MASTER DRAWING LIST

DWG. NO.	REV. LET.	NO. OF SHEETS	TITLE
D-UA-DF10-0-0	L	2	DATA CHANNEL DF10 (60 HZ)
A-PL-DF10-0-0	L	4	DATA CHANNEL DF10 (60 HZ)
D-MU-DF10-0-3		3	MODULE UTILIZATION
A-PL-DF10-0-3		2	MODULE UTILIZATION
C-AD-7006140-0-0		1	CABLE SET DF10
D-DI-DF10-0-1	H	2	DRAWING INDEX LIST DF10
D-BS-DF10-0-CAD	A	2	ADDRESS DRIVERS CAD
D-IC-DF10-0-CBC	A	1	CHANNEL BUS CONN'S & TERMS
D-BS-DF10-0-CBL		1	DATA DISPLAY CONNECTORS
D-BS-DF10-0-CCA	A	1	DATA CHANNEL CONTROL A
D-BS-DF10-0-CCB	C	1	DATA CHANNEL CONTROL B
D-BS-DF10-0-CCC		2	DATA CHANNEL CONTROL C
D-BS-DF10-0-CCW	A	1	CONTROL WORD ADDRESS REGISTER (CCW)
D-BS-DF10-0-CDA		1	DATA ADDRESS REGISTER
D-BS-DF10-0-CIA	A	1	INITIAL ADDRESS REGISTER
D-BS-DF10-0-CPG	A	1	DATA CHAN PAR GEN
D-BS-DF10-0-MBL	A	2	MEMORY BUFFER Ø-17
D-BS-DF10-0-MBR	B	2	MEMORY BUFFER 18-35
D-BS-DF10-0-WCR	A	1	WORD COUNT REGISTER
D-BS-DF10-0-TERM	A	1	SIGNAL TERMINATIONS
D-FD-DF10-0-00A	C	1	FLOW CHART A
D-FD-DF10-0-00B	C	1	FLOW CHART B MEMORY CYCLE
D-FD-DF10-0-00C	B	1	FLOW CHART C
A-WL-DF10-0-5	A	3	DF-10 CHANNEL TWISTED PAIR
A-CP-DF10-0-6	B	2	DF-10 CHANNEL
K-WL-DF10-0-2		1	WIRE LIST
A-SP-DF10-0-7		6	CHANNEL MANUFACTURING TEST PLAN OUTLINE
A-SP-DF10-0-8		4	RECOMMENDED SPARE PARTS LIST
D-IC-DF10-0-4		1	WIRING POWER DC & AC
A-SP-DF10-0-9		3	CHANNEL MFG. TEST PLAN OUTLINE (ON LINE)
D-AD-7005561-0-0			WIRED ASSY
A-PL-7005561-0-0			WIRED ASSY

REVISIONS			
REV.	DATE	CHG. NO.	APP'D.
A	2/22/68	4	A.J.
B	2/26/68	6	A.J.
C	3/68	16	A.J.
D	5/68	33	A.J.
E	7/9/68	00001	A.J.
F	7/68	00002	R.W.
H	10/68	00003	A.J.
J	1/7/69	00004	A.J.
K	10/7/69	00005	A.J.
L	10/69	00006	A.J.
M	10/70	Misc79	A.K.

DRN. HUHTALA — DATE 8/23/67
CHK'D — DATE 10/4/67
ENG. — DATE 1/15/68
PROJ. ENG. — DATE 1/15/68
PROD. — DATE 1-16-68
FIRST USED ON: D-UA-DF10-0-0
SCALE:
SHEET 1 OF 1

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE: DATA CHANNEL (60 HZ)

SIZE	CODE	NUMBER	REV
A	ML	DF10-0	

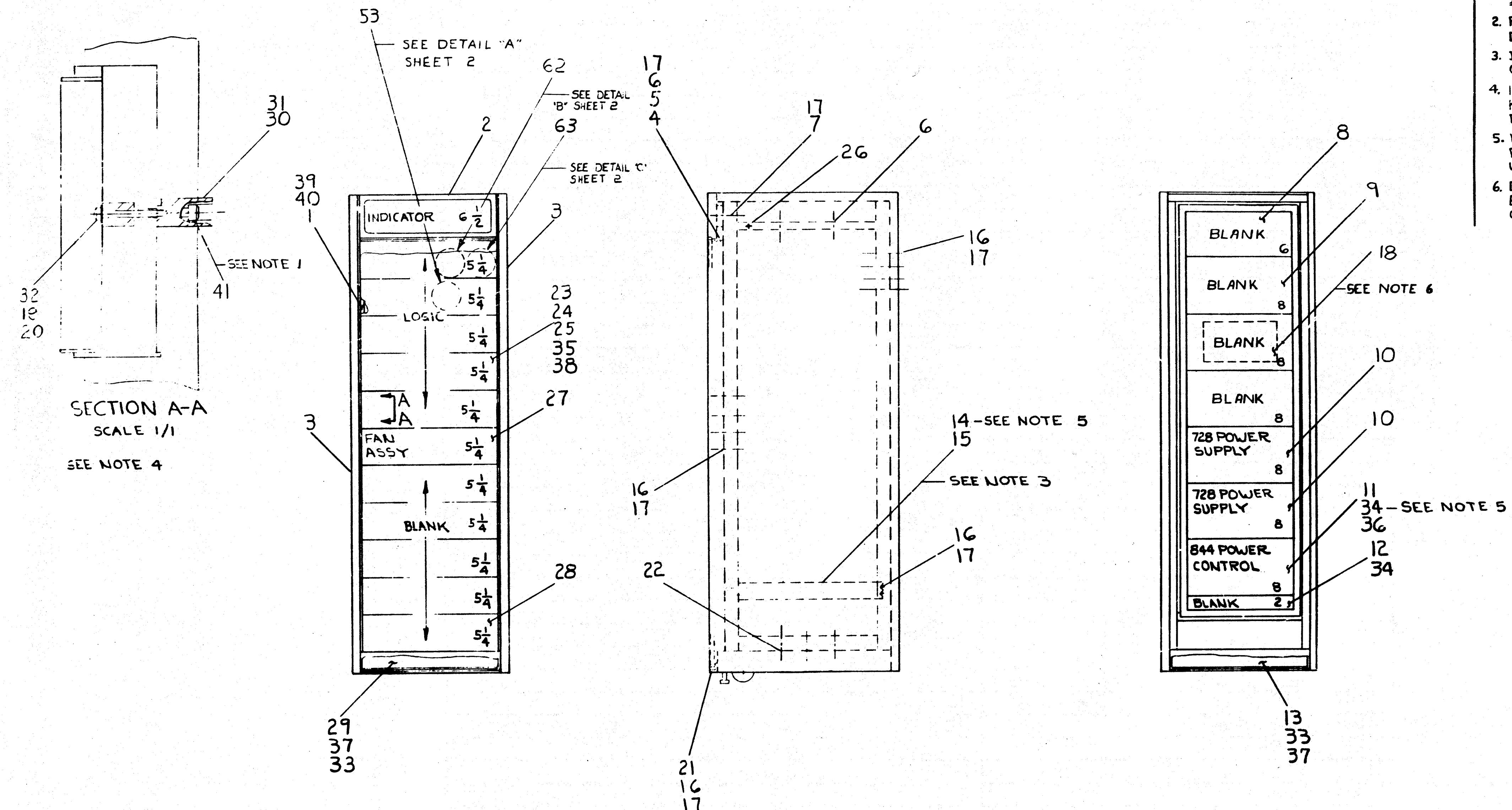
DIST.

DEC FORM NO. DRA 193

LEGEND	
NUMBER	VARIATION
DF10-A	60 HZ
DF10-B	50 HZ

NOTE:

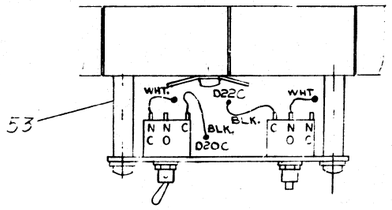
1. ITEM #41 USED WITH ITEM #31 ONLY. ITEMS #32, 51 & 52 USED WITH ITEM #30 ONLY.
2. FOR DWG. INDEX LIST SEE DWG. No. D-DI-DF10-0-1.
3. ITEMS #14 & 15 ARE ON LEFT HAND SIDE OF CABINET.
4. ITEM #30 TO BE LOCATED AT EF31 & 32, KL31 & 32, KL23 & 24. & ITEM #31 AT EF1 & 2, KL1 & 2, KL9 & 10.
5. LENGTH OF PART #15 & 34 TO BE DETERMINED BY SYSTEM CONFIGURATION.
6. DECAL (ITEM #49) TO BE LOCATED ON BLANK PANEL (ITEM #9) ON INSIDE OF PLENUM DOOR.

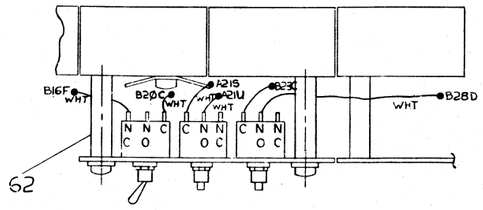


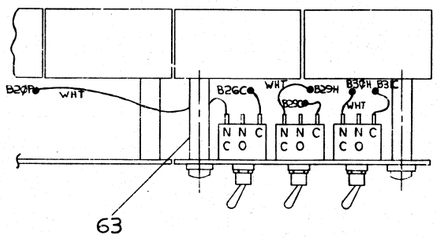
REVISIONS		
REV	CHANGE NO.	CHK
A	ECO #3123 CHG'D VIEW AT DETAIL A, ADDED NOTE #5	11-7-67
B	ECO #3205 ADDED ITEM #49 & NOTE NO 6	1-23-68
B	ECO 3301 CHG'D NOTE #4 & ADDED ITEM #50 TO DETAIL "A"	1-29-68
C	ECO #3371 CHG P.L.	3/27/68
D	ECO #3531 ADDED ITEM #51, 52	
E	DF10-00001	7-10-68
F	DF10 00003 JOHNSON	10-3-68
H	DF10-00004 JOHNSON	1/4/69
J	DF10-00005 JOHNSON	1/12/69
K	DF10-00006 A. JOHNSON	11-17-69
L	MISC-00079 KENT	10-12-70

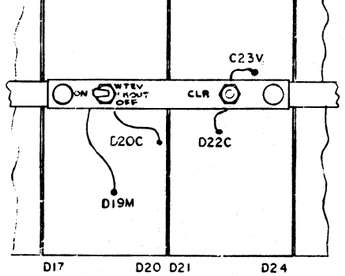
FIRST USED ON OPTION MODEL	DF10
QTY. / DESCRIPTION / PART NO. / ITEM NO.	PARTS LIST
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30' FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS	
DATE	7/21/67, 4-22-67, 9/11/67
MATERIAL	— // —
FINISH	— // —
NEXT HIGHER ASSY	
SCALE	1/8
SHEET	1 OF 2
[illegible] EQUIPMENT CORPORATION	MAYNARD MASSACHUSETTS
TITLE	DATA CHANNEL DF10
SIZE / CODE / NUMBER / REV	D UA DF10-0-0 L
DIST.	G

DEC FORM NO DRD 100

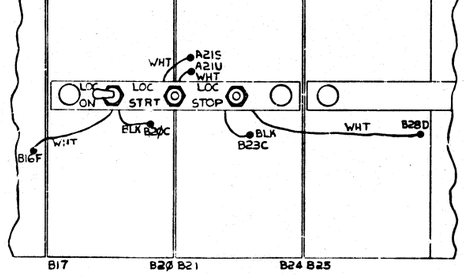




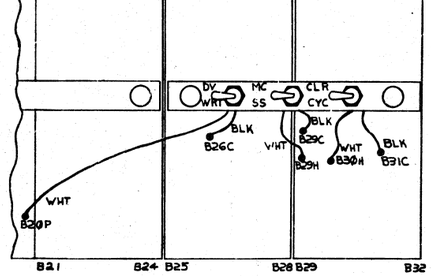




DETAIL "A"



DETAIL "B"



DETAIL "C"

QTY.	DESCRIPTION	PART NO	ITEM NO.

PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .03 FRACTIONS ± 1/64 ANGLES ± 0°
FINISH SURFACE QUALITY
REMOVE BURRS AND CHAMFER SHARP EDGES

EQUIPMENT CORPORATION
MAYNARD MASSACHUSETTS

TITLE
DATA CHANNEL
DF10

SIZE	DWG NO	REV
D	DF10-0-0	L

SCALE
SHEET 2 OF 2

REVISIONS	CHANGE NO	CHK
REV		

CAD FORM NO CAD 100

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

ITEM NO	DWG. NO	DESCRIPTION	QUANTITY DF10-0	QUANTITY DF10-A
28	B-5100	PANEL, BLANK (7402016)	5	5
29	D-AD-7005361-2-0	DOOR FRONT (ASSY)	1	1
30	C-MD-7408446-2-0	BLOCK, RET, UNIVERSAL, REWORK	3	3
31	C-MD-7408446-1-0	BLOCK, RET, UNIVERSAL, REWORK	3	3
32	9006029-1	SCR PHL HD PAN #6-32 x 1¼ SST	3	3
33	9006633	WASH,INT TOOTH #6	4	4
34		CORD, 25' #1202980 OR 9' #1201265	1	1
35	D-IA-7005459-12-0	CABLE W0 12-W250	1	1
36	C-AD-7005427-0-0	CABLE TWIST LOCK 25'	1	1
37	90-06020-1	SCR PHL ED PAN #6-32 x ¼ SST	4	4
38	90-06507	POP RIVET 1/8D #AD44ABS USMC	20	20
39		CLAMP NYLON #CPC1953-16B (1" DIA)	A/R	A/R
40		CLAMP NYLON #CPC1953-6B (3/8" DIA)	A/R	A/R
41	9007799	SCR PHL FILL HD 8-32 x 1-½ LG	3	3

REVISIONS

CHANGE NO.	DATE	ENG.

