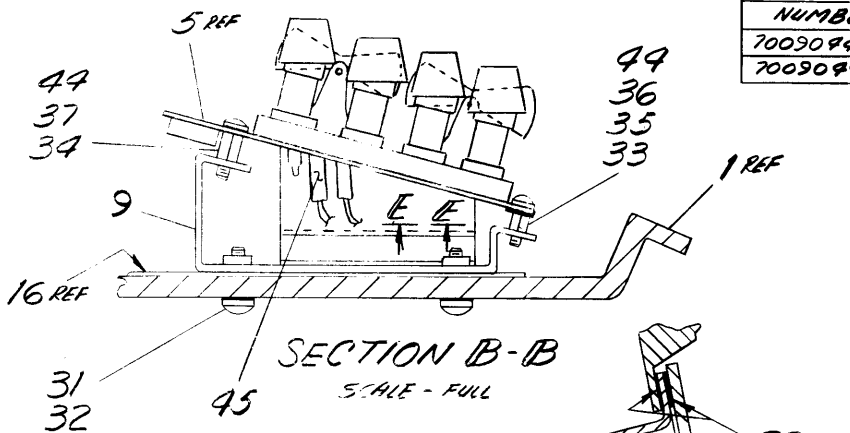
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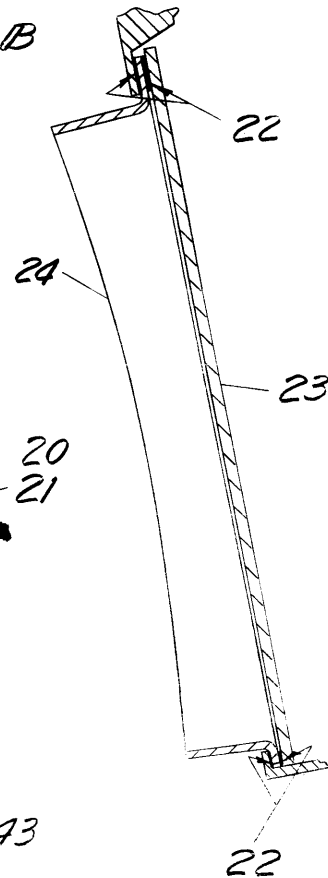
SECTION A-A SCALE - FULL



SECTION B-B SCALE - FULL



SECTION C-C SCALE - NONE



LEGEND	
NUMBER	VARIATION
7009044-1	115V
7009044-2	230V

QTY.	DESCRIPTION	PART NO.	ITEM NO.
4	SCR. PK. TRUSS HD 1/4-20 X 1.0 LG	3006060-3	35
1	BASEBOARD MOUNTING	D-MD-7605376-0-0	34
2	SCR. NYLON "6-32 X .25	9009041-2	33
1	INSULATOR	B-MD-7909285-0-0	32
2	CONN SOLDERLESS (RED)	9006780	31
4/R	TIE WRAP	9007031	30
2	CONN SOLDERLESS (BLU)	9007927	29
3	CONN SOLDERLESS (BLU)	9007970	28
2	CONN SOLDERLESS (RED)	9007917	27
4/R	WIRE "18 AWG TWP RED/WHIT	307430-29	26
4/R	TUBING, SHRINKABLE	9107305	25
8	WASH INT TOOTH "4	9006632	24
8	NUT KEPS "4-40	9006557	23
4	SCR. PK. PAN HD "4-40 X 3/8 LG	9006041-1	22
4	SCR. PK. PAN HD "4-40 X 3/8 LG	9006079-1	21
2	SPACER "8 X 1/2 LG HEX	9007977	20
2	SPACER "8 X 3/8 LG HEX	9006802	19
4	SCR. PK. PAN HD "8-32 X 1 LG	9006043-1	18
2	SPACER "6 X 3/16 LG HEX	9006799	17
2	SPACER "6 X 3/16 LG HEX	9006796	16
6	WASH FLAT NYLON .187 I.D.	9006713	15
2	SCR. PK. PAN HD "4-40 X .50 LG	9006013-1	14
2	SCR. PK. PAN HD "4-40 X .94 LG	9006012-1	13
10	WASH INT TOOTH "8	9006639-1	12
6	SCR. PK. PAN HD "8-32 X .62 LG	9006040-1	11
4	WASH INT TOOTH "10	9006635	10
8	NUT KEPS "6-32	9006560	9
1	CLAMP, CABLE NYLON .38	9007083	8
1	CABLE, KEYBOARD INTERCONN.	C-IA-7008612-0-0	7
1	BUTTON POKER SWITCH	B-SC-1210393-0-0	6
1	BUTTON POKER SWITCH	B-SC-1210398-0-0	5
1	VT85 SCOPE MASK	D-SC-1210479-0-0	4
1	SHIELD SCOPE	D-IA-7408585-0-0	3
4/R	TAPE 1/4 WIDE	9008839-1	2
1	POWER CORD REWORK	C-IA-7008502-9-0	1
1	POWER CORD REWORK	C-IA-7008432-9-0	0
1	POWER HARNESS	E-IA-7008979-0-0	19
1	CIRCUIT BREAKER 3A-208-101	1210292	18
1	SNAP BUSHING 58875-6	9008112	17
1	SCREEN, PROTECTIVE	E-MD-7408891-0-0	16
1	BRACKET MTG SWITCH	B-IA-7408894-0-0	15
8	WASH INT TOOTH LOCK "6	9006633	14
8	SCR. PK. PAN HD "6-32 X .50 LG	9006029-1	13
4	NUT, SPEED TWIN "18901-632-4	9006584	12
1	CAP. 2X.1MFD 1000 VDC	1000034	11
1	SPEAKER 16 OHM 1/4 W QUAM	1210299	10
1	BRACKET SM. KEYBOARD	D-IA-7408852-0-0	9
1	BRACKET LG. KEYBOARD L.H.	C-IA-7407408638-0-0	8
1	BRACKET LG. KEYBOARD R.H.	C-IA-7408638-1-0	7
1	POT ASSY	D-MD-7001232-0-0	6
1	CURSOR BD ASSY KEYBOARD	D-AD-5410229-0-0	5
1	KEYBOARD ASSY	D-AD-540994500	4
1	SCOPE ASSY	3010326	3
1	COVER, REWORK	D-IA-7408900-0-0	2
1	PLASTIC BASE	E-PS-1210913-0-0	1