MADE BY A. HUHTALA — DATE 7/31/67
CHECKED H. Stowe — DATE 8-30-67
ENG D. Flenk — DATE 9/1/67

TITLE DATA CHANNEL DF10
FOR DF10-0 (60 HZ)
DF10-A (50 HZ)
G

DRWG. NO. A-PL- DF10-0-0
ASSY NO D-UA-DF10-0-0
SHEET 3 OF 15
REV. LTR. L

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

ITEM NO.	DWG. NO.	DESCRIPTION	QUANTITY DF10-0	QUANTITY DF10-A
1	E-IA-7406273-0-0	CAB FRAME (REWORK)	1	1
2	D-AD-7005535-0-0	PANEL INDICATOR ASSY	1	1
3	E-IA-7405092-0-0	END PANEL ASSY	2	2
4	A-MD-7405860-0-0	SPACER	1	1
5	B-MD-7405861-0-0	BRACKET (DOOR PIVOT)	1	1
6	90-06350	SCR, SOC HD CAP #10-32 x 1" SST	6	6
7	90-06083-1	SCR, PHL PAN #10-32 x 2½ SST	2	2
8	B-5111	PANEL, BLANK #7402035	1	1
9	B-5111	PANEL, BLANK #7402036	3	3
10	D-MA-728A-0-1	POWER SUPPLY #728A		2
10	D-MA-728-0-1	POWER SUPPLY #728	2	
11	D-UA-844-0-0	POWER CONTROL #844	1	1
12	B-5111	PANEL, BLANK #7402033	1	1
13	D-AD-7005358-2-0	DOOR, FULL ASSY	1	1

REVISIONS

CHANGE NO.	DATE	ENG.
A-3123 CHG'D #34 & 35		
CHG'D QTY #42, 46 & 47		
B-3285 ADD #49	1/23/68	
B-3301 ADD #50	1/24/68	
CHG #18, 19, 20, 43 & 44		
C-3371	3/20/68	
CHG #24 & 25		
D-3531 CHG #32 & 41. QTY #38 WAS (7) ADD #51, 52	5/31/68	
E-DF10-00001	7-10-68	
F-DF10-00003	10/3/68	
H-DF10-00004	10/10/68	
J-DF10-00005	10/23/68	
K-DF10-00006	11/11/68	
L-MISC-00079	10/10/70	

MADE BY A. HUHTALA — DATE 7/31/67
CHECKED H. Stowe — DATE 8-30-67
ENG D. Flenk — DATE 9/1/67

TITLE DATA CHANNEL DF10
FOR DF10-0 (60 HZ)
DF10-A (50 HZ)
G

DRWG. NO. A-PL- DF10-0-0
ASSY NO D-UA-DF10-0-0
SHEET 1 OF 15
REV. LTR. L

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

ITEM NO.	DWG. NO.	DESCRIPTION	QUANTITY DF10-0	QUANTITY DF10-A
14	D-AD-7005467-0-0	BRACKET, POWER CONN (ASSY)	1	1
15	C-UA-BC10B-0-0	MC, CABLE/REMOTE CONT.	1	1
16	90-06073-3	SCR PHL HD TRUSS #10-32 x ½ SST	106	106
17	90-06635	WASH, EXT TOOTH #10 SST	110	110
18	B-DC-7406500-0-0	DECAL - DF10	1	1
19	9006659	WASH, FLAT #6	3	3
20	9007801	WASH, SPLIT LOCK #6	3	3
21	D-MD-7405862-0-0	TRIM STRIP BOTTOM	1	1
22	90-06346	SCR, SOC HD CAP #10-32 x ½	4	4
23	D-AD-7005561-0-0	WIRED ASSEMBLY	1	1
24	C-MD-5302486-0-0	PLATE, RIGHT END (5302486)	5	5
25	C-IA-5402526-0-0	PANEL MARGINAL CHECK	5	5
26	90-07073	CLAMP, CAB-L-TITE #2C1-150 DAKOTA	A/R	A/R
27	E-AD-7005474-0-0	HOUSING PAN ASSY	1	1

REVISIONS

CHANGE NO.	DATE	ENG.

MADE BY A. HUHTALA — DATE 7/31/67
CHECKED H. Stowe — DATE 8-30-67
ENG D. Flenk — DATE 9/1/67

TITLE DATA CHANNEL DF10
FOR DF10-0 (60 HZ)
DF10-A (50HZ)
G

DRWG. NO. A-PL- DF10-0-0
ASSY NO D-UA-DF10-0-0
SHEET 2 OF 15
REV. LTR. L

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

ITEM NO.	DWG. NO.	DESCRIPTION	QUANTITY DF10-0	QUANTITY DF10-A
~~42~~	~~90-00634~~	~~WASH INT TOOTH #8~~	~~2~~	~~2~~
~~43~~		~~SWITCH MGM1-T2 MICRO #12-1168~~	~~1~~	~~1~~
~~44~~		~~SWITCH MICRO SPDT MICRO #12-3437~~	~~1~~	~~1~~
~~45~~	~~B-RD-7406405-0-0~~	~~BIAS SWITCH MAINTENANCE~~	~~1~~	~~1~~
~~46~~		~~SPACER #8 CL 3/8 HX X 1-1/4 LG~~	~~2~~	~~2~~
~~47~~	~~90-00845-1~~	~~BOX PHE H PAN 8-32 X 1-1/2 BRS~~	~~2~~	~~2~~
~~48~~	~~A-DS-7406344-0-0~~	~~BOOTSTRAP DF10~~	~~1~~	~~1~~
~~49~~	~~D-DS-7406353-0-0~~	~~BEZEL DF10~~	~~1~~	~~1~~
~~50~~	~~90-00706~~	~~WASH 3/8 O.D. X 1/4 I.D X 1/32 THK NYLON~~	~~2~~	~~2~~
~~51~~	~~9003659~~	~~WASH, FLAT #6~~	~~3~~	~~3~~
~~52~~	~~9003691~~	~~WASH, SPLIT LOCK #6~~	~~3~~	~~3~~
53	C-AD-7005899-0-0	MAINT. SWITCH ASS'Y #1	1	1
54	D-IA-7005459-11-0	CABLE WØ12-W250	1	1
55	D-IA-7005459-6-0	" " "	2	2

MADE BY A. HUHTALA	DATE 7/31/67	TITLE DATA CHANNEL DF10	DRWG. NO. A-PL- DF10-0-0	REV. LTR.
CHECKED	DATE 9/12/67	FOR DF10-0 (60 HZ) DF10-A (50 HZ) G	ASSY NO D-UA-DF10-0-0	SHEET 4 OF 5 L
ENG	DATE 9/12/67			

REVISIONS

CHANGE NO.	DATE	ENG.

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

ITEM NO.	DWG. NO.	DESCRIPTION	QUANTITY DF10-0	QUANTITY DF10-A
56	D-IA-7005459-9-0	CABLE WØ12 - W250	1	1
57	D-IA-7005459-5-0	" : " "	2	2
58	D-IA-7005459-10-0	" " "	1	1
59	D-IA-7005459-8-0	" " "	1	1
60	D-IA-7005459-4-0	" " "	1	1
61	D-IA-7005459-7-0	" " "	1	1
62	C-AD-7006560-0-0	MAINT. SWITCH ASS'Y #2	1	1
63	C-AD-7006561-0-0	MAINT. SWITCH ASS'Y #3	1	1
REF	C-AD-7006140-0-0	CABLE SET DF10	-	-

MADE BY G. Parelli	DATE 1/9/69	TITLE DATA CHANNEL DF10	DRWG. NO. A-PL-DF10-0-0	REV. LTR.
CHECKED	DATE	FOR DF10-0 (60 HZ) DF10-A (50 HZ)	ASSY NO D-UA-DF10-0-0	SHEET 5 OF 5 L
ENG	DATE			

REVISIONS

CHANGE NO.	DATE	ENG.

MODULE UTILIZATION

Row A

Slot	Module	Signals
10	G784	F H J K L M N P R S T U V
20	R303	RE-CYCLE DLY
21	W501	LOCAL START

Row B

Slot	Module	Signals
1	B214	CDA ADDR 15; CDA ADDR 16; CDA ADDR 17
2	B163	CDA ADDR 15; CDA ADDR 16; CDA ADDR 17
3	G784	D E F H J K L M N P R S T U V
4	R001	SET IDLE; IDLE
5	B135	MB FULL
6	B311	CCA CYCLE TERM; CYCLE STOP
7	B611	CCA TP3; CCA START
8	B311	DVPLS
9	B165	CYCLE STOP; CYCLE STOP; DEC MODE; MB FULL; DVPLS; DVPLS
10	B133	CYCLE STOP; MB FULL; MB FULL
11	B214	CYCLE STOP; MB FULL; DVPLS
12	B135	VCB; DVPLS; DVPLS
13	B133	VCB; VCB; DVPLS; DVPLS
14	B212	IDLE; VCB
15	B135	IDLE; IDLE; INT CHAN PULSE
16	B165	IDLE; LOCAL; IDLE; IDLE; IDLE; VCB
17	S602	CB TO MB; LOCAL DV PLS
18	B611	START DLY; IDLE; INT CHAN PULSE; INT CHN PLS
19	B311	START CB WRITE DLY; CB TO MB 12
20	B134	START CB WRITE; LOCAL START; LOCAL SA WRITE; STOP MC
21	B311	TP2 DLY; TP2 DLY
22	B611	START CB WRITE; TP2; TP2
23	B311	START DLY; START DLY
24	B685	CCA LOAD WCDA
25		
26	B165	LOCAL TERM; LOCAL DV PLS; LOCAL; SINGLE STEP; MAI 17
27	R613	START DV PLS DLY; LOCAL TERM
28	B133	RE-CYCLE DLY; LOCAL DV PLS; MAI 17; LOCAL START
29	R303	LOCAL DV PLS DLY
30	R303	CLR CYCLE DLY
31	B685	MAI 17
32		

Row C

Slot	Module	Signals
1	W012	CWAD
2	W012	LIGHT CABLES
3	R181	DC CARRY CHAIN; CWAD 18 TO CWAD 22
4	S202	CWAD 18; CWAD 19
5	B163	CWAD 18; CWAD 18; CWAD 19; CWAD 19; CWAD 20; CWAD 20
6	S202	CWAD 20; CWAD 21
7	S202	CWAD 22; CWAD 23
8	B163	CWAD 21; CWAD 21; CWAD 22; CWAD 22; CWAD 23; CWAD 23
9	S202	CWAD 24; CWAD 25
10	R181	DC CARRY CHAIN; CWAD 23 TO CWAD 29
11	B163	CWAD 24; CWAD 24; CWAD 25; CWAD 25; CWAD 26; CWAD 26
12	S202	CWAD 26; CWAD 27
13	S202	CWAD 28; CWAD 29
14	B163	CWAD 27; CWAD 27; CWAD 29; CWAD 28; CWAD 28; CWAD 29
15	S202	CWAD 30; CWAD 31
16	B163	CWAD 30; CWAD 30; CWAD 31; CWAD 31; CWAD 32; CWAD 32
17	S202	CWAD 32; CWAD 33
18	R181	DC CARRY CHAIN; CWAD 29 TO CWAD 35
19	S202	CWAD 34; CWAD 35
20	B163	CWAD 33; CWAD 33; CWAD 34; CWAD 34; CWAD 35; CWAD 35
21	B613	LOCAL CLR; CWAD 1; CWAD 2
22	R303	MONEX MEM
23	R303	POWER CLEAR
24	B611	LOCAL START; POWER CLR; NO MEM; NO MEM
25		
26	G784	D E F; M N P; V
27	B214	DEV READ; STOP MC; SKIP; LOCAL START
28	B133	READ; LOC DV WRT; READ; SKIP; SKIP
29	W012	LIGHT CABLE
30	B135	
31	B105	
32		

Row D

Slot	Module	Signals
1	W012	CIA LIGHT CABLE
2	G784	D E F H J K L M N P R S T U V
3	B123	PG 0 MB0-2
4	B130	PG 1 MB3-5
5	B130	PG 12 PG0-2
6	B130	PG 2 MB6-8
7	B130	PG 3 MB9-11
8	B130	PG 4 MB12-MB14
9	B130	PG 13 PG3-5
10	B130	PG 5 MB15-MB17
11	G784	D E F H J K L M N P R S T U V
12	B214	INAD 27; INAD 28; INAD 29; INAD 30
13	B103	INAD 27; INAD 28; INAD 29; INAD 30; INAD 31; INAD 32
14	B214	INAD 31; INAD 32; INAD 33; INAD 34
15	B133	INAD SYNC; INAD 33; INAD 34; INAD PAR
16	B165	WAD SYNC; CPG ODD PARITY; PAR; IGN PAR; [illegible] EVEN PAR
17	B214	INAD SYNC; PAR; IGNORE PAR; WRITE EVEN PARITY
18	B133	WRITE EVEN; PARITY; WRITE EVEN PARITY; INAD SYNC; INAD SYNC; IDLE
19	B125	ODD PARITY; WRITE EVEN PARITY; INAD SYNC
20	W102	DATA PAR ERR; CON PAR[illegible]
21	W102	PAR; PARITY
22	B130	PG 16 PG12-PG14
23	B130	PG 17 PG 15, 16 & PAR
24	B130	PG 6 MB18-MB20
25	B130	PG 14 PG6-8
26	B130	PG 7 MB21-MB23
27	B130	PG 8 MB24-MB26
28	B130	PG 9 MB27-MB29
29	B130	PG 15 PG9-11
30	B130	PG 10 MB30-MB32
31	B130	PG 11 MB33-MB35
32	W012	LIGHT CABLE