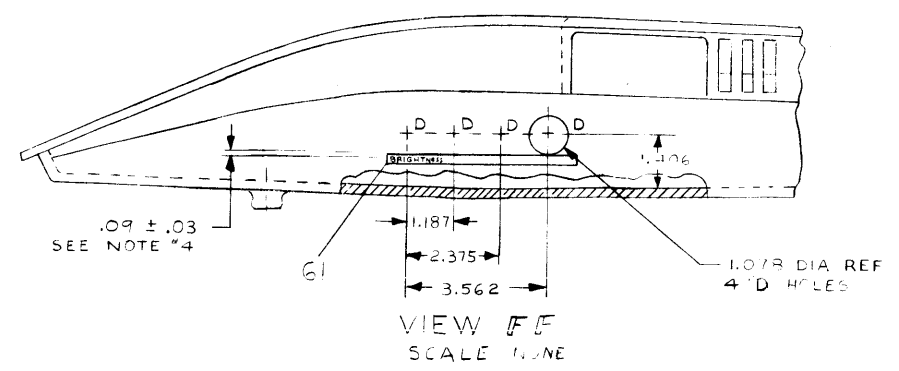
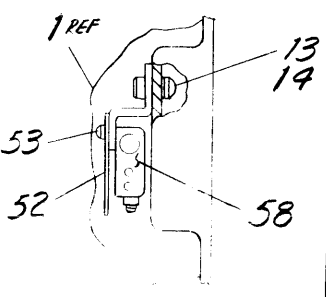
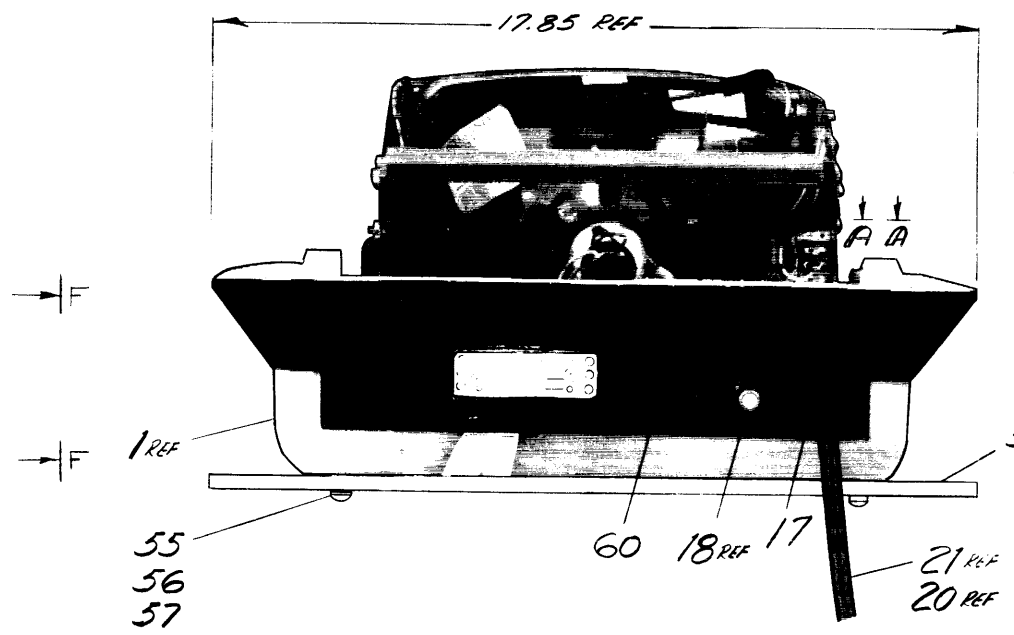
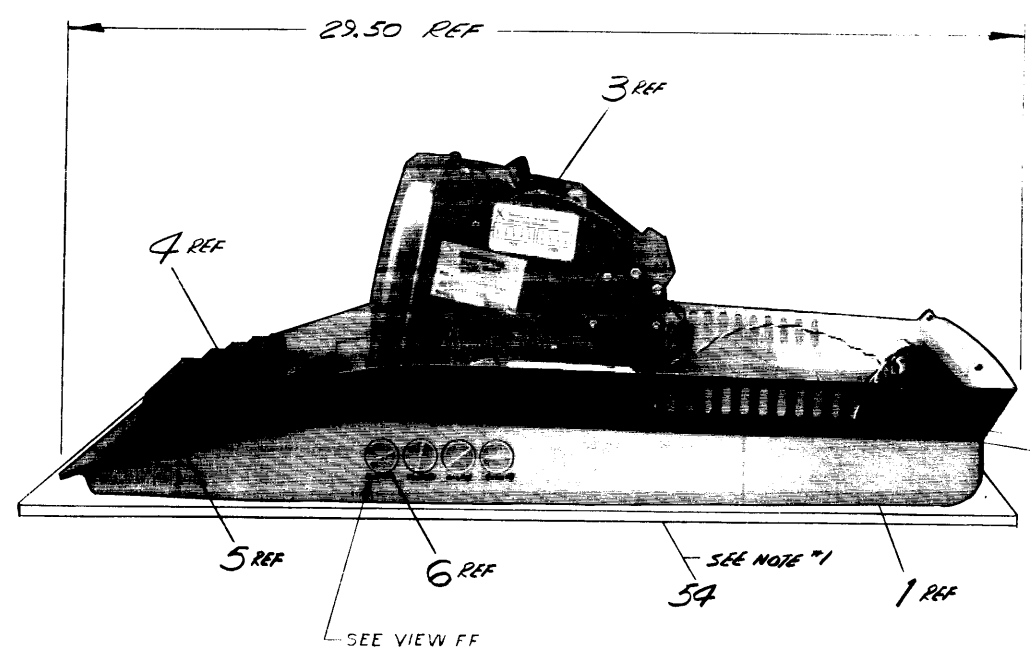
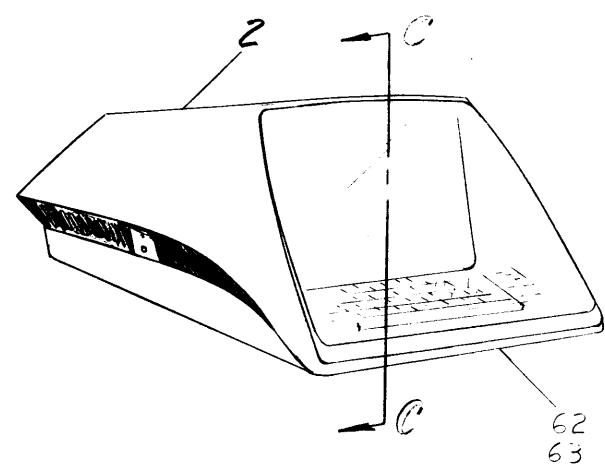
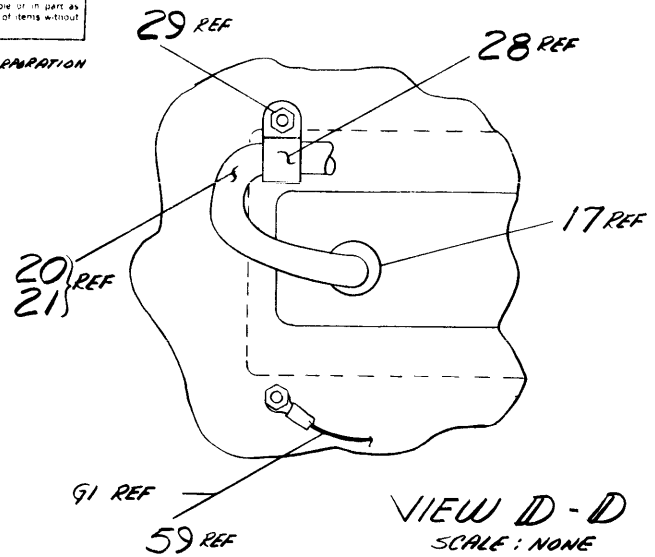
FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
VT8-E				
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	TITLE		
XXX - .005	± 0° 30'	VIDEO TERMINAL		
XX - .02		DIGITAL EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS		
X - .1				
REMOVE BURRS AND BREAK SHARP CORNERS. SURFACE QUALITY				
MATERIAL				
FINISH				
NEXT HIGHER ASSY				
SCALE				
SHEET				
SIZE CODE				
NUMBER				
REV.				
D-AD-7009044-0-C				
DIST.				

REV	NO	DATE
1	1	10/1/72
2	1	10/1/72
3	1	10/1/72
4	1	10/1/72
5	1	10/1/72
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97	1	10/1/72
98	1	10/1/72
99	1	10/1/72
100	1	10/1/72

DEC FORM NO
DRD 100-A

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- NOTE:
1. ASSEMBLE BASEBOARD (ITEM #54) TO BASE (ITEM #1) FIRST, BEFORE ASSEMBLING ANY OTHER ITEMS.
 2. 62 IS LOWER SCREW ON SIDE OF SCOPE ASSY CHASSIS.
 3. 1009044-1 SWITCH POSITION IS 115V
704044-2 SWITCH POSITION IS 230V
 4. DECAL HAS PRESSURE SENSITIVE ADHESIVE. LOCATE AS SHOWN, WHERE .097.03 DIMENSION IS DISTANCE BETWEEN THE TOP OF PRINTING AND BOTTOM EDGE OF 4 "D" HOLES.

QTY	DESCRIPTION	PART NO.	ITEM NO.
4	SCR. PHL PAN HD #8-32 X .62 LG	9006040-1	63
4	WASH #1 FLAT .375 X .187 ID	9006660	62
1	DECAL, TV CONTROLS	3611183	61
1	PLATE, BACK	D-3A-7409806-0-0	60
AIR	WIRE #14 AWG BLK	9107370-00	59
1	SWITCH, INTERLOCK	1203566	58
4	WASH. INT TOOTH LOCK 1/4	9006637	57
4	WASHER 1/4 FLAT SST	9006669	56

FIRST-USED ON OPTION MODEL	QTY	DESCRIPTION	PART NO.	ITEM NO.
VT8-E	1	VIDEOTERM	D-3A-7409806-0-0	60
UNLESS OTHERWISE SPECIFIED, DIMENSION IN INCHES	DATE	DATE	DATE	DATE
TOLERANCES	CHK'D	DATE	DATE	DATE
DECIMALS	ANGLE	PROF'NG	DATE	DATE
XX .005	0 30	PROF'NG	DATE	DATE
XX .01		PROF'NG	DATE	DATE
X .1		PROF'NG	DATE	DATE
REMOVE BURRS AND SPEAK SHARP CORNERS, SURFACE QUALITY	PROF'NG	DATE	DATE	DATE
MATERIAL	NEXT HIGHER ASSY	DATE	DATE	DATE
FINISH	SCALE	DATE	DATE	DATE
	SCALE	DATE	DATE	DATE
	SCALE	DATE	DATE	DATE