REV.	CHANGE NO.	ENGR.	CHKD.
A			
B	33		
C	DF10-00006	A. JOHNSON	

EQUIPMENT CORPORATION

TITLE: MODULE UTILIZATION

D-UA-DF10-0-0

D-MU-DF10-0-3 C

Slot	D–E Module	D–E Signals	F Module	F Signals	H Module	H Signals	J Module	J Signals
1	W051	MEM #1 A		B	B012	WCT LIGHT	R181	DC CARRY CHAIN; ADDR 18 TO ADDR 22
2	W951	CABLE #1 C		D	B012	AND	S202	ADDR 19; ADDR 19
3	G704	D J K L N P R S T U V	B012	LIGHT	B012	ADDR CABLES	B163	ADDR 18; ADDR 19; ADDR 20
4	B003	-MAI 22; MAI 19; -MAI 19	B012	CABLES MB	R191	DC CARRY CHAIN; WCT 00 TO WCT 04; WCT OVFLO	S202	ADDR 20; ADDR 21
5	B133	MAI 18; -MAI 19; MAI 19; -MAI 19	B312	FOR	S202	WCT 00; WCT 01	S202	ADDR 22; ADDR 23
6	B303	MAI 19; -MAI 19; MAI 20	B214	MB 0 TO MB 3	S202	WCT 02; WCT 03	B163	ADDR 21; ADDR 22; ADDR 23
7	B105	MAI 19; -MAI 19; -MAI 20; -MAI 21; -MAI 35	B163	MB 0 TO MB 5	S202	WCT 04; WCT 05	S202	ADDR 24; ADDR 25
8	B133	MAI 20; -MAI 20; MAI 21; -MAI 21	B214	MB 4 TO MB 7	B163	WCT 00 TO WCT 05	R181	DC CARRY CHAIN; ADDR 23 TO ADDR 28
9	B303	-MAI 20; MAI 21; MAI 21	B163	MB 6 TO MB 11	S202	WCT 06; WCT 07	B103	ADDR 24; ADDR 25; ADDR 26
10	B303	INT 35; -INT 35; -FMC SELECT	B214	MB 9 TO MB 11	R191	DC CARRY CHAIN; WCT 05 TO WCT 10	S202	ADDR 26; ADDR 27
11	B135	MAI -9; MAI 30; MAI 31	B214	MB 12 TO MB 15	S202	WCT 08; WCT 09	S202	ADDR 28; ADDR 29
12	B133	MAI 30; -MAI 30; MAI 31; -MAI 31	B163	MB 12 TO MB 17	S202	WCT 10; WCT 11	B163	ADDR 27; ADDR 29; ADDR 29
13	B303	MAI 31; MAI 32; MAI 33	B214	MB 16 TO MB 19	B163	WCT 06 TO WCT 11	S202	ADDR 30; ADDR 31
14	B133	MAI 32; -MAI 32; MAI 33; -MAI 33	B163	MB 18 TO MB 23	S202	WCT 12; WCT 13	B163	ADDR 30; ADDR 31; ADDR 32
15	B135	MAI 32; MAI 33; MAI 34	B214	MB 20 TO MB 23	S202	WCT 14; WCT 15	S202	ADDR 32; ADDR 33
16	B133	MAI 34; MAI 34; MAI 35; -MAI 35	B214	MB 24 TO MB 27	R181	DC CARRY CHAIN; WCT 11 TO WCT 17	R181	DC CARRY CHAIN; ADDR 29 TO ADDR 35
17	B303	MAI 34; MAI 35; INT 21	B163	MB 24 TO MB 29	S202	WCT 16; WCT 17	S202	ADDR 34; ADDR 35
18	B303	MAI 22; MAI 23; MAI 24	B214	MB 29 TO MB 31	B163	WCT 12 TO WCT 17	B163	ADDR 33; ADDR 34; ADDR 35
19	B133	MAI 22; CAD 22 TO INT; MAI 23; -MAI 23	B163	MB 30 TO MB 35	R613	COUNT WC1; COUNT ADDR 1; COUNT ADDR 2	B165	LOAD CWAD 1,2,3; MDL = 0; MDL = 0; MCR = 0; -MCR = 0
20	B133	MAI 24; -MAI 24; MAI 25; -MAI 25	B214	MB 32 TO MB 35	S603	COUNT WC2; CLCWR; XFER CW	B134	LOAD CWAD 1=3; MDL = 0; LOAD WCDA 1,2,3; MDL = 0; MCR = 0
21	B303	MAI 25; MAI 26; MAI 27	B311	CLEAR MB; VCW	W301	COUNT ADDR 1,2		
22	B133	MAI 26; -MAI 26; MAI 27; -MAI 27	B165	CLEAR MB; CLR MB; CLR MB; CLEAR AUX MB FULL	B311	CLEAR MB	B311	DEVICE PULSE DLY; DEVICE PULSE DLY
23	B133	MAI 28; -MAI 29; MAI 29; -MAI 29	B311	CLEAR MB; CLEAR MB	B133	COUNT WC1; STOP MC; MDL = 0; MER = 0; XFER CW	B134	CWWT SYNC; MEM START; END MC
24	B303	MAI 28; MAI 29; MAI 30	B311	SKIP PULSE DLY; CLEAR MB	B105	COUNT WC1; XFER CW; COUNT ADR 1 & 2; XFER CW; SYNC	B611	END MC DLY ^ SYNC; END CC DLY ^ SYNC
25	B105	CAD DATA; -CAD 22 TO INT; CAD DWTBB; CW TO MB	B611	READ MEM STRB 1; WRITE MEM STROBE 1,2; WRITE MEM STROBE 2; WRITE MEM STROBE 1,2,3	B005	LOAD WCDA 1,2,3; LOAD CWAD 1,2,3	B212	SYNC; DWT
26	B133	CAD GATA; CLEAR MB; CHAN START B; CLEAR MB	B005	READ MEM GATE 1,2,3; READ MEM GATE 1/2/3	B611	END MC; MB 29; LOAD CW	B212	CWRD
27	R001	CBC CROBAR	B611	READ MEM STRB 1; READ MEM STROBE 2; DEVICE PULSE B	B165	CWWT; CWWT; CWRD; CWWT; DWT	B133	MEM START; MEM START; MEM START; DWT
28	R001	CBC CROBAR	B135	READ MEM STROBE 1,2; SET AUX MB FULL; DEVICE PULSE B	B133	CWRD REQ; CWRD REQ; CWWT; CWWT	B135	SYNC; CWRD; DWT
29	B135	MAI 27; MAI 28; SA WRITE B	B005	ACKN 1 ACKN 2 ACKN 3; CW TO MB	B212	CWRD REQ	B133	MDL = 0; CWRD; MCR = 0; DWT
30	B165	CHAN START B; SA WRITE B; DEVICE PULSE B	B611		B214	AUX MB FULL; CWWT; CWWT REQ; CWWT SYNC	B105	CWWT SYNC; CWWT REQ; CWWT REQ; DWT
31	W051	MEM A		B	B135	CWRD REQ; CWRD REQ; CWWT REQ	B133	CWRD REQ; CWNT; SYNC
32	W051	CABLE #1 C		D	B312		G704	E F H K L P R U V

UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0° FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL

FINISH

D-UT-DF10-0-0

EQUIPMENT CORPORATION

TITLE MODULE UTILIZATION

D MU DF10-0-3

REV C

REVISIONS CHANGE NO CHK

MODULE UTILIZATION

Slot	K module	K signals	L module	L signals
1	W851	MEM #2; A		B
2	W851	CABLE; C		D
3	G784	D E F H J K L M N P R S T U V	W102	MB 08; MBUS 08; MB 09; MBUS 09; MB 10; MBUS 10; MB 11; MBUS 11
4	W102	MB 00; MBUS 00; MB 01; MBUS 01; MB 02; MBUS 02; MB 03; MBUS 03	W102	MB 12; MBUS 12; MB 13; MBUS 13; MB 14; MBUS 14; MB 15; MBUS 15
5	W102	MB 04; MBUS 04; MB 05; MBUS 05; MB 06; MBUS 06; MB 07; MBUS 07	G784	D E F H J K L M N P R S T U V
6	W102	MB 20; MBUS 20; MB 21; MBUS 21; MB 22; MBUS 22; MB 23; MBUS 23	W102	MB 18; MBUS 18; MB 19; MBUS 19; MB 16; MBUS 16; MB 17; MBUS 17
7	W102	MB 24; MBUS 24; MB 25; MBUS 25; MB 26; MBUS 26; MB 27; MBUS 27	W102	MB 28; MBUS 28; MB 29; MBUS 29; MB 30; MBUS 30; MB 31; MBUS 31
8	G784	D E F H J K L M N P R S T U V	W102	MB 32; MBUS 32; MB 33; MBUS 33; MB 34; MBUS 34; MB 35; MBUS 35
9	W851	MEM #2; A		B
10	W851	CABLE; C		D
11	W021	CHAN CABLE #2	W021	CHAN CABLE #3
12	B611	GTD ADDRACK; GTD ADDRACK; DEV PULSE; DEV PULSE	B683	REQ CYCLE; REQN; CONTROL WORD FETCH
13	B135	SKIP PULSE; REQ	B212	REQ; NO REQ
14	B611	GTD ADDRACK DLY; REQ PULSE	G784	D E F H J K L; R S T; V
15	B311	GTD ADDRACK DLY; GTD ADDRACK DLY	B133	NO REQ; REQ; RCD0; WCT0; WTC0
16	B611	ENDRDY; ENDRDY; SKIP PULSE	B683	CHAN BUSY; MCRD; MCWR
17	B311	ENDRDY	B133	MWTRQ; MRDRQ; MCWR; WTD0; WTD0
18	B137	MBL =0; MBL =0	B165	WTC0; NO REQ; IDLE(0); RDD0; RDD0; WTD0; WTD0
19	B137	MBL =0; MBR =0	W102	0RCON WD COMP
20	B137	MBR =0; MBR =0	W102	WRRS; CHAN PULSE; CLEAR MPX; NO SUCH MEM
21	W021	CHAN CABLE #2	W021	CHAN CABLE #3
22	B165	NO REQ; L22M	W021	MPX CABLE; NOTE 1
23	W851	CHAN #1; A		B
24	W851	CABLE; C		D
25	G784	D E F H J K L M N P R S T U V	W102	MB 08; CHND 08; MB 09; CHND 09; MB 10; CHND 10; MB 11; CHND 11
26	W102	MB 00; CHND 00; MB 01; CHND 01; MB 02; CHND 02; MB 03; CHND 03	W102	MB 12; CHND 12; MB 13; CHND 13; MB 14; CHND 14; MB 15; CHND 15
27	W102	MB 04; CHND 04; MB 05; CHND 05; MB 06; CHND 06; MB 07; CHND 07	W102	MB 18; CHND 18; MB 19; CHND 19; MB 16; CHND 16; MB 17; CHND 17
28	W102	MB 20; CHND 20; MB 21; CHND 21; MB 22; CHND 22; MB 23; CHND 23	G784	D E F H J K L M N P R S T U V
29	W102	MB 24; CHND 24; MB 25; CHND 25; MB 26; CHND 26; MB 27; CHND 27	W102	MB 28; CHND 28; MB 29; CHND 29; MB 30; CHND 30; MB 31; CHND 31
30	G784	D E F H J M N P R S T U V	W102	MB 32; CHND 32; MB 33; CHND 33; MB 34; CHND 34; MB 35; CHND 35
31	W851	CHAN #1; A		B
32	W851	CABLE; C		D
33–44				

NOTE 1: THIS MODULE IS A W990 IF NO MULTIPLEXOR IS CONNECTED. SEE CDC PRINT FOR W990 CONFIGURATION.

UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES	
FIRST USED ON	D-UA-DF10-0-0
TITLE	MODULE UTILIZATION
SIZE / CODE / NUMBER	D MU DF10-0-3
REV	C
SHEET	3 OF 3

EQUIPMENT CORPORATION

PARTS LIST

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

REVISIONS

PART NO.	DRWG. NO.	NO. REQD.	DESCRIPTION ITEM — STOCK SIZE — CAT. NO. — MFG.	DEC. STOCK NO.	CHANGE NO.	DATE	ENG.
		3	DIODE NETWORK	R001	A-16	3-28-68	
		9	DC CARRY CHAIN	R181	B-33	5-20-68	
		27	FLIP FLOP (QUAD)	S202	C-DF10-00006	11-1-67	
		3	PULSE AMPLIFIER	R613			
		5	INTEGRATING ONE SHOT	R303			
		22	PULSE BUS TRANSCEIVER	W102			
		1	DELAY LINE	W301			
		3	DIODE GATE	B137			
		11	DIODE GATE	B135			
		11	TAPPED DELAY LINE	B311			
		12	PULSE AMPLIFIER	B611			
		14	INVERTER	B165			
		23	DIODE GATE	B133			
		15	FLIP FLOP	B214			
		5	DUAL R S FLIP FLOP	B212			
		2	DIODE GATE	B134			

MADE BY HUHTALA — DATE 8/2/67
CHECKED — DATE 10-9-67
APPROVED — DATE 1/15/68

TITLE: MODULE LIST
FOR: DF10

SIZE: A | CODE: PL | NUMBER: DF10-0-3 | REV.: C
ASSY. NO.: D-MU-DF10-0-3
SHEET 1 OF 2

PARTS LIST

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

REVISIONS

PART NO.	DRWG. NO.	NO. REQD.	DESCRIPTION ITEM — STOCK SIZE — CAT. NO. — MFG.	DEC. STOCK NO.	CHANGE NO.	DATE	ENG.
		22	DIODE GATE	B163			
		18	3-BIT PARITY CIRCUIT	B130			
		11	BUS DRIVER	B683			
		3	DIODE GATE DRIVER	B685			
		14	2 MA LEVEL TERMINATOR	G704			
		1	PULSE AMPLIFIER	S603			
		1	BLANK MODULE	W990			
		1	SCHMITT TRIGGER	W501			
		6	CABLE TERMINATOR	G700			

MADE BY HUHTALA — DATE 8/2/67
CHECKED — DATE 11-6-67
APPROVED — DATE 1/15/68

TITLE: MODULE LIST
FOR: DF10

SIZE: A | CODE: PL | NUMBER: DF10-0-3 | REV.: C
ASSY. NO.: D-MU-DF10-0-3
SHEET 2 OF 2

PARTS LIST ITEM NO.	MARK END	CONN TYPE	TO	CONN TYPE	MARK END	LENGTH	PART NO/DWG NO.
35	Z30	W250	—	W012	F5	56-1/2	7005459-12
54	Z31		—		H3	52-1/2	11
55	Z32		—		C2	39-1/2	6
57	Z33		—		D1	37	5
58	Z20		—		F4	49-1/2	10
59	Z21		—		H2	44-1/2	8
57	Z22		—		C1	37	5
56	Z10		—		F3	47-1/2	9
55	Z11		—		H1	39-1/2	6
60	Z12		—		C29	34	4
61	Z13	W250	—	W012	D32	42-1/2	7005459-7

REVISIONS			CHK
CHANGE NO.	REV.		
ORIG. DF10-00004	—		—
DF10-00005	A	T.Guillo 10-23-69	
JOHNSON		R Gibson 10-28-69	

FIRST USED ON CPT/MOD. DF10

UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30'
FINAL SURFACE QUALITY ✓
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL —

FINISH —

QTY.	DESCRIPTION	PART NO.	ITEM NO.
	PARTS LIST		

		DATE
DRN.	J.J. Pacella	1/7/69
CHK'D	W. Sutherland	1/15/69
ENG.	R Gibson	1/29/69
PROJ. ENG.	R Johnson	1/30/69
PROD. ENG.	T. Guillo	1/16/69

D-UA-DF10-0-0

SCALE —

SHEET 1 OF 1

EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

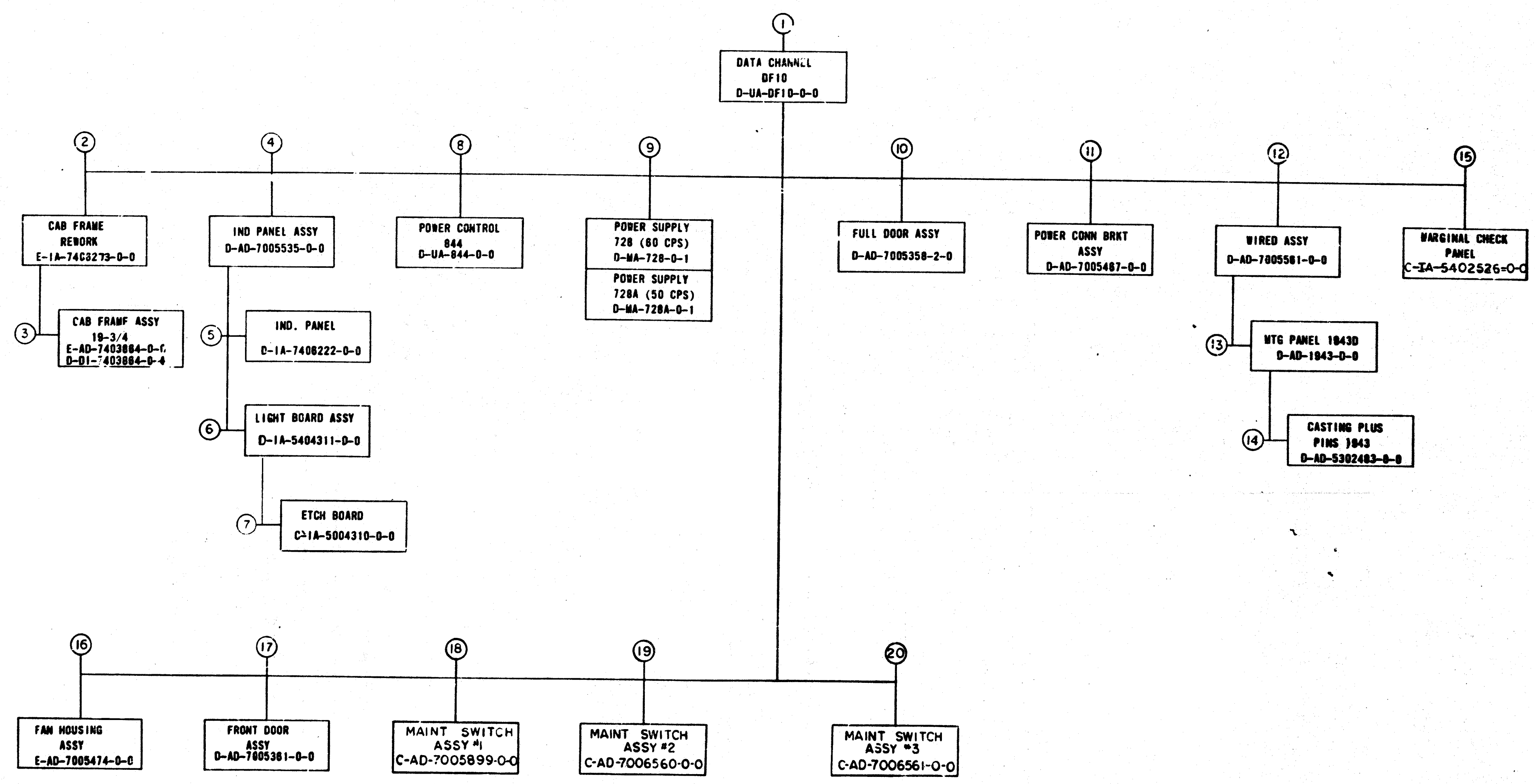
TITLE
CABLE SET
DF10

SYSTEM CODE C | NUMBER 7006140-0-0 | REV. A

DIST.

SYSTEM CODE	NUMBER	REV.
C	7006140-0-0	A

DEC FORM NO. DNS 3439



ASSEMBLY DWG NO. D-UA-DF10-0-0

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
DF10		PARTS LIST		

UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES
TOLERANCES: DECIMALS ±.005, FRACTIONS ±1/64, ANGLES ±0°30'
FINAL SURFACE QUALITY
REMOVE BURRS AND BREAK SHARP EDGES

MATERIAL: —
FINISH: —

DRN. P. Sinkis DATE 0-28-67

NEXT HIGHER ASSY DF10

SCALE NONE
SHEET 1 OF 2

EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE: DRAWING INDEX LIST DF10

SIZE	CODE	NUMBER	REV
D	DI	DF10-0-1	H

MECHANICAL

FIND NO.	DESCRIPTION	PART NO.	PROD	CUST	F/C
1	DATA CHANNEL	D-UA-DF10-0-0			
	DATA CHANNEL (P.L.)	A-PL-DF10-0-0			
	SPACER	A-MD-7405630-0-0			
	BRACKET (DOOR PIVOT)	B-MD-7405861-0-0			
	PANEL, BLANK #7402035	B-5111			
	PANEL, BLANK #7402036	B-5111			
	PANEL, BLANK #7402033	B-5111			
	MC. CABLE/REMOTE CONT.	C-UA-BC10B-7-0			
	TRIM STRIP, BOTTOM	D-MD-7405862-0-0			
	PLATE, RIGHT END (5302486)	C-MD-5302486-0-0			
	PANEL, BLANK (7402018)	B-5100			
	BLOCK, RET LEFT HAND	B-MD-7406258-0-0			
	BLOCK, RET RIGHT HAND	B-MD-7406257-0-0			
	CABLE W032-W250	D-IA-7005459-14-0			
	CABLE TWIST LOCK 25'	C-AD-7005427-0-0			
	END PANEL ASSY	E-IA-7405092-0-0			
2	CABINET FRAME REWORK	E-IA-7406273-0-0			
3	CAB FRAME ASSY 19-3/4''	E-AD-7403864-0-0			
	DRAWING INDEX	D-DI-7403864-0-0			
4	INDICATOR PANEL ASSY	D-AD-7005535-0-0			
	INDICATOR PANEL ASSY (P.L.)	A-PL-7005535-0-0			
	SUPPORT GLASS	D-IA-7406192-0-0			
	BEZEL INDICATOR (REWORK)	D-MD-7405729-1-0			
	BRACKET PANEL MTG	B-IA-7405929-0-0			
	PLATE STRIKER	A-MD-7405899-0-0			
	RETAINER FT PANEL	B-MD-7405931-0-0			
5	PANEL, INDICATOR (DF10)	D-IA-7406222-0-0			
	SILK SCREEN	C-SS-7406222-0-2			
	SILK SCREEN	C-SS-7406222-0-1			
6	LIGHT BOARD ASSY	D-IA-5404311-0-0			
	RECEPTACLE	B-MD-5503954-0-0			
7	ETCH BOARD	C-IA-5004310-0-0			
	FLIP CHIP MOD, BLANK	D-MD-1402230-0-0			
	ETCH PATTERN	PC-5404311			
8	844 POWER CONTROL	D-UA-844-0-0			
	844 POWER CONTROL (P.L.)	A-PL-844-0-0			
9	728 POWER SUPPLY	D-UA-728-0-1			
	728 POWER SUPPLY (P.L.)	A-PL-728-0-1			
	728A POWER SUPPLY	D-UA-728A-0-1			
	728A POWER SUPPLY (P.L.)	A-PL-728A-0-1			
10	FULL DOOR ASSY	D-AD-7005358-2-0			
	FULL DOOR ASSY (P.L.)	A-PL-7005358-0-0			
	FULL DOOR	D-IA-7405741-0-0			
	HINGE PIN (TOP)	B-MD-20400-7			
	DOOR SPACER (BOTTOM)	A-MD-7405312-0-0			
	HINGE PIN (BOTTOM)	B-MD-20400-8			
11	POWER CONNECTOR BRKT ASSY	D-AD-7005487-0-0			
	POWER CONN BRKT ASSY (P.L.)	A-PL-7005487-0-0			
	BRACKET, POWER CONN	D-MD-7403024-0-0			
	SCOTCHCAL BRAND FILM DECALS	A-SS-7406051-0-0			
12	WIRED ASSY	D-AD-7005561-0-0			
	WIRED ASSY (P.L.)	A-PL-7005561-0-0			
13	1943D MTG PANEL	D-AD-1943-0-0			
	1943D MTG PANEL (P.L.)	A-PL-1943-0-0			
	1943 CASTING PLUS PINS	D-AD-5302483-0-0			

MECHANICAL

FIND NO.	DESCRIPTION	PART NO.	PROD	CUST	F/C
14	1943 CASTING PLUS PINS	D-AD-5302483-0-0			
	1943 CASTING PLUS PINS (P.L.)	A-PL-5302483-0-0			
	1943 FRAME CASTING	E-MD-1202885-0-0			
15	MARGINAL CHECK PANEL ASSY	C-IA-5402526-0-0			
	PANEL, MARGINAL CHECK	C-MD-5302484-0-0			
	SCOTCHCAL	C-SS-10801			
16	FAN HOUSING ASSY	E-AD-7005474-0-3			
	FAN HOUSING ASSY (P.L.)	A-PL-7005474-0-0			
	HOUSING FAN	D-MD-7406032-0-0			
	PANEL FRONT FAN	D-MD-7403030-0-0			
	COVER PROTECTION 4 TERM	B-MD-7404721-0-0			
	SCREEN FAN	C-MD-7404881-0-0			
17	FRONT DOOR ASSY	D-AD-7005361-0-0			
	FRONT DOOR ASSY (P.L.)	A-PL-7005361-0-0			
	HINGE PIN (TOP)	B-MD-7405885-0-0			
	FRONT DOOR	D-IA-7405377-0-0			
	DOOR SPACER (BOTTOM)	A-MD-7405312-0-0			
	HINGE PIN (BOTTOM)	B-MD-20400-8			
18	MAINTENANCE SWITCH ASSY #1	C-AD-7005899-0-0			
	MAINT SWITCH ASSY #1 (PL)	A-PL-7005899-0-0			
	BRKT SWITCH MAINT	B-MD-7406405-0-0			
	SCOTCHCAL DF10	A-DC-7406344-0-0			
19	MAINTENANCE SWITCH ASSY #2	C-AD-7006560-0-0			
	MAINT SWITCH ASSY #2 (PL)	A-PL-7006560-0-0			
	BRKT SWITCH MAINT	B-MD-7407703 0-0			
	SCOTCHCAL	A-DC-7407702-0-0			
20	MAINTENANCE SWITCH ASSY #3	C-AD-7006561-0-0			
	MAINT SWITCH ASSY - 3 (PL)	A-PL-7006561-0-0			
	BRKT SWITCH MAINT	B-MD-7407703-0-0			
	SCOTCHCAL	A-DC-7407701-0-0			

ELECTRICAL

FIND NO.	DESCRIPTION	PART NO.	PROD	CUST	F/C
1	DATA CHANNEL	A-ML-DF10-0			
	MODULE UTILIZATION	D-MU-DF10-0-3			
	MODULE LIST	A-ML-DF10-0-3			
	DATA CHANNEL ADDRESS DRIVERS	D-BS-DF10-0-CAD			
	DATA CHANNEL BUS CONN & TERMS	D-BS-DF10-0-CBC			
	DATA CHANNEL DISPLAY CONNECTORS	D-BS-DF10-0-CBL			
	DATA CHANNEL CONTROL	D-BS-DF10-0-CCA			
	DATA CHANNEL CONTROL	D-BS-DF10-0-CCB			
	DATA CHANNEL CONTROL	D-BS-DF10-0-CCC			
	DATA CHANNEL CONT WORD ADDR REG	D-BS-DF10-0-CCW			
	DATA CHANNEL DATA ADDR REG	D-BS-DF10-0-CDA			
	DATA CHANNEL INITIAL ADD REG	D-BS-DF10-0-CIA			
	DATA CHANNEL PARITY GEN	D-BS-DF10-0-CPG			
	DATA CHANNEL MEMORY BUFFER	D-BS-DF10-0-MBL			
	DATA CHANNEL MEMORY BUFFER	D-BS-DF10-0-MBR			
	DATA CHANNEL WORD COUNT	D-BS-DF10-0-WCR			
	DATA CHANNEL FLOW CHART	D-FD-DF10-0-00A			
	DATA CHANNEL FLOW CHART	D-FD-DF10-0-00B			
	DATA CHANNEL FLOW CHART	D-FD-DF10-0-00C			
	POWER WIRING	D-IC-DF10-0-4			
	CABLE SET DF10	C AD7006140-0-0			
6	LIGHT BOARD ASSY	C-IA-5404311-0-0			
	CIRCUIT SCHEMATIC	B-CS-5404311-0-1			
11	POWER CONN BRKT ASSY	D-AD-7005487-0-0			
12	WIRED ASSY	D-AD-7005561-0-0			
	WIRE LIST	K-WL-DF10-0-2			
15	MARGINAL CHECK PANEL				
	CIRCUIT SCHEMATIC	B-CS-1943-0-1			
16	FAN HOUSING ASSY	E-AD-7005474-0-0			
17	CHANNEL MANUFACTURING TEST PLAN OUTLINE	A-SP-DF10-0-7			
1 CONT	CHANNEL MANUFACTURING TEST PLAN OUTLINE (ONLINE)	A-SP-DF10-0-9			

QTY.	DESCRIPTION	PART NO.	ITEM NO.
	PARTS LIST		

DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED
DIMENSIONS IN INCHES
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30'
FINAL SURFACE QUALITY ✓
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL —/—/—