REVISIONS
CHG
REV

D-3A-7409806-0-0

B

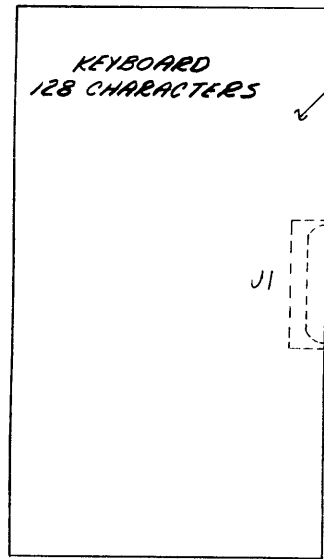
A

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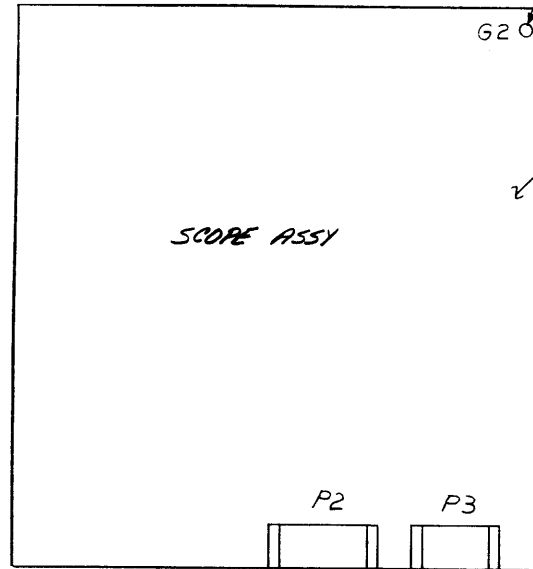
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HARNESS WIRE TABLE				
ITEM NO	DESCRIPTION	FROM HARNESS NUMBER	TO VTB-E UNIT LOCATION	
19	*22	P1	ITEM #60 BACK PLATE	
19	*18 WHT	POINT 1	C1-5	
19	TWP RED	POINT 2	C1-3	
19	*22	P2	FROM SCOPE ITEM #3	
19	*22	J1	ITEM #4 J1	
19	*22 WHT/GRN	POINT 31	SPI-2 ITEM #10	
19	*22 WHT/RED	POINT 32	SPI-1 ITEM #10	
19	*18 WHT	S1	SM KEYBOARD ON/OFF	
19	TWP RED			
19	*18 WHT			
19	*22 TWP RED	S2	SM KEYBOARD ON SENS/OFF	
19	TWP BLK			
6	—	POT ASSY	P3 ON SCOPE ITEM #3	

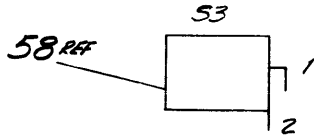
WIRE TABLE					
ITEM NO	DESCRIPTION	FROM	TO		
46	*18 RED	C1-4	*47	53-2	*51
	TWP WHT	CBI-2	*47	53-1	*51
20/21	— WHT	—	—	C1-6	*48
20/21	— GRN	—	—	G1	*49
20/21	— BLK	—	—	CBI-1	*48
59	*14 BLK	C1-2	*48	G1	*49
59	*14 BLK	C1-1	*48	G2	*49



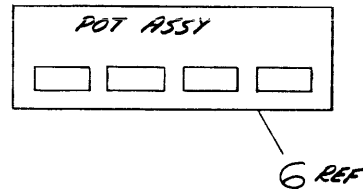
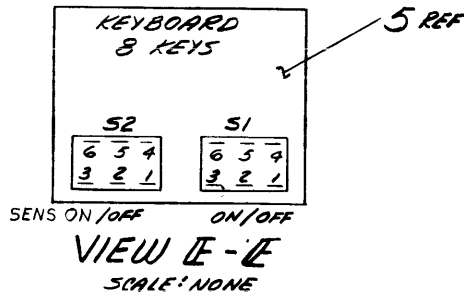
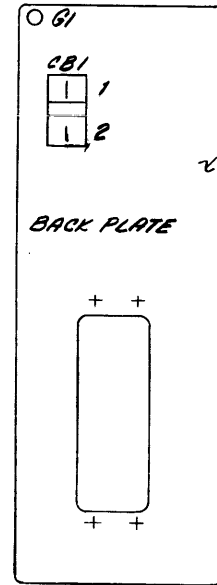
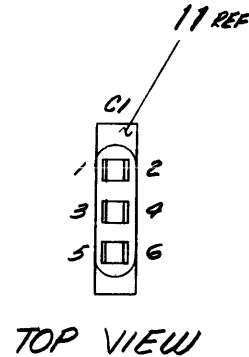
SPEAKER
SPI



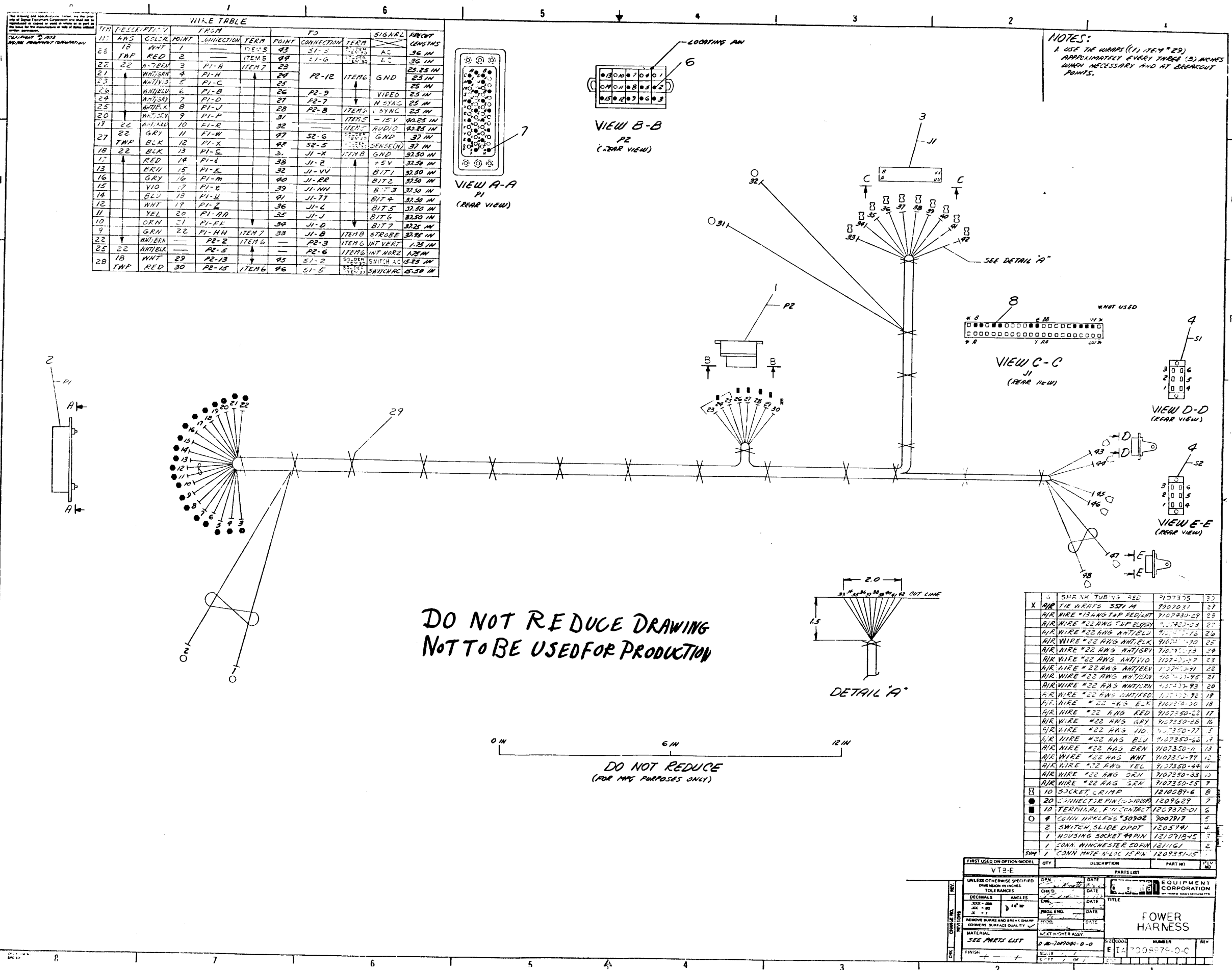
INTERLOCK SWITCH



SEE NOTE #2



FIRST USED ON OPTION/MODEL VTB-E	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DATE 8/2/73	DATE 1/4/73	TITLE VIDEO TERMINAL	
DECIMALS XXX - .005 XX - .02 X - .1	ANGLES ± 0° 30'	DATE 1/4/73	DATE 1/4/73	
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		DATE 1/4/73	DATE 1/4/73	
MATERIAL	NEXT HIGHER ASSY.	DATE 1/4/73		
FINISH	SCALE SHEET 3 OF 3	DATE 1/4/73		
SIZE CODE DAD 7009044-0-0		NUMBER REV		



WIRE TABLE									
ITEM	DESCRIPTION	FROM	TO	SIGNAL	LENGTH	ITEM	DESCRIPTION	FROM	TO
11	WHT	1	PI-1	ITEM 5	43	SI-2	AC	36 IN	
26	RED	2	PI-2	ITEM 5	43	SI-6	AC	36 IN	
22	WHT	3	PI-3	ITEM 7	23	P2-12	ITEM 6	GND	25 IN
21	WHT	4	PI-4		24	P2-9		VIDEO	25 IN
23	WHT	5	PI-5		25	P2-7		H SYNC	25 IN
24	WHT	6	PI-6		26	P2-8		ITEM 6	25 IN
25	WHT	7	PI-7		27	P2-5		ITEM 5	40.25 IN
20	WHT	8	PI-8		28	P2-6		ITEM 6	1.25 IN
17	WHT	9	PI-9		31	P2-15		ITEM 6	65.50 IN
22	GRY	10	PI-10		32	P2-1		ITEM 5	37 IN
18	BLK	11	PI-11		33	P2-3		ITEM 6	1.25 IN
17	RED	12	PI-12		34	P2-4		ITEM 6	1.25 IN
13	GRY	13	PI-13		35	P2-1		ITEM 5	37 IN
16	GRY	14	PI-14		36	P2-2		ITEM 6	1.25 IN
15	VIO	15	PI-15		37	P2-3		ITEM 6	1.25 IN
14	BLU	16	PI-16		38	P2-4		ITEM 6	1.25 IN
12	WHT	17	PI-17		39	P2-5		ITEM 6	1.25 IN
11	YEL	18	PI-18		40	P2-6		ITEM 6	1.25 IN
10	GRN	19	PI-19		41	P2-7		ITEM 6	1.25 IN
9	GRN	20	PI-20		42	P2-8		ITEM 6	1.25 IN
22	WHT	21	PI-21		43	P2-9		ITEM 6	1.25 IN
25	WHT	22	PI-22		44	P2-10		ITEM 6	1.25 IN
18	WHT	23	PI-23		45	P2-11		ITEM 6	1.25 IN
28	WHT	24	PI-24		46	P2-12		ITEM 6	1.25 IN

NOTES:
1. USE THE WIRE (1) ITEM #29
APPROXIMATELY EVERY THREE (3) INCHES
WHEN NECESSARY AND AT BREAKOUT
POINTS.

QTY	DESCRIPTION	PART NO.	REV.
1	SHRINK TUBING RED	9107305	30
1	WIRE TIE WRAFFS 55V M	9007031	27
1	WIRE *18 AWG TAP RED/ANT	9107330-29	25
1	WIRE *22 AWG TAP BLK/ANT	9107330-30	27
1	WIRE *22 AWG ANT/BLU	9107330-31	26
1	WIRE *22 AWG ANT/BLK	9107330-32	25
1	WIRE *22 AWG ANT/GRY	9107330-33	24
1	WIRE *22 AWG ANT/VIO	9107330-34	23
1	WIRE *22 AWG ANT/GRN	9107330-35	22
1	WIRE *22 AWG ANT/GRY	9107330-36	21
1	WIRE *22 AWG ANT/GRN	9107330-37	20
1	WIRE *22 AWG ANT/RED	9107330-38	19
1	WIRE *22 AWG ANT/BLU	9107330-39	18
1	WIRE *22 AWG ANT/RED	9107330-40	17
1	WIRE *22 AWG ANT/GRY	9107330-41	16
1	WIRE *22 AWG ANT/VIO	9107330-42	15
1	WIRE *22 AWG ANT/GRN	9107330-43	14
1	WIRE *22 AWG ANT/BLU	9107330-44	13
1	WIRE *22 AWG ANT/RED	9107330-45	12
1	WIRE *22 AWG ANT/GRY	9107330-46	11
1	WIRE *22 AWG ANT/GRN	9107330-47	10
1	WIRE *22 AWG ANT/BLU	9107330-48	9
1	WIRE *22 AWG ANT/RED	9107330-49	8
1	WIRE *22 AWG ANT/GRY	9107330-50	7
1	WIRE *22 AWG ANT/GRN	9107330-51	6
1	WIRE *22 AWG ANT/BLU	9107330-52	5
1	WIRE *22 AWG ANT/RED	9107330-53	4
1	WIRE *22 AWG ANT/GRY	9107330-54	3
1	WIRE *22 AWG ANT/GRN	9107330-55	2
1	WIRE *22 AWG ANT/BLU	9107330-56	1
1	WIRE *22 AWG ANT/RED	9107330-57	0
1	WIRE *22 AWG ANT/GRY	9107330-58	0
1	WIRE *22 AWG ANT/GRN	9107330-59	0
1	WIRE *22 AWG ANT/BLU	9107330-60	0
1	WIRE *22 AWG ANT/RED	9107330-61	0
1	WIRE *22 AWG ANT/GRY	9107330-62	0
1	WIRE *22 AWG ANT/GRN	9107330-63	0
1	WIRE *22 AWG ANT/BLU	9107330-64	0
1	WIRE *22 AWG ANT/RED	9107330-65	0
1	WIRE *22 AWG ANT/GRY	9107330-66	0
1	WIRE *22 AWG ANT/GRN	9107330-67	0
1	WIRE *22 AWG ANT/BLU	9107330-68	0
1	WIRE *22 AWG ANT/RED	9107330-69	0
1	WIRE *22 AWG ANT/GRY	9107330-70	0
1	WIRE *22 AWG ANT/GRN	9107330-71	0
1	WIRE *22 AWG ANT/BLU	9107330-72	0
1	WIRE *22 AWG ANT/RED	9107330-73	0
1	WIRE *22 AWG ANT/GRY	9107330-74	0
1	WIRE *22 AWG ANT/GRN	9107330-75	0
1	WIRE *22 AWG ANT/BLU	9107330-76	0
1	WIRE *22 AWG ANT/RED	9107330-77	0
1	WIRE *22 AWG ANT/GRY	9107330-78	0
1	WIRE *22 AWG ANT/GRN	9107330-79	0
1	WIRE *22 AWG ANT/BLU	9107330-80	0
1	WIRE *22 AWG ANT/RED	9107330-81	0
1	WIRE *22 AWG ANT/GRY	9107330-82	0
1	WIRE *22 AWG ANT/GRN	9107330-83	0
1	WIRE *22 AWG ANT/BLU	9107330-84	0
1	WIRE *22 AWG ANT/RED	9107330-85	0
1	WIRE *22 AWG ANT/GRY	9107330-86	0
1	WIRE *22 AWG ANT/GRN	9107330-87	0
1	WIRE *22 AWG ANT/BLU	9107330-88	0
1	WIRE *22 AWG ANT/RED	9107330-89	0
1	WIRE *22 AWG ANT/GRY	9107330-90	0
1	WIRE *22 AWG ANT/GRN	9107330-91	0
1	WIRE *22 AWG ANT/BLU	9107330-92	0
1	WIRE *22 AWG ANT/RED	9107330-93	0
1	WIRE *22 AWG ANT/GRY	9107330-94	0
1	WIRE *22 AWG ANT/GRN	9107330-95	0
1	WIRE *22 AWG ANT/BLU	9107330-96	0
1	WIRE *22 AWG ANT/RED	9107330-97	0
1	WIRE *22 AWG ANT/GRY	9107330-98	0
1	WIRE *22 AWG ANT/GRN	9107330-99	0
1	WIRE *22 AWG ANT/BLU	9107330-100	0

FIRST USED ON OPTION MODEL		QTY	DESCRIPTION	PART NO.	REV.
VT-3-E					
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES		DATE	PARTS LIST		
DECIMALS		DATE	TITLE		
FRACTIONS		DATE	FOWER HARNESS		
REMOVE BURRS AND BREAK SHARP CORNER SURFACE QUALITY		DATE	NUMBER		
MATERIAL		DATE	REV		
SEE PARTS LIST		DATE	E 14 7005979-0-0		
FINISH		DATE	SCALE		
		DATE	SHEET 1 OF 1		