FINISH —/—/—

DRN. P. Sinkevis DATE 8-22-67
CHK'D. H. [illegible] DATE [illegible]-67
ENG. DATE [illegible]/67
DATE [illegible]

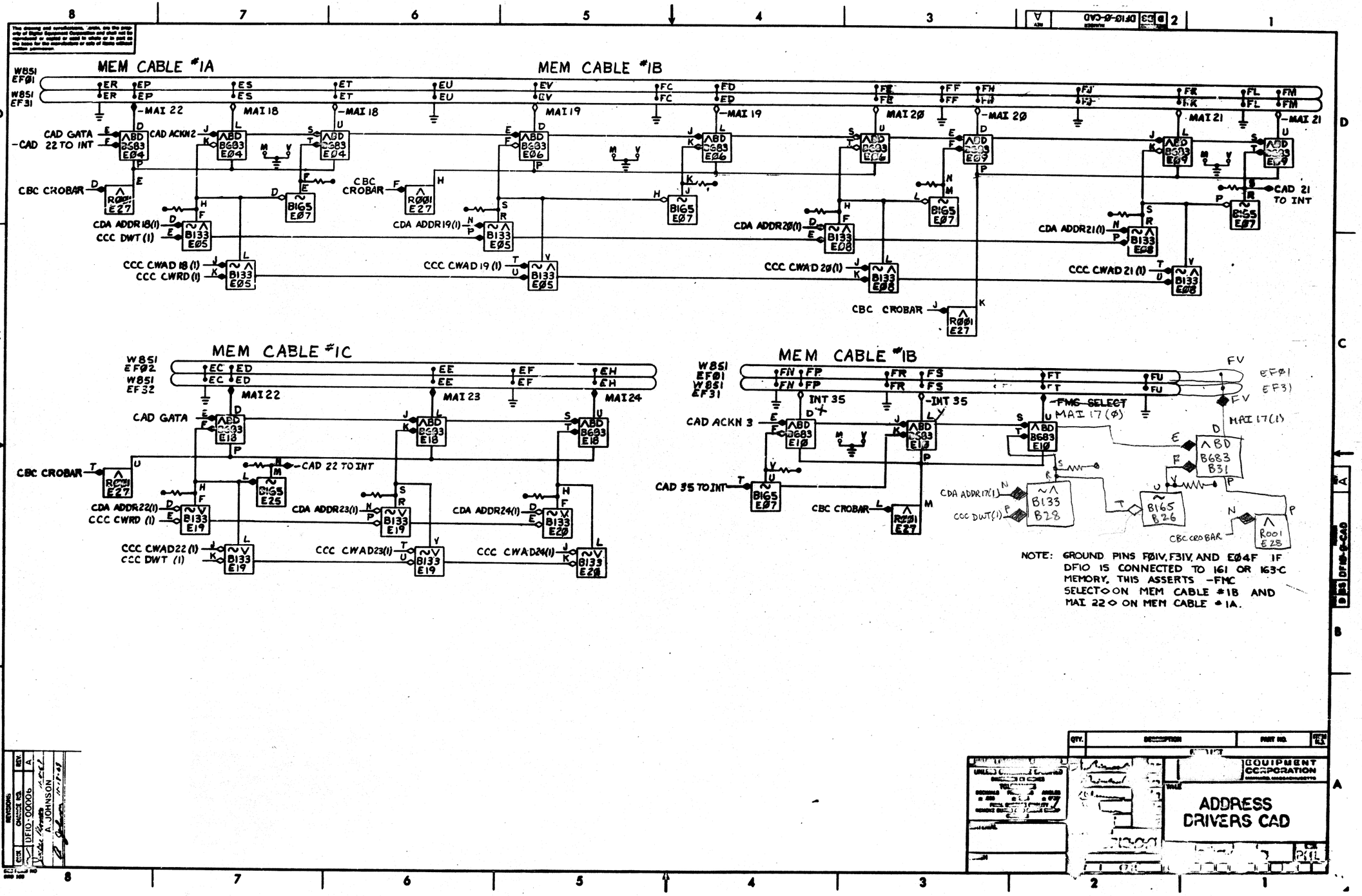
EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE
DRAWING INDEX LIST DF10

SCALE NONE
SHEET 2 OF 2

SIZE D | CODE DI | NUMBER DF10-0-1 | REV. [illegible]

DIST.



REV.	CHANGE NO.	DESCRIPTION
A	DF10-00006	A. JOHNSON

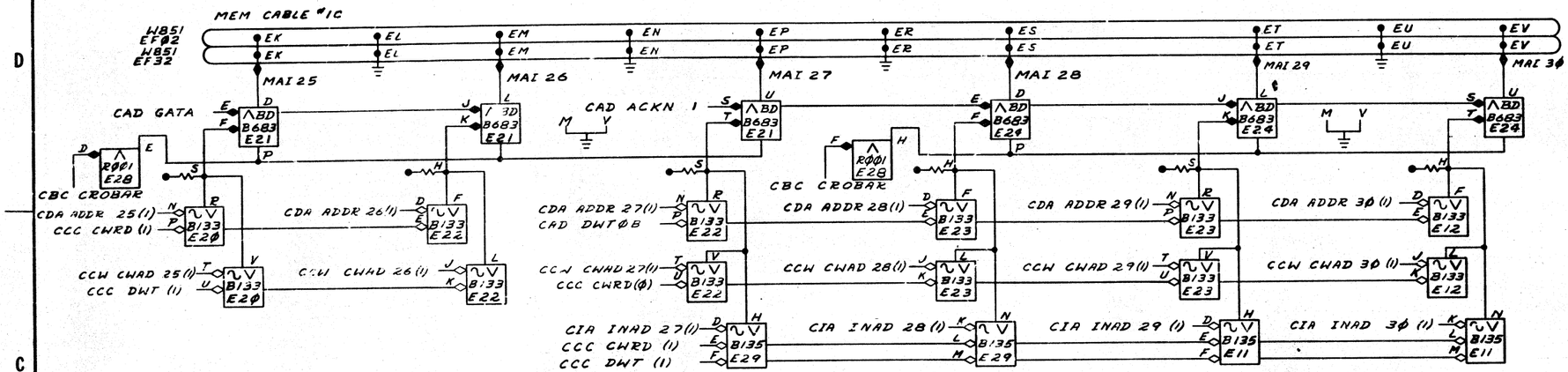
QTY.	DESCRIPTION	PART NO.	ITEM NO.

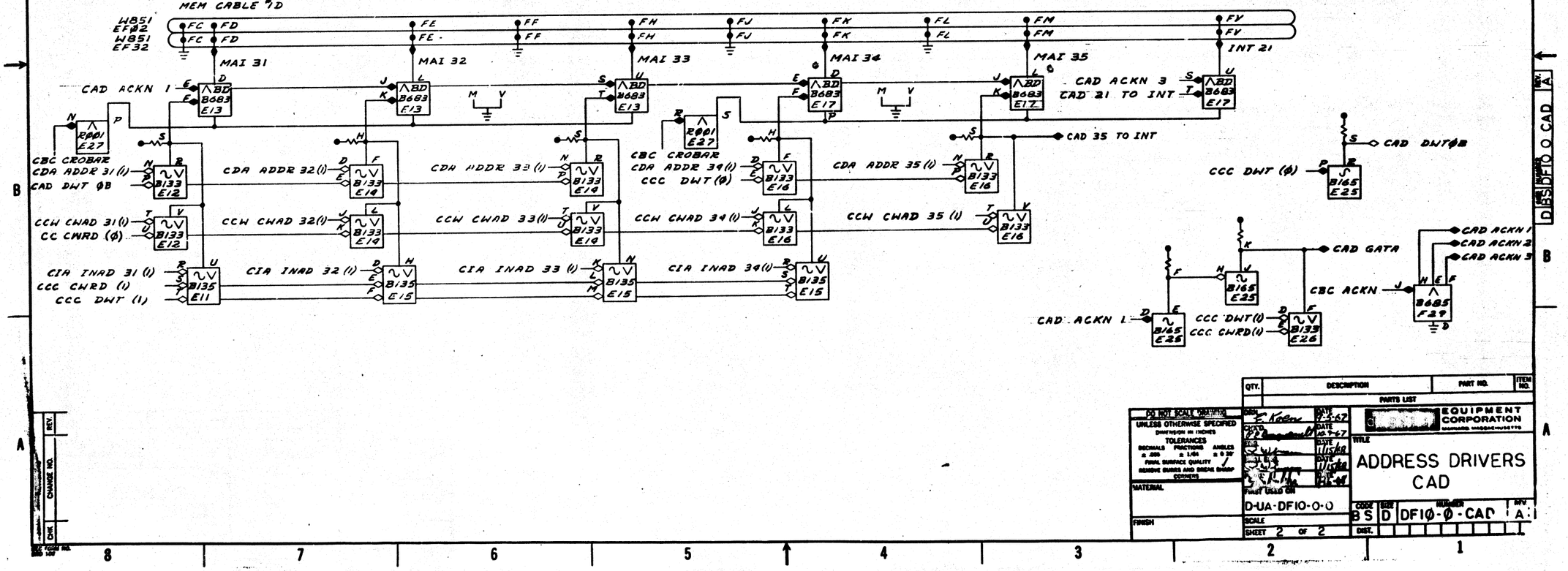
EQUIPMENT CORPORATION

TITLE: ADDRESS DRIVERS CAD

SIZE: B

DF10-0-CAD





QTY.	DESCRIPTION	PART NO.	ITEM NO.
	PARTS LIST		

DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0 30'
FINAL SURFACE QUALITY
REMOVE BURRS AND BREAK SHARP CORNERS
MATERIAL
FINISH

DRN E Kotas DATE 9-2-67
DSGN DATE 10-9-67
ENG DATE 11/15/68
MFG DATE 11/15/68
QA DATE 11/15/68
FIRST USED ON D-UA-DF10-0-0
SCALE
SHEET 2 OF 2

EQUIPMENT CORPORATION
MAYNARD MASSACHUSETTS

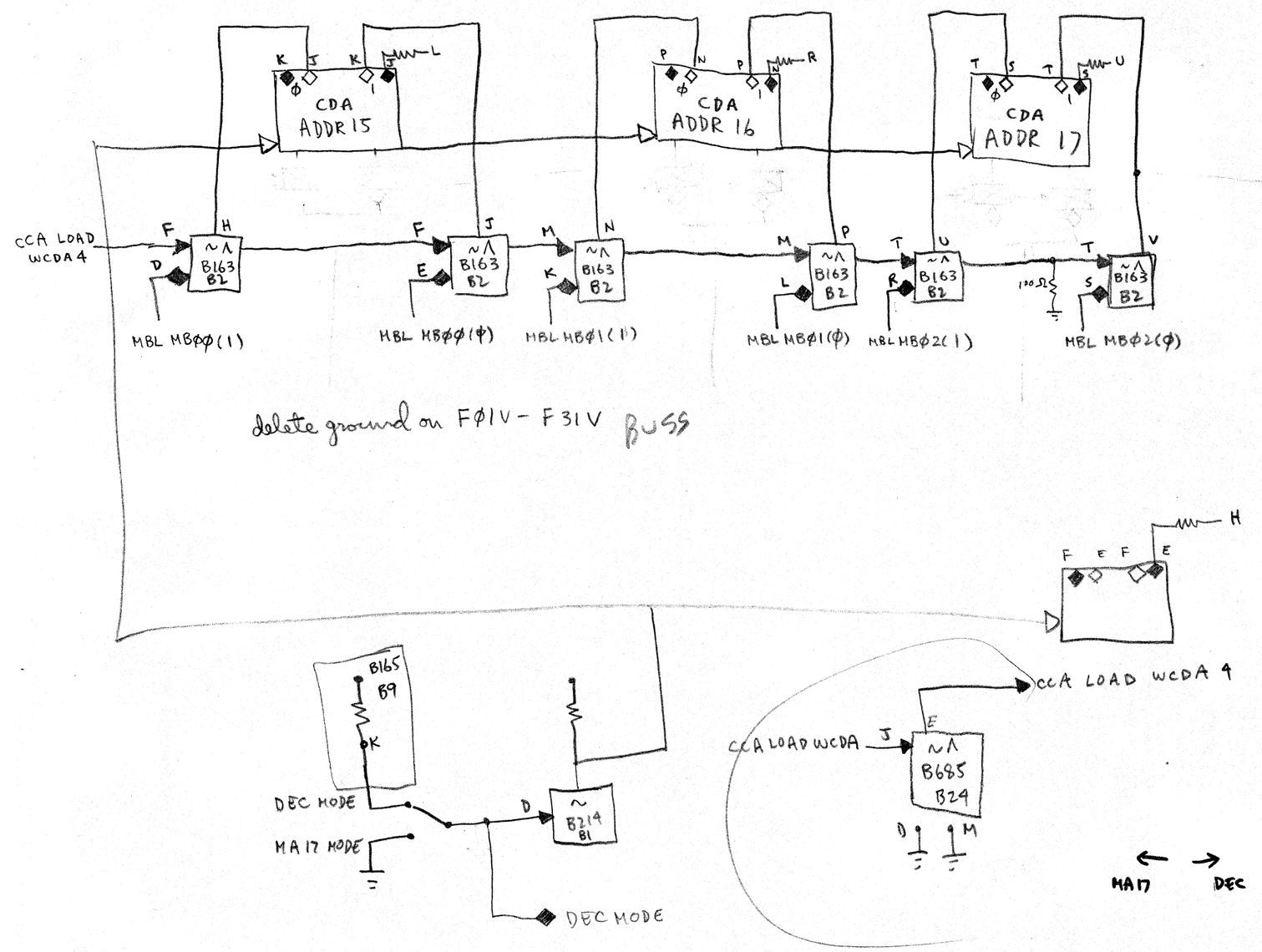
TITLE
ADDRESS DRIVERS CAD

CODE BS SIZE D NUMBER DF10-0-CAD REV. A

REV.	CHANGE NO.	CHK
A	ECO# NO. 1107	

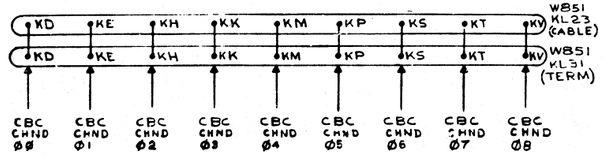
D/BS/DF10-0-CAD REV. A

B214 B1

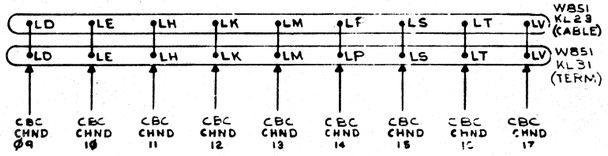


delete ground on FΦ1V - F31V BUSS

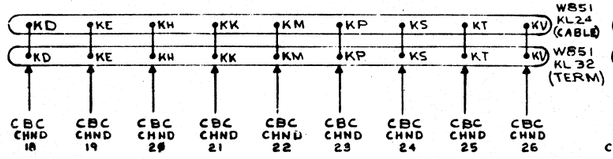
CHANNEL CABLE #1A



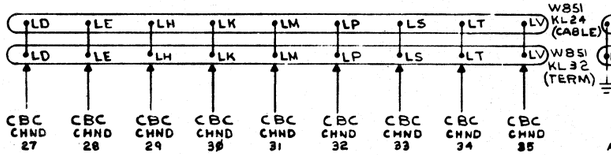
CHANNEL CABLE #1B



CHANNEL CABLE #1C



CHANNEL CABLE #1D



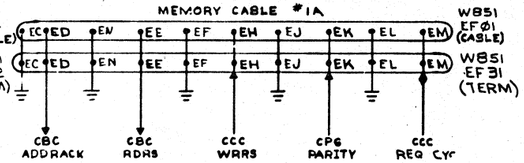
-CCB LOCAL
CBC CHANNEL START
B133 E26
CCC LOCAL START(I)
B165 E3Ø
CBC CHANNEL START B
CBC CHANNEL START B