DRAWING DIRECTORY

CUSTOMER PRINT SET INDEX

THIS IS PRINT SET

DRAWING DIRECTORY
KEYBOARD CIRCUIT
KEYBOARD ENCODING
KEYBOARD SCHEMATIC

SEQUENCE

TB-DD-LK01-Ø
D-6S-5409945-0-1
D-LD-5409945-0-2
D-CS-301 01 66-0-1

SEQUENCE

MFG PRINT SET

LK01 TESTER
LED TEST PROCEDURE

B-DD-LKØ1-TA
A-SP-5409945-TA-Ø

UNIT VARIATIONS

PRINT SET TYPE

VARIATION

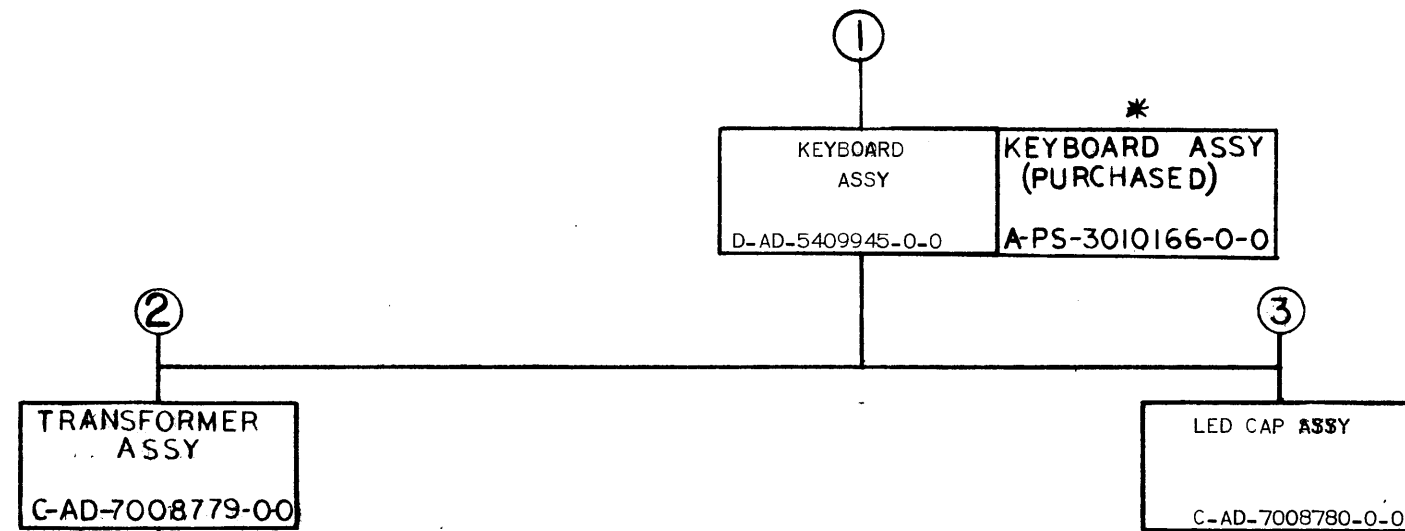
TITLE

LKØI-Ø

KEYBOARD

REVISIONS		CHG. NO.	REV
DATE	LK01-4		A

USED ON OPTION/MODEL		DRN. <i>K. Russ</i>	DATE <i>1-31-72</i>	TITLE KEYBOARD					
		CHK'D. <i>K. Russ</i>	DATE <i>1-31-72</i>						
		PROJ ENG. <i>D Waddell</i>	DATE <i>2/14/72</i>						
		PROD. <i>S. Minolta</i>	DATE <i>2/14/72</i>						
		FIELD SERV.	DATE	SIZE B	CODE DD	NUMBER <i>LK01-0</i>			REV A
SHEET 1 OF 3			DIST	G					



* INDICATES KEYBOARD SUPPLIED UNDER SECOND SOURCE VENDER

TITLE	SHEET 2 OF 3	SIZE CODE	NUMBER	REV
KEYBOARD	B DD	LKØi-Ø	A	

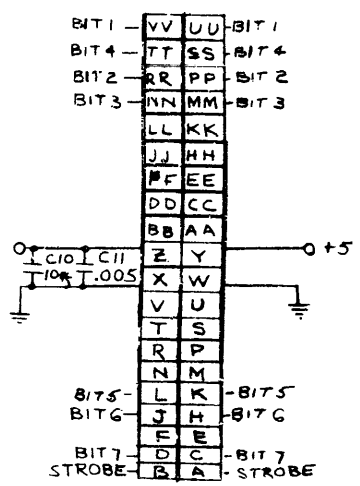
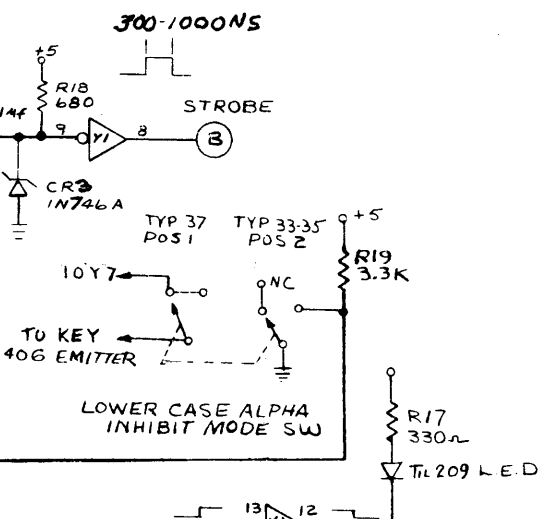
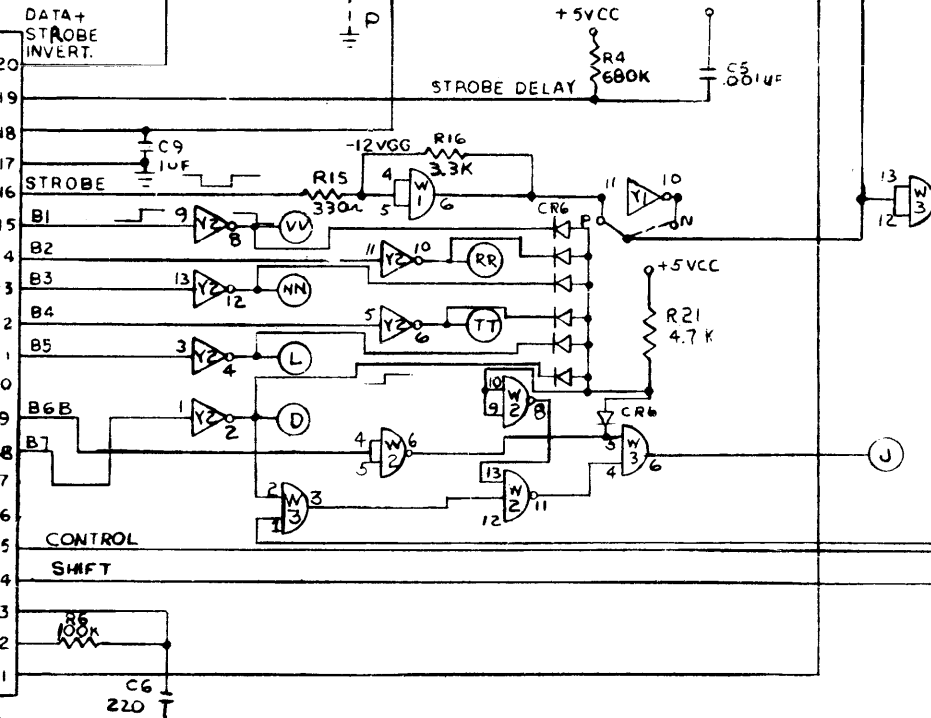
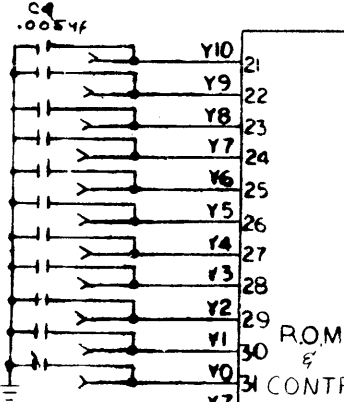
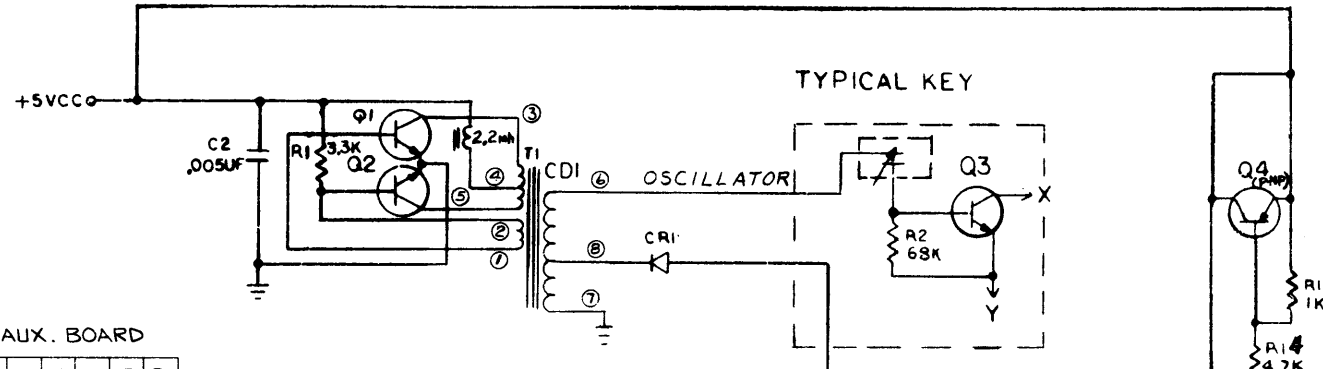
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3 409945-0-1 2

CONN. AUX. BOARD

1 2 3 4 5 6 7 8
X2 Y5 Y7 Y6 X4 Y8

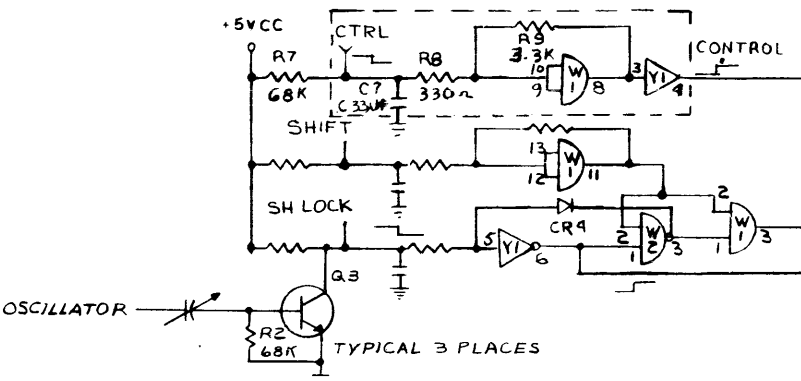
TYPICAL KEY



IC DESCRIPTION	
SYMBOL	TYPE
Y1, Y2	7404
W1, W3	7408
W2	7400
R.O.M.	0017
TRANS.	-4

REV.	CHANGE NO.	REV.
1	5409917-00001	A
2	5409917-00001	B
3	5409917-00001	C
4	5409917-00001	D
5	5409917-00001	E
6	5409917-00001	F
7	5409917-00001	G
8	5409917-00001	H
9	5409917-00001	I
10	5409917-00001	J
11	5409917-00001	K
12	5409917-00001	L
13	5409917-00001	M
14	5409917-00001	N
15	5409917-00001	O
16	5409917-00001	P
17	5409917-00001	Q
18	5409917-00001	R
19	5409917-00001	S
20	5409917-00001	T
21	5409917-00001	U
22	5409917-00001	V
23	5409917-00001	W
24	5409917-00001	X
25	5409917-00001	Y
26	5409917-00001	Z
27	5409917-00001	0
28	5409917-00001	1
29	5409917-00001	2
30	5409917-00001	3
31	5409917-00001	4
32	5409917-00001	5
33	5409917-00001	6
34	5409917-00001	7
35	5409917-00001	8
36	5409917-00001	9
37	5409917-00001	10
38	5409917-00001	11
39	5409917-00001	12
40	5409917-00001	13
41	5409917-00001	14
42	5409917-00001	15
43	5409917-00001	16
44	5409917-00001	17
45	5409917-00001	18
46	5409917-00001	19
47	5409917-00001	20
48	5409917-00001	21
49	5409917-00001	22
50	5409917-00001	23
51	5409917-00001	24
52	5409917-00001	25
53	5409917-00001	26
54	5409917-00001	27
55	5409917-00001	28
56	5409917-00001	29
57	5409917-00001	30
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69	5409917-00001	42
70	5409917-00001	43
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100	5409917-00001	73
101	5409917-00001	74
102	5409917-00001	75
103	5409917-00001	76
104	5409917-00001	77
105	5409917-00001	78
106	5409917-00001	79
107	5409917-00001	80
108	5409917-00001	81
109	5409917-00001	82
110	5409917-00001	83
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113	5409917-00001	86
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116	5409917-00001	89
117	5409917-00001	90
118	5409917-00001	91
119	5409917-00001	92
120	5409917-00001	93
121	5409917-00001	94
122	5409917-00001	95
123	5409917-00001	96
124	5409917-00001	97
125	5409917-00001	98
126	5409917-00001	99
127	5409917-00001	100

TYP X6 THRU X0



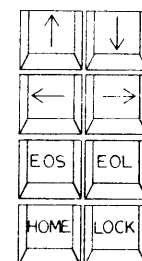
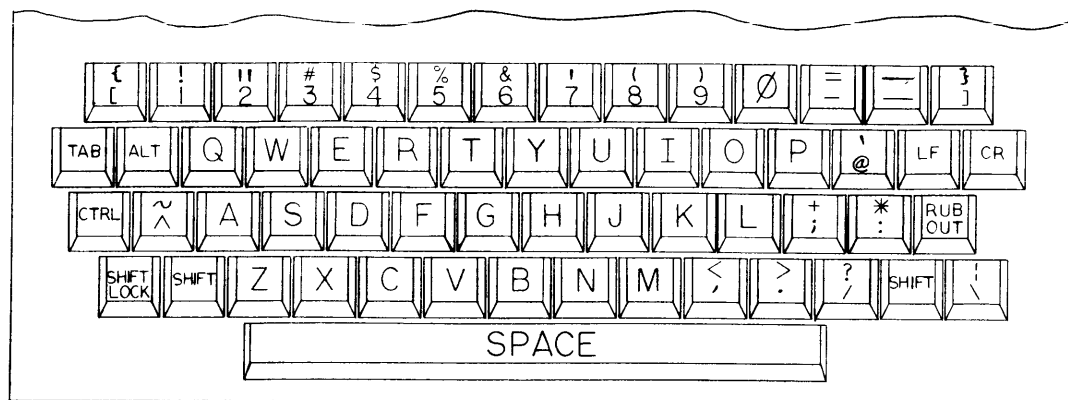
DO NOT SCALE DRAWING	DATE 8-27-71	DRN 5409917-00001
UNLESS OTHERWISE SPECIFIED	DATE 12-3-71	CHKD 5409917-00001
DIMENSIONS IN INCHES	DATE 12-3-71	ENG 5409917-00001
TOLERANCES	DATE 12-3-71	PROJ 5409917-00001
DECIMALS FRACTIONS ANGLES	DATE 12-3-71	DATE 12-3-71
± .005 ± 1/64 ± 0°30'	DATE 12-3-71	DATE 12-3-71
FINAL SURFACE QUALITY	DATE 12-3-71	DATE 12-3-71
REMOVE BURRS AND BREAK SHARP CORNERS	DATE 12-3-71	DATE 12-3-71
MATERIAL	DATE 12-3-71	DATE 12-3-71
FINISH	DATE 12-3-71	DATE 12-3-71
SCALE	DATE 12-3-71	DATE 12-3-71
SHEET 1 OF 1	DATE 12-3-71	DATE 12-3-71

QTY.	DESCRIPTION	PART NO.	ITEM NO.
1	DEC KEYBOARD #2	5409917-00001	1

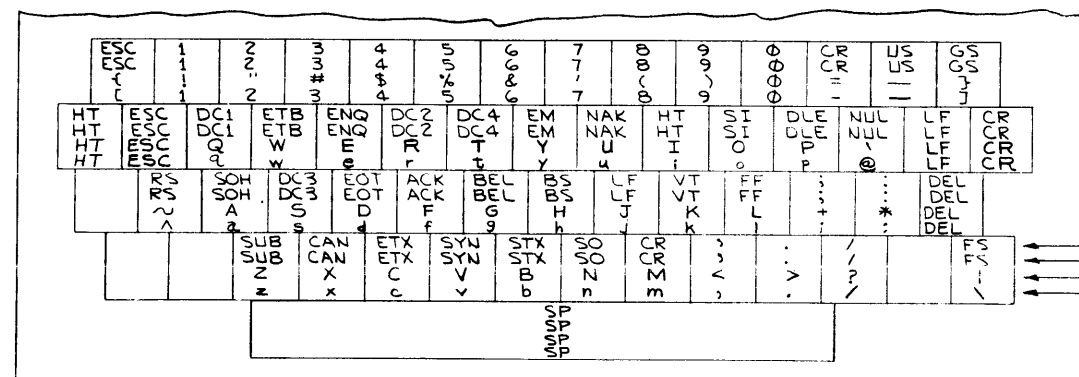
SIZE CODE	NUMBER	REV.
D	CS 5409917-0-1	E

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KEYBOARD KEY CAP CONFIGURATION

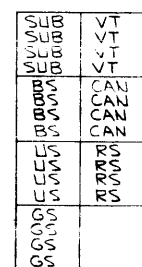


128 CHARACTER KEY ENCODING

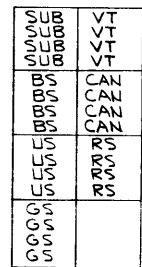
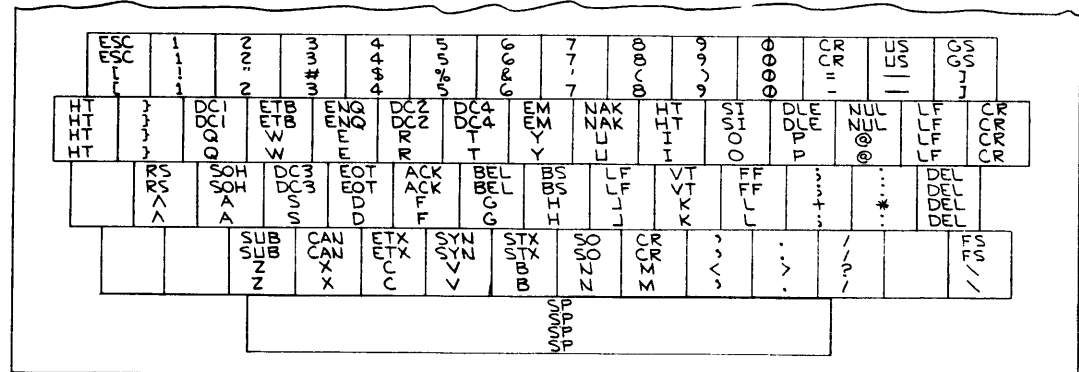