-CBC SA WRITE B
CBC SA WRITE B
-CBC SA WRITE B
-CCB LOCAL
CBC SA WRITE
B135 E29
CCA LOCAL SA WRITE
B165 E3Ø

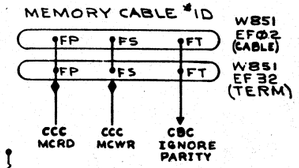
CBC DEVICE PULSE
CHANNEL CABLE #2
W021 K11 (CABLE)
W021 K21 (TERM)
D E H K M KP
CBC WRCON WD REQUEST
CBC CHANNEL RESET
CBC WRITE EVEN PARITY

CHANNEL CABLE #3
W021 L11 (CABLE)
W021 L21 (TERM)
D E H K M P
CCC CHANNEL PULSE
CCC CHANNEL BUSY
CPB DATA PARITY ERROR
CPG CON PARITY ERROR
CCC WRCON WD COMPLETE
CCC NO SUCH MEMORY

MEMORY CABLE #1A



MEMORY CABLE #1D



-CCB LOCAL
CCC LOCAL DV PLS
B135 F28
B611 F27
CBC DEVICE PULSE B
B165 E3Ø
B165 K22
MPX CONTROL CABLE
W021 L22
E H K M
CCC REQN
CBC ACKN
CCC CLEAR MPX

B(-15V)
39Ø
½ W
5 %
H M
W99Ø L22

* NOTE
PIN M OF L22 IS CONNECTED TO PIN M OF L22 BY A W99Ø CARD IF THE MPX CONTROL CABLE IS NOT USED.

POWER CONTROL
E27D
CBC CROBAR
-CBC CROBAR

NOTE:
THIS SIGNAL IS DERIVED IN THE POWER CONTROL AND IS AT GROUND WHEN POWER IS OFF AND FOR APPROXIMATELY FOUR SECS AFTER POWER ON.

REVISIONS			
DES.	CHANGE NO.		REV.
	DFIØ-ØØØØ6		A
A. JOHNSON			

QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST			

DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30'
FINAL SURFACE QUALITY
REMOVE BURRS AND BREAK SHARP CORNERS
MATERIAL
FINISH

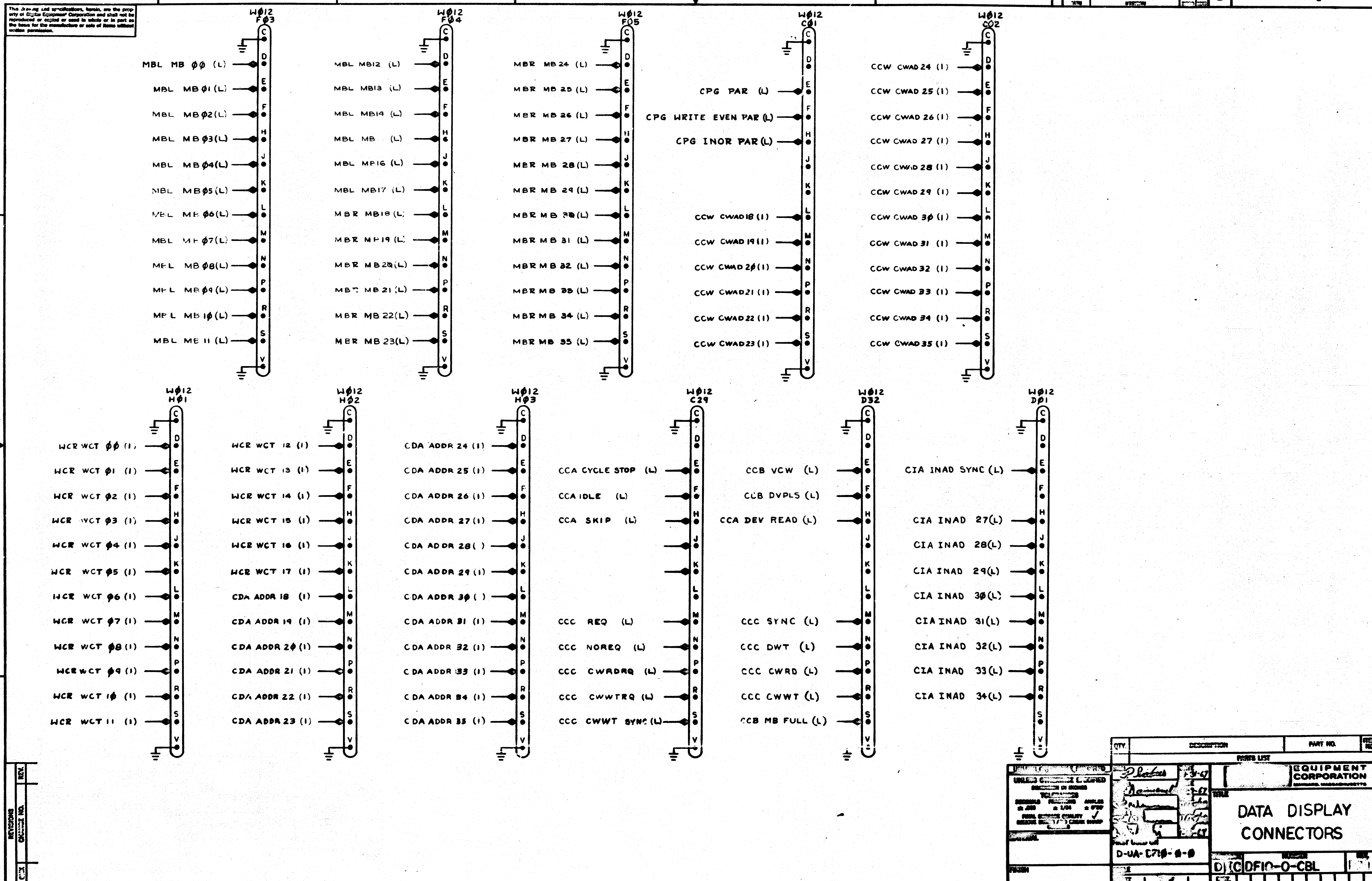
DRN. [illegible] DATE 12-8-67
DES. [illegible] DATE 10-7-67
ENGR. [illegible] DATE 11/15/68
MFG. [illegible] DATE 11/15/67
QA [illegible] DATE 10-8-68
APPROVED D-UA-BFIØ-Ø-Ø
SCALE
SHEET 1 OF 1

DIGITAL EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE
CHANNEL BUS CONN'S & TERM'S

SIZE D NUMBER D-IC-DFIØ-Ø-CBC REV. A
DIST.

SIZE D NUMBER D-IC-DEIØ-Ø-CBC REV. A



W012 F03
MBL MB 00 (L)
MBL MB 01 (L)
MBL MB 02 (L)
MBL MB 03 (L)
MBL MB 04 (L)
MBL MB 05 (L)
MBL MB 06 (L)
MBL MB 07 (L)
MBL MB 08 (L)
MBL MB 09 (L)
MBL MB 10 (L)
MBL MB 11 (L)
W012 F04
MBL MB12 (L)
MBL MB13 (L)
MBL MB14 (L)
MBL MB (L)
MBL MB16 (L)
MBL MB17 (L)
MBR MB18 (L)
MBR MB19 (L)
MBR MB20 (L)
MBR MB 21 (L)
MBR MB 22 (L)
MBR MB 23 (L)
W012 F05
MBR MB 24 (L)
MBR MB 25 (L)
MBR MB 26 (L)
MBR MB 27 (L)
MBR MB 28 (L)
MBR MB 29 (L)
MBR MB 30 (L)
MBR MB 31 (L)
MBR MB 32 (L)
MBR MB 33 (L)
MBR MB 34 (L)
MBR MB 35 (L)
W012 C01
CPG PAR (L)
CPG WRITE EVEN PAR (L)
CPG INOR PAR (L)
CCW CWAD18 (1)
CCW CWAD19 (1)
CCW CWAD 20 (1)
CCW CWAD21 (1)
CCW CWAD22 (1)
CCW CWAD23 (1)
W012 C02
CCW CWAD 24 (1)
CCW CWAD 25 (1)
CCW CWAD 26 (1)
CCW CWAD 27 (1)
CCW CWAD 28 (1)
CCW CWAD 29 (1)
CCW CWAD 30 (1)
CCW CWAD 31 (1)
CCW CWAD 32 (1)
CCW CWAD 33 (1)
CCW CWAD 34 (1)
CCW CWAD 35 (1)
W012 H01
WCR WCT 00 (1)
WCR WCT 01 (1)
WCR WCT 02 (1)
WCR WCT 03 (1)
WCR WCT 04 (1)
WCR WCT 05 (1)
WCR WCT 06 (1)
WCR WCT 07 (1)
WCR WCT 08 (1)
WCR WCT 09 (1)
WCR WCT 10 (1)
WCR WCT 11 (1)
W012 H02
WCR WCT 12 (1)
WCR WCT 13 (1)
WCR WCT 14 (1)
WCR WCT 15 (1)
WCR WCT 16 (1)
WCR WCT 17 (1)
CDA ADDR 18 (1)
CDA ADDR 19 (1)
CDA ADDR 20 (1)
CDA ADDR 21 (1)
CDA ADDR 22 (1)
CDA ADDR 23 (1)
W012 H03
CDA ADDR 24 (1)
CDA ADDR 25 (1)
CDA ADDR 26 (1)
CDA ADDR 27 (1)
CDA ADDR 28 ( )
CDA ADDR 29 (1)
CDA ADDR 30 ( )
CDA ADDR 31 (1)
CDA ADDR 32 (1)
CDA ADDR 33 (1)
CDA ADDR 34 (1)
CDA ADDR 35 (1)
W012 C29
CCA CYCLE STOP (L)
CCA IDLE (L)
CCA SKIP (L)
CCC REQ (L)
CCC NOREQ (L)
CCC CWRDRQ (L)
CCC CWWTRQ (L)
CCC CWWT SYNC (L)
W012 D32
CCB VCW (L)
CCB DVPLS (L)
CCA DEV READ (L)
CCC SYNC (L)
CCC DWT (L)
CCC CWRD (L)
CCC CWWT (L)
CCB MB FULL (L)
W012 D01
CIA INAD SYNC (L)
CIA INAD 27(L)
CIA INAD 28(L)
CIA INAD 29(L)
CIA INAD 30(L)
CIA INAD 31(L)
CIA INAD 32(L)
CIA INAD 33(L)
CIA INAD 34(L)
EQUIPMENT CORPORATION
DATA DISPLAY CONNECTORS
D-UA-DF10-0-0
D C DF10-0-CBL

CBC CHANNEL START B
CCC CWWT(Ø)
CCA START
CCA CYCLE STOP(L)
CCA POWER CLEAR
CBC CHANNEL RESET
CCA TP3
CBC CHANNEL START B
CCA CYCLE TERMINATE
CCA LOCAL CLR
CCC LOCAL START (I)
CLEAR CYCLE
CCA ENDRDDY
CBC RDRS
CBC ACKN
CCA LOAD CW
-CCA MBR EQ ZERO
CCA MB SKIP
-CCA MBR SKIP
CCA SKIP (L)
CIA INAD SYNC (Ø)
CBC -SAWRITE B
CBC SAWRITE B
CCA START
CCA MBL EQ ZERO
-CCA MBL EQ ZERO
CCA MBR EQ ZERO
CBC CRO BAR
CCA IDLE (L)
CCA CYCLE STOP(I)
CCA IDLE(Ø)
CCC SYNC(Ø)
CCA START DLY
CCB NO MEM
CCA LOAD CW
CCA MBL EQ ZERO
CCA MBR EQ ZERO
CCA LOAD CW
- CPG ODD PARITY
CBC CHANNEL RESET
CCA LOCAL CLR
CBC DEVICE PULSE B
CLEAR
CCB LOCAL
CCA LOCAL SA WRITE
CCA ENDRDDY
-CCC RDDW
CCA XFER CW K
-CCA MBL EQ ZERO
CCA MBL EQ ZERO
-CCA MBR EQ ZERO
CCA LOAD CW
CCA LOAD WCDA 1
CCA LOAD WCDA 2
CCA LOAD WCDA 3
CCA LOAD CWAD 1
CCA LOAD CWAD 2
CCA LOAD CWAD 3
CCA LOAD WCDA