WITH SHIFT AND CONTROL
WITH CONTROL ONLY
WITH SHIFT ONLY
KEY ALONE

THIS APPLIES
TO ALL KEYS



97 CHARACTER KEY ENCODING



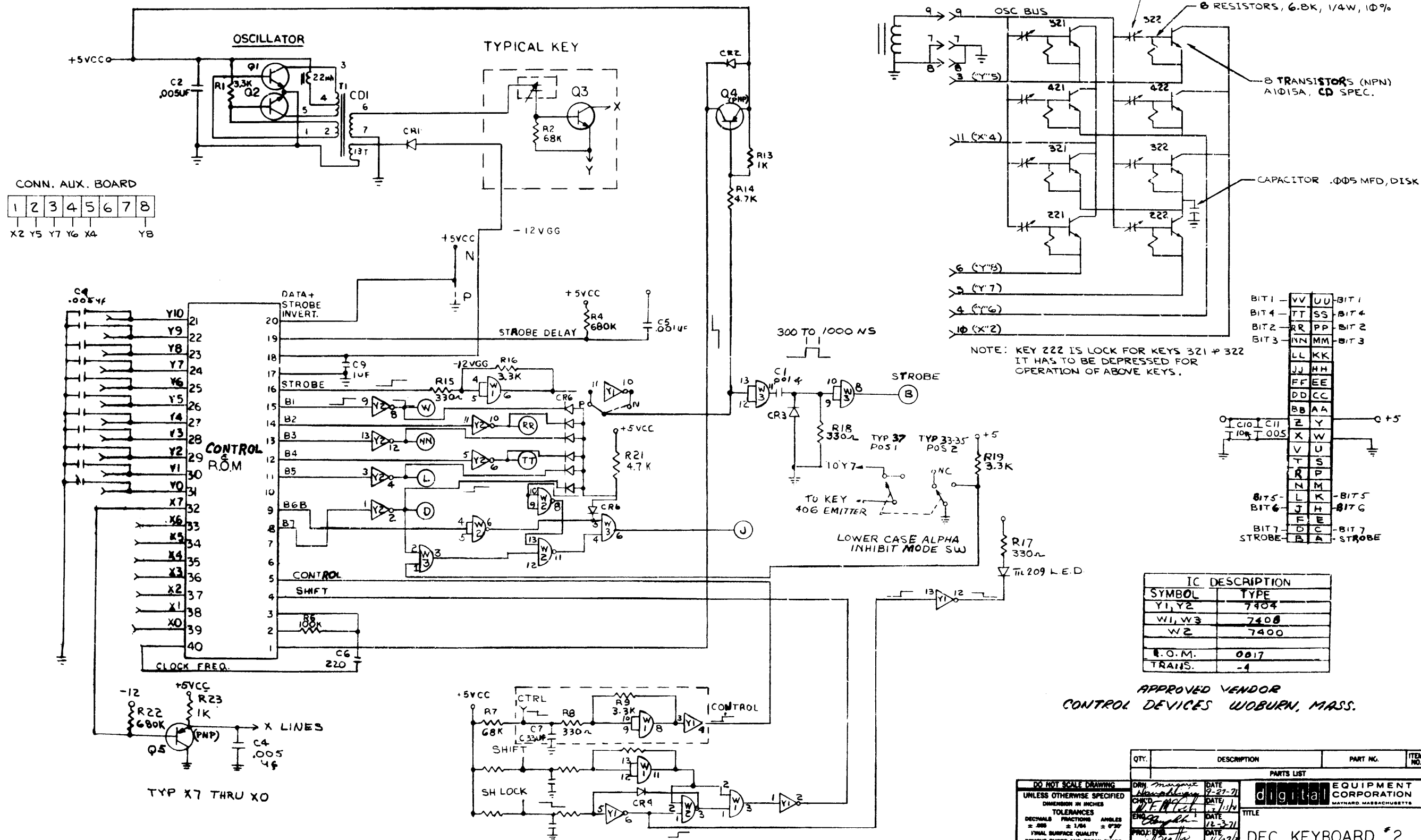
FIRST USED ON OPTION/MODEL D-AD-5409945-0-0	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES				
DECIMALS	ANGLES	DATE		
XXX - .006	±0° 30'	1-6-72		
XX - .02		1-17-72		
X - .1		2-14-72		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY				
MATERIAL	NEXT HIGHER ASSY	TITLE		
FINISH	SCALE	KEYBOARD #2 (ENCODING)		
	SHEET	SIZE CODE	NUMBER	REV
	OF	DLO	5409945-0-2	
	DIST			

REVISIONS	REV
CHANGE NO	
CHK	

DEC FORM NO
DRD 100-A

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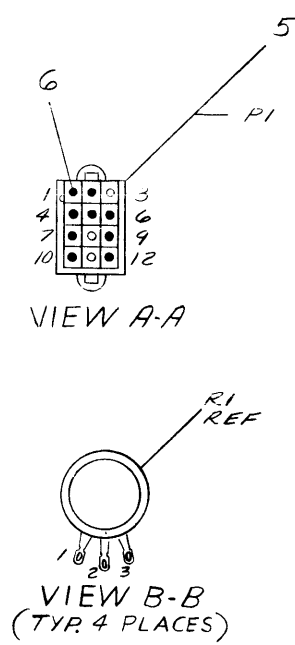
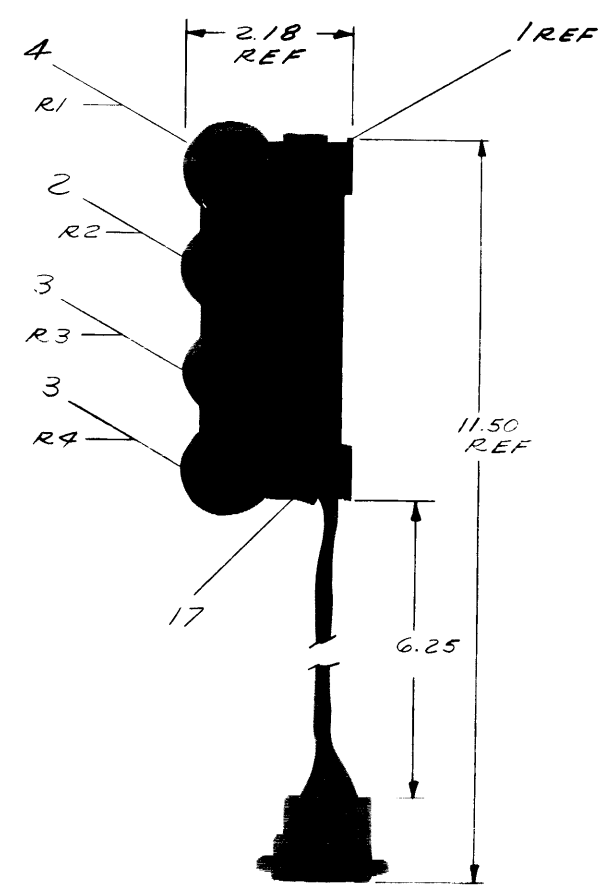
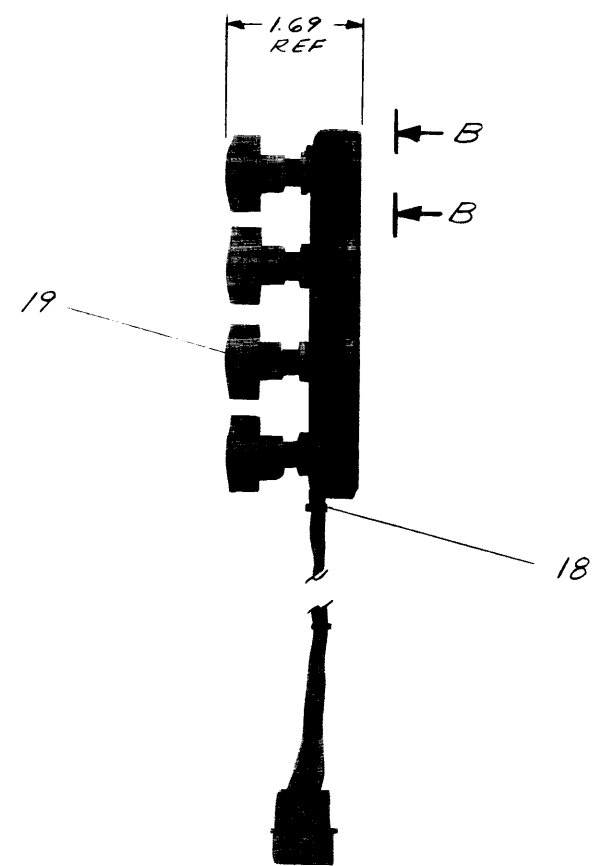
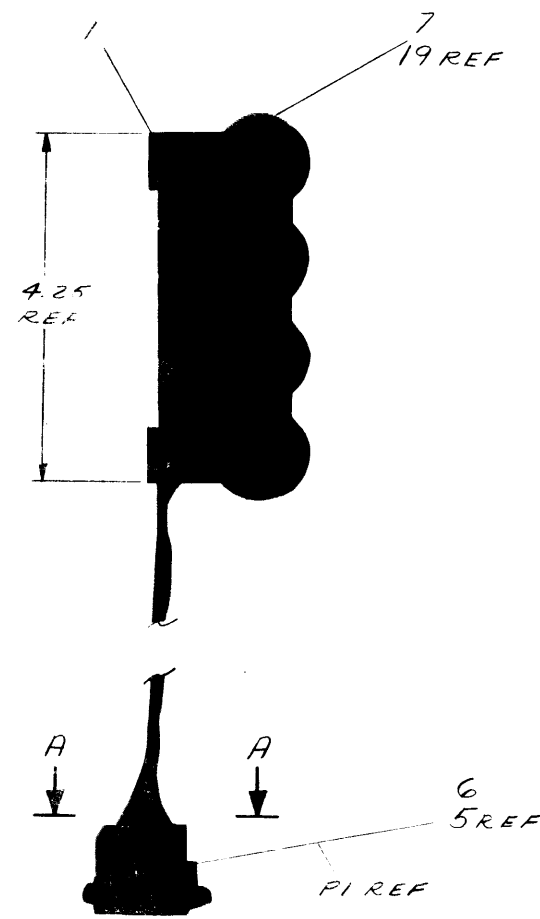
PURCHASE SPECIFICATION