MBL MBØØ(Ø) MBL MBØ1(Ø) MBL MBØ2(Ø) MBL MBØ3(Ø) MBL MBØ4(Ø) MBL MBØ5(Ø)
MBL MBØ6(Ø) MBL MBØ7(Ø) MBL MBØ8(Ø) MBL MBØ9(Ø) MBL MB1Ø(Ø) MBL MB11(Ø)
MBL MB12(Ø) MBL MB13(Ø) MBL MB14(Ø) MBL MB15(Ø) MBL MB16(Ø) MBL MB17(Ø)
MBR MB18(Ø) MBR MB19(Ø) MBR MB2Ø(Ø) MBR MB21(Ø) MBR MB22(Ø) MBR MB23(Ø)
MBR MB24(Ø) MBR MB25(Ø) MBR MB26(Ø) MBR MB27(Ø) MBR MB28(Ø) MBR MB29(Ø)
MBR MB3Ø(Ø) MBR MB31(Ø) MBR MB32(Ø) MBR MB 33(Ø) MBR MB 34(Ø) MBR MB 35(Ø)

REVISIONS			
CHK.	CHANGE NO.	REV.	
	DF10-00006	A	
	A. JOHNSON		

QTY.	DESCRIPTION	PART NO.	ITEM NO.
	PARTS LIST		

EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

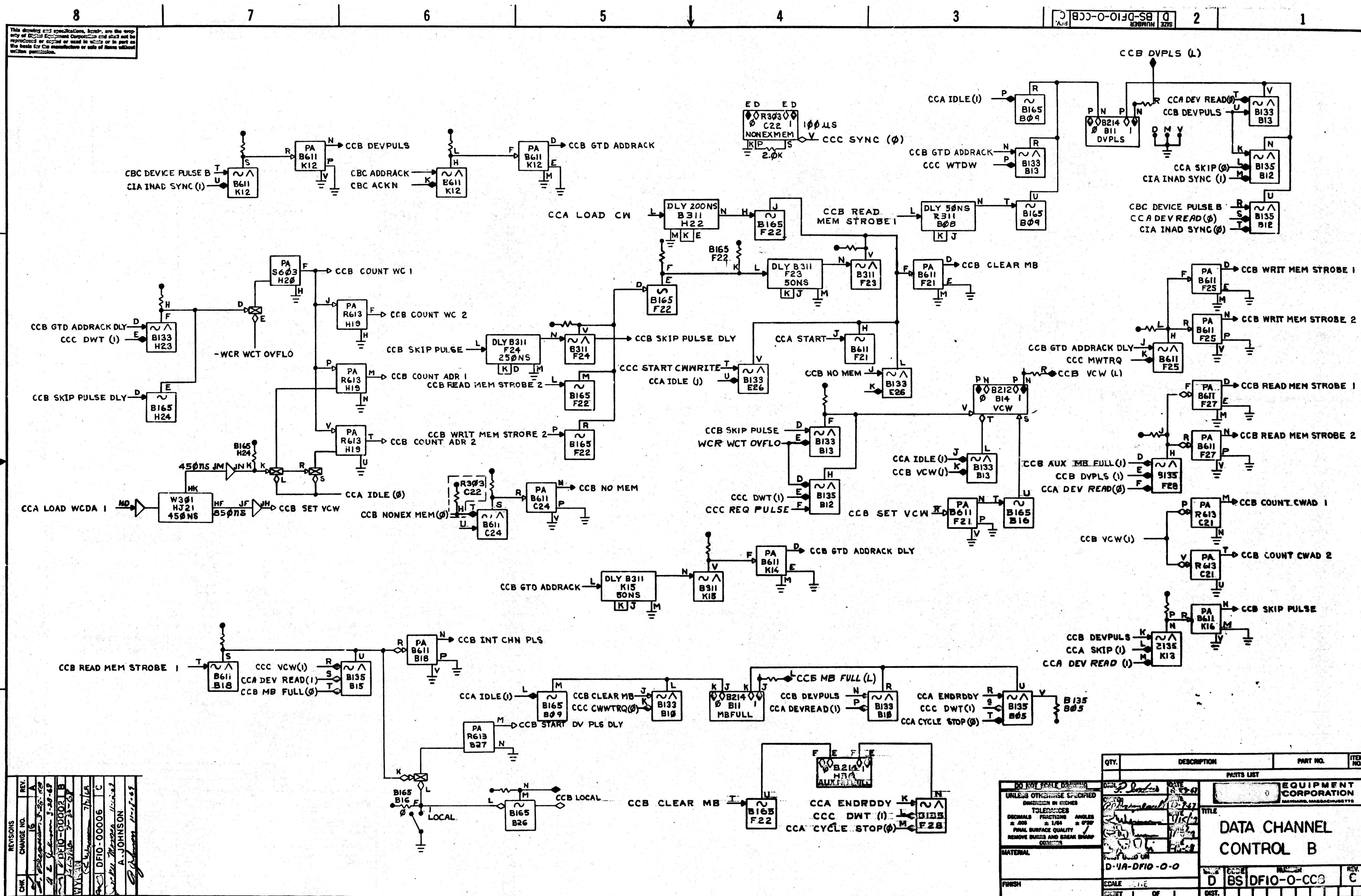
TITLE: DATA CHANNEL CONTROL A

D-UA-DF10-0-0

SIZE D | NUMBER DS-DF10-0-CCA | REV. A

SIZE D | DS | DF10-0-CCA | REV. A

SCALE | SHEET 1 OF 1



CCB DVPLS (L)
CCA IDLE (1)
CCA DEV READ(Ø)
CCB DEVPULS
CCB GTD ADDRACK
CCC WTDW
CCA SKIP(Ø)
CIA INAD SYNC (1)
CBC DEVICE PULSE B
CCA DEV READ(Ø)
CIA INAD SYNC(Ø)
CCC SYNC (Ø)
NONEXMEM
2.ØK
100 µS
CBC DEVICE PULSE B
CIA INAD SYNC (1)
CBC ADDRACK
CBC ACKN
CCB GTD ADDRACK
CCA LOAD CW
DLY 200NS B311 H22
CCB READ MEM STROBE 1
DLY 50NS R311 B08
CCB CLEAR MB
DLY B311 F23 50NS
CCB COUNT WC 1
CCB COUNT WC 2
CCB GTD ADDRACK DLY
CCC DWT (1)
-WCR WCT OVFLO
CCB SKIP PULSE DLY
CCB SKIP PULSE
DLY B311 F24 250NS
CCC START CWWRITE
CCA IDLE (J)
CCA START
CCB NO MEM
CCB COUNT ADR 1
CCB READ MEM STROBE 2
CCB WRIT MEM STROBE 2
CCB COUNT ADR 2
CCB WRIT MEM STROBE 1
CCB WRIT MEM STROBE 2
CCB GTD ADDRACK DLY
CCC MWTRQ
CCB VCW (L)
VCW
CCB READ MEM STROBE 1
CCB READ MEM STROBE 2
CCB SKIP PULSE
WCR WCT OVFLO
CCA IDLE (1)
CCB VCW(1)
CCB AUX MB FULL(L)
CCB DVPLS (1)
CCA DEV READ(Ø)
CCC DWT(1)
CCC REQ PULSE
CCB SET VCW
CCB COUNT CWAD 1
CCB COUNT CWAD 2
CCB VCW(1)
CCA LOAD WCDA 1
W3Ø1 HJ21 45ØNS
45ØNS
85ØNS
CCA IDLE (Ø)
CCB SET VCW
CCB NONEX MEM(Ø)
CCB NO MEM
CCB GTD ADDRACK DLY
CCB GTD ADDRACK
DLY B311 K15 50NS
CCB DEVPULS
CCA SKIP (1)
CCA DEV READ (1)
CCB INT CHN PLS
CCB READ MEM STROBE 1
CCC VCW(1)
CCA DEV READ(1)
CCB MB FULL(Ø)
CCB MB FULL (L)
CCA IDLE(1)
CCB CLEAR MB
CCC CWWTRQ(Ø)
MBFULL
CCB DEVPULS
CCA DEVREAD(1)
CCA ENDRDDY
CCC DWT(1)
CCA CYCLE STOP(Ø)
CCB START DV PLS DLY
LOCAL
CCB LOCAL
CCB CLEAR MB
CCA ENDRDDY
CCC DWT (1)
CCA CYCLE STOP(Ø)
AUX MB FULL

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES

QTY. | DESCRIPTION | PART NO. | ITEM NO.