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WIRE TABLE						
ITEM NO.	AWG	COLOR	FROM		TO	
			CONNECTION	WITH	CONNECTION	WITH
8	22	BLK	R1-1	*	R2-3	—
8		BLK	R2-3	↑	P1-6	ITEM 6
16		WHT/BRN	R1-2		P1-2	
15		WHT/BLK	R1-3		P1-1	
14		WHT/RED	R2-1		P1-4	
13		WHT/DRN	R2-2		P1-5	ITEM 6
12		WHT/YEL	R3-2		R3-1	—
12		WHT/YEL	R3-1		P1-7	ITEM 6
11		WHT/GRN	R3-3		P1-9	ITEM 6
10		WHT/BLU	R4-2		R4-1	—
10		WHT/BLU	R4-1	↓	P1-10	ITEM 6
9	22	WHT/VIO	R4-3	*	P1-12	ITEM 6

* THIS CONNECTION REQUIRES THE USE OF ITEM 17 & SOLDER.



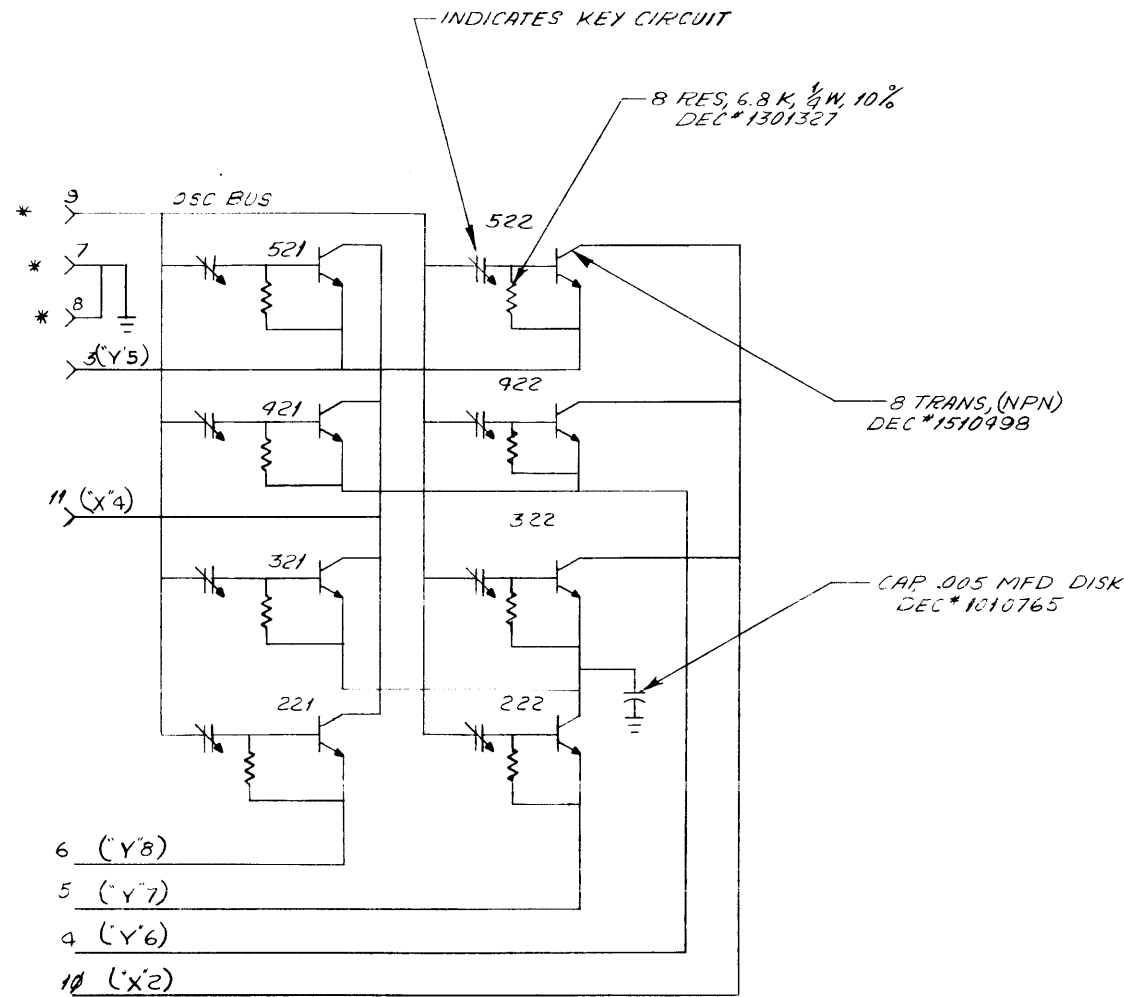
CHK	SEC	DATE	TIME

FIRST USED ON OPTION/MODEL VT05		DO NOT SCALE DRAWING UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES DECIMALS FRACTIONS ANGLES ± .005 ± 1/64 ± 0°30' FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS		DATE 2-9-71	DATE 2-11-71	DATE 2-12-71	DATE 3-4-71
MATERIAL 1 - 1		NEXT HIGHER ASSY 0-UA-VT05-0-0		SCALE NONE		SHEET 1 OF 1	
FINISH 1 - 1		PARTS LIST digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS		TITLE POT ASSEMBLY		SIZE/CODE D AD 7007232-0-0	
						REV. A	

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1-0-42201015CS 2 1

NOTES:
1. KEY 222 IS LOCK FOR KEYS 321 & 322. IT HAS TO BE DEPRESSED FOR OPERATION OF ABOVE KEYS.
* 2. FOR REFERENCE INFORMATION SEE LWG NO. D-CS-5403945-0-1



REV	NO
1	1

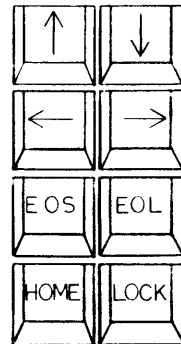
CHK	NO
1	1

FIRST USED ON OPTION/MODEL VT05	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES	DRN. <i>W. Miniat</i> DATE <i>7/17/72</i>	DATE <i>7/17/72</i>	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	
DECIMALS XXX - .005 XX - .02 X - .1	ANGLES +0° 30'	ENG. <i>h</i> DATE <i>7/17/72</i>	TITLE CURSOR BOARD (KEYBOARD)	
REMOVE BURRS AND BREAK SHARP CORNERS. SURFACE QUALITY	PROJ. ENG. <i>h</i> DATE <i>7/17/72</i>	PROD. <i>R. Daw</i> DATE <i>8/4/72</i>		
MATERIAL + + +	NEXT HIGHER ASSY + + +	SIZE/CODE D	NUMBER CS5410224-0-1	REV.
FINISH + + +	SCALE NONE	SHEET OF	DIST	

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NOTES:

1. CODES SHOWN ARE THE ASCII OUTPUTS FROM THE MAIN KEYBOARD, WHEN THE CURSOR KEYS ARE OPERATED.



KEYCAP CONFIGURATION

SUB	VT
BS	CAN
US	RS
GS	

FIRST USED ON OPTION/MODEL		QTY.	DESCRIPTION	PART NO.	ITEM NO.
VT05					
PARTS LIST					
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES. TOLERANCES		DRN. 7/17/72	DATE 7/17/72	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
DECIMALS		CHK'D 7/17/72	DATE 7/17/72	TITLE	
ANGLES		ENG. 7/17/72	DATE 7/17/72	CURSOR BOARD ENCODING (KEYBOARD)	
.XXX = .005 .XX = .02 .X = .1		PROJ. ENG. 7/17/72	DATE 7/17/72		
REMOVE BURRS AND BREAK SHARP CORNERS SURFACE QUALITY		PROD. 8/4/72	DATE 8/4/72		
MATERIAL		NEXT HIGHER ASSY.			
FINISH		SCALE 1/1			
		SHEET OF		SIZE CODE C LO 5410224-0-8	
				NUMBER 5410224-0-8	
				REV.	