PARTS LIST

EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

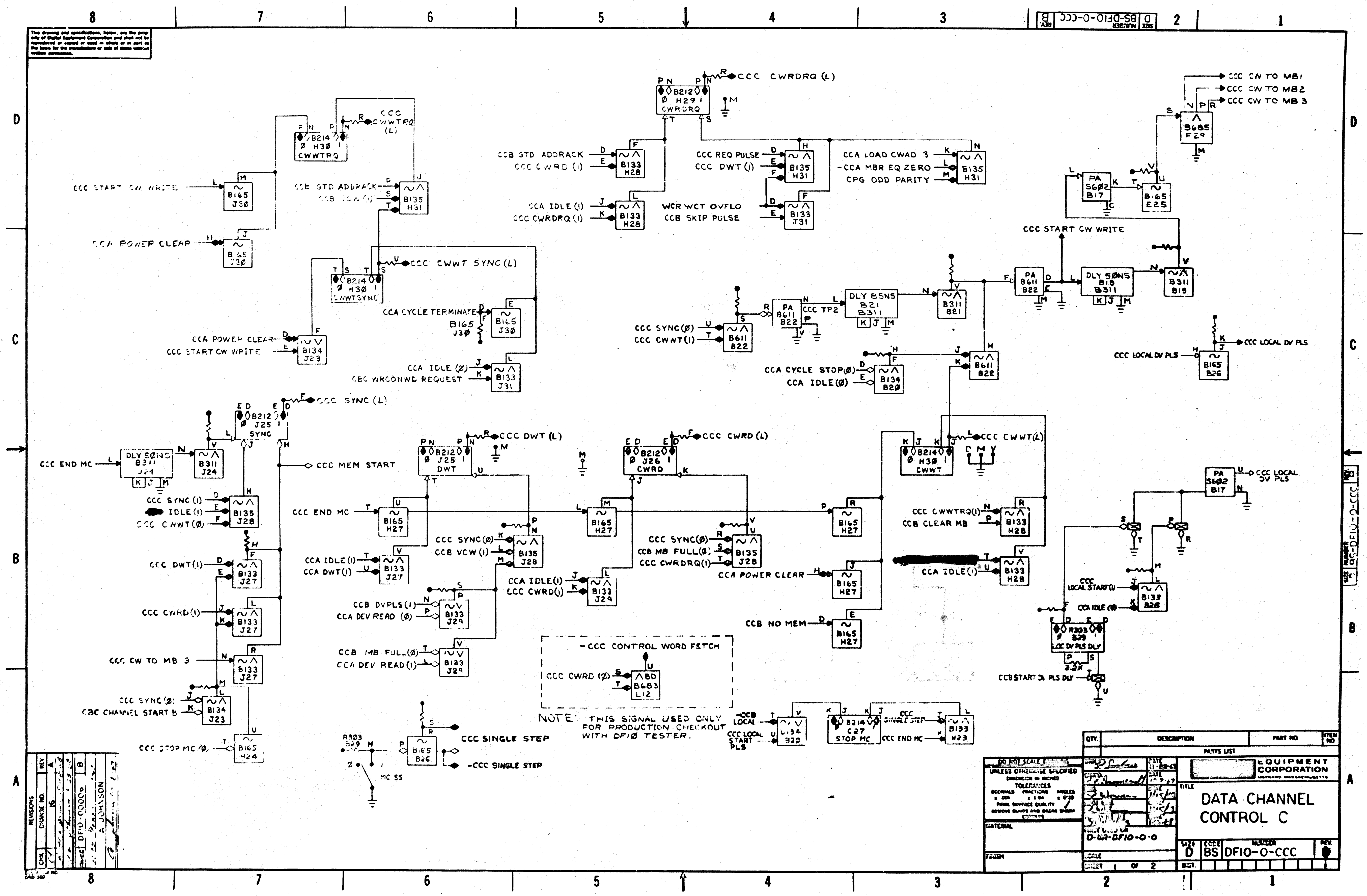
TITLE DATA CHANNEL CONTROL B

D-1A-DF10-0-0

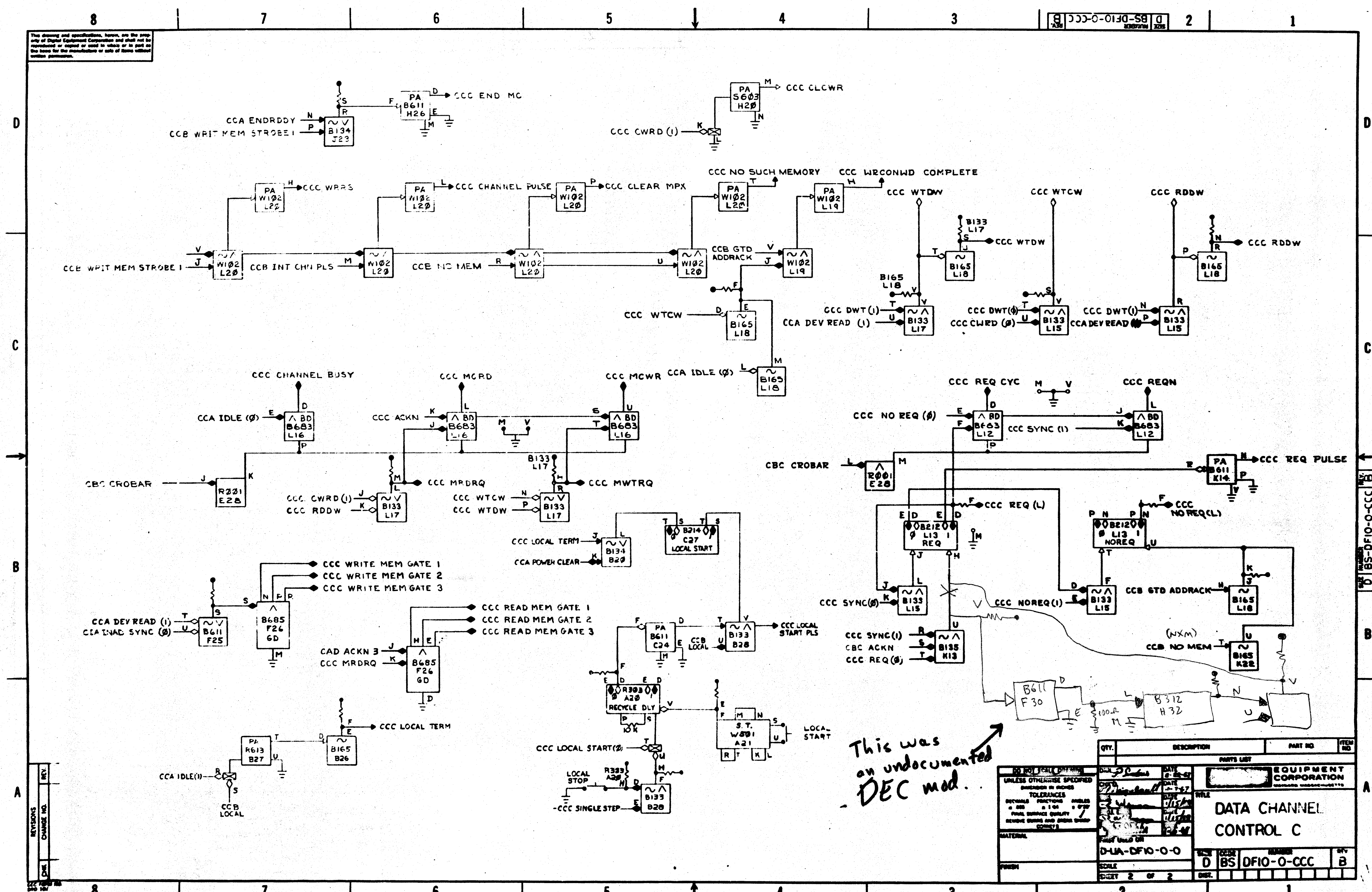
SIZE D CODE BS NUMBER DF10-0-CCB REV. C

SCALE NONE SHEET 1 OF 1

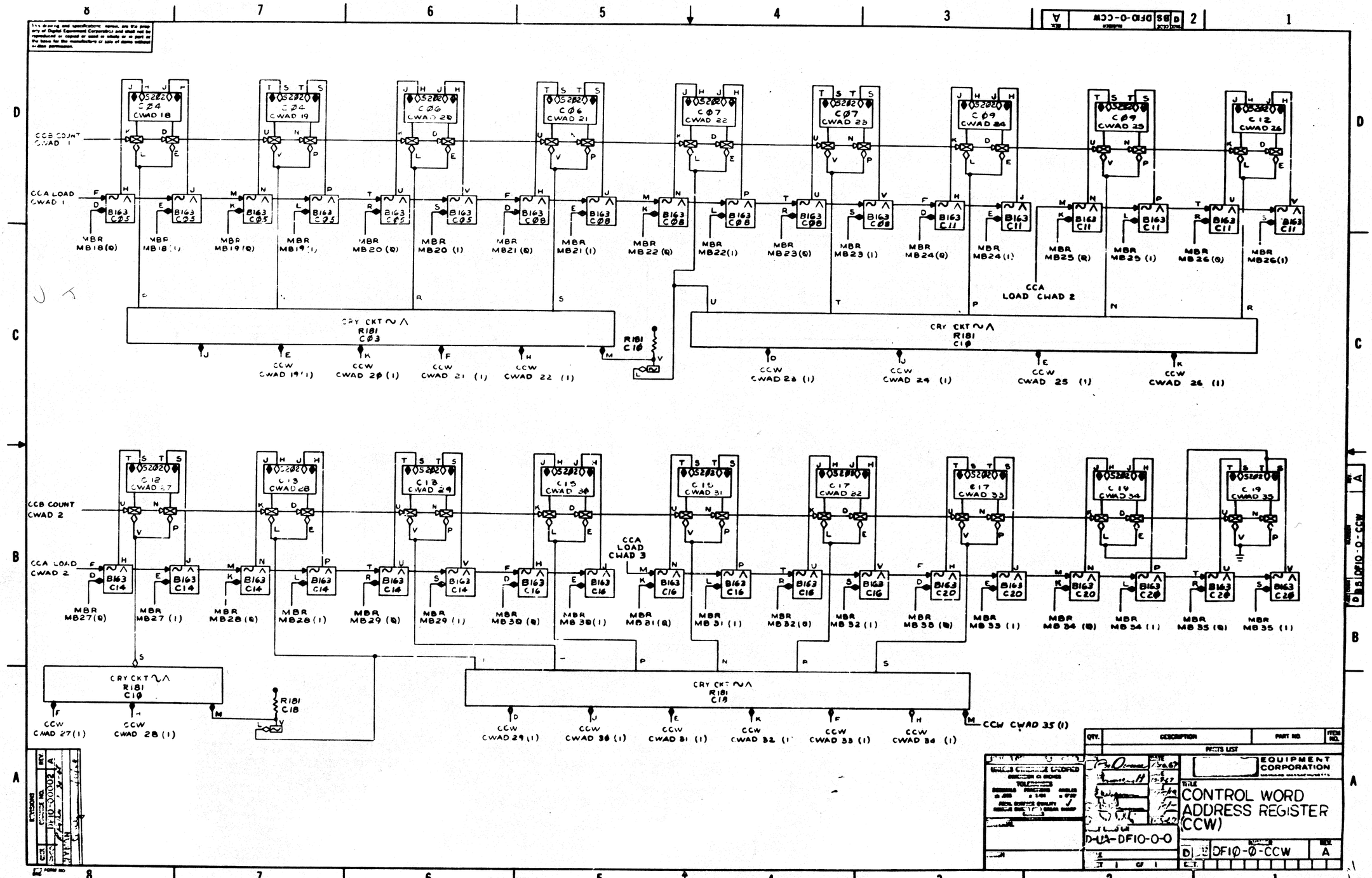
REVISIONS: DF10-00002, DF10-00006, A. JOHNSON



DATA CHANNEL CONTROL C
EQUIPMENT CORPORATION
D BS DF10-0-CCC
D-LA-DF10-0-0
SHEET 1 OF 2
BS-DF10-0-CCC
PARTS LIST
QTY. DESCRIPTION PART NO ITEM NO
DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES
MATERIAL
FINISH
REVISIONS CHANGE NO CHK
DF10-0000
A. JOHNSON
CCC CWRDRQ (L)
B212 H29 CWRDRQ
CCC CWWTRQ (L)
B214 H30 CWWTRQ
CCC START CW WRITE
CCA POWER CLEAR
CCB STD ADDRACK
CCC CWRD (1)
CCA IDLE (1)
CCC CWRDRQ (1)
CCC REQ PULSE
CCC DWT (1)
WCR WCT OVFLO
CCB SKIP PULSE
CCA LOAD CWAD 3
-CCA MBR EQ ZERO
CPG ODD PARITY
CCC CW TO MB1
CCC CW TO MB2
CCC CW TO MB3
B685 F29
PA S602 B17
B165 E25
CCC CWWT SYNC (L)
B214 H30 CWWTSYNC
CCA CYCLE TERMINATE
CCA POWER CLEAR
CCC START CW WRITE
CCA IDLE (Ø)
CBC WRCONWD REQUEST
CCC SYNC (Ø)
CCC CWWT (1)
CCC TP2
DLY 85NS B21 B311
PA B611 B22
DLY 50NS B19 B311
CCC LOCAL DV PLS
CCA CYCLE STOP (Ø)
CCA IDLE (Ø)
CCC SYNC (L)
B212 J25 SYNC
CCC END MC
DLY 50NS B311 J24
CCC MEM START
CCC DWT (L)
B212 J25 DWT
CCC CWRD (L)
B212 J26 CWRD
CCC CWWT (L)
B214 H30 CWWT
CCC SYNC (1)
IDLE (1)
CCC CWWT (Ø)
CCC DWT (1)
CCC CWRD (1)
CCC CW TO MB 3
CCC SYNC (Ø)
CBC CHANNEL START B
CCC STOP MC (Ø)
CCC END MC
CCC SYNC (Ø)
CCB VCW (1)
CCA IDLE (1)
CCA DWT (1)
CCB DVPLS (1)
CCA DEV READ (Ø)
CCB MB FULL (Ø)
CCA DEV READ (1)
CCC SYNC (Ø)
CCB MB FULL (Ø)
CCC CWRDRQ (1)
CCA IDLE (1)
CCC CWRD (1)
CCA POWER CLEAR
CCB NO MEM
CCC CWWTRQ (1)
CCB CLEAR MB
[redacted]
CCA IDLE (1)
CCC LOCAL START (1)
CCA IDLE (Ø)
R303 B29 LOC DV PLS DLY
CCB START DV PLS DLY
-CCC CONTROL WORD FETCH
CCC CWRD (Ø)
B683 L12
NOTE: THIS SIGNAL USED ONLY FOR PRODUCTION CHECKOUT WITH DF10 TESTER.
CCC SINGLE STEP
-CCC SINGLE STEP
R303 B29
MC SS
CCB LOCAL
CCC LOCAL START PLS
B214 C27 STOP MC
CCC SINGLE STEP
CCC END MC



CCA ENDRDDY
CCB WRIT MEM STROBE 1
CCC END MC
CCC CWRD (1)
CCC CLCWR
CCC WRRS
CCC CHANNEL PULSE
CCC CLEAR MPX
CCC NO SUCH MEMORY
CCC WRCONWD COMPLETE
CCC WTDW
CCC WTCW
CCC RDDW
CCB WRIT MEM STROBE 1
CCB INT CHN PLS
CCB NO MEM
CCB GTD ADDRACK
CCC DWT (1)
CCA DEV READ (1)
CCC DWT (0)
CCC CWRD (0)
CCA DEV READ (0)
CCA IDLE (0)
CCC CHANNEL BUSY
CCC MCRD
CCC MCWR
CCC ACKN
CBC CROBAR
CCC MRDRQ
CCC MWTRQ
CCC CWRD (1)
CCC RDDW
CCC WTCW
CCC WTDW
CCC LOCAL TERM
CCA POWER CLEAR
LOCAL START
CCC WRITE MEM GATE 1
CCC WRITE MEM GATE 2
CCC WRITE MEM GATE 3
CCC READ MEM GATE 1
CCC READ MEM GATE 2
CCC READ MEM GATE 3
CCA DEV READ (1)
CCA INAD SYNC (0)
CAD ACKN 3
CCC MRDRQ
CCC LOCAL START PLS
CCB LOCAL
RECYCLE DLY
CCC LOCAL START (0)
LOCAL STOP
CCC SINGLE STEP
CCA IDLE (1)
CCC REQ CYC
CCC REQN
CCC NO REQ (0)
CCC SYNC (1)
CCC REQ PULSE
CCC REQ (L)
CCC NO REQ (L)
CCC SYNC (0)
CCC NOREQ (1)
CCB GTD ADDRACK
CCC SYNC (1)
CBC ACKN
CCC REQ (0)
(NXM)
CCB NO MEM
This was an undocumented DEC mod.
DATA CHANNEL CONTROL C
D BS DF10-0-CCC B
D-UA-DF10-0-0
SHEET 2 OF 2
EQUIPMENT CORPORATION



QTY.	DESCRIPTION	PART NO.	ITEM NO.
	PARTS LIST		

EQUIPMENT CORPORATION

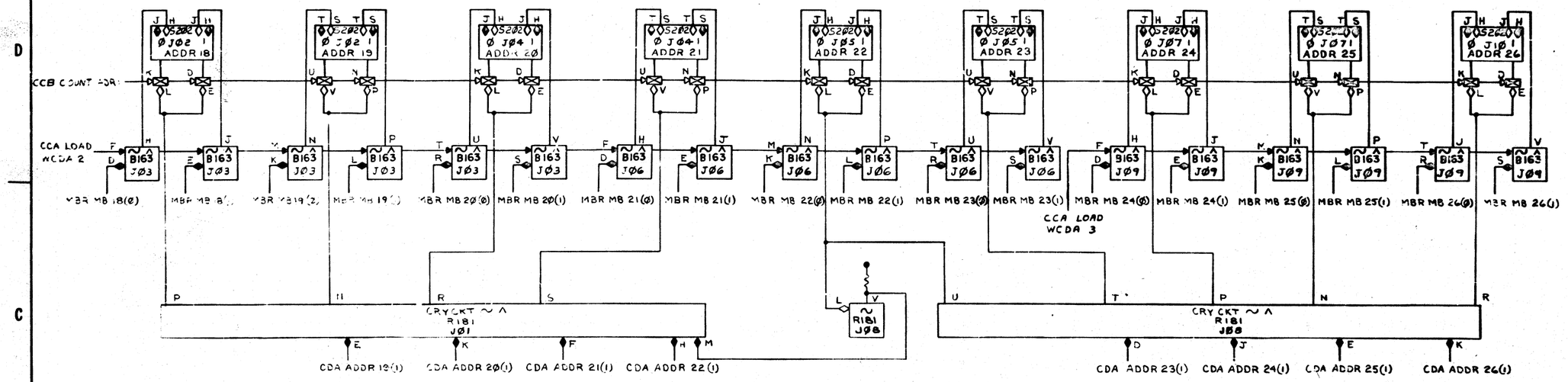
TITLE: CONTROL WORD ADDRESS REGISTER (CCW)

D-UA-DF10-0-0

SIZE D | DF10-0-CCW | REV. A

SCALE | DRAWN | CHECKED | APPROVED | DATE | SHEET 1 OF 1

REVISIONS: REV. A; CHANGE NO. DF10-0000X



QTY.	DESCRIPTION	PART NO.	ITEM NO.
	PARTS LIST		

DIGITAL EQUIPMENT CORPORATION

TITLE: DATA ADDRESS REGISTER

D-UA-DF10-0-0

NUMBER: DF10-0-CDA

REV: D

REVISIONS: REV. | CHANGE NO. | CDR

DF10-0-CDA | BS | D

CIA INAD 27 (L) | CIA INAD 28 (L) | CIA INAD 29 (L) | CIA INAD 3Ø (L) | CIA INAD 31 (L) | CIA INAD 32 (L) | CIA INAD 33 (L) | CIA INAD 34 (L)

B214 Ø D12 1 INAD 27 | B214 Ø D12 1 INAD 28 | B214 Ø D12 1 INAD 29 | B214 Ø D12 1 INAD 3Ø | B214 Ø D14 1 INAD 31 | B214 Ø D14 1 INAD 32 | B214 Ø D14 1 INAD 33 | B214 Ø D14 1 INAD 34

CCA START DLY

M,V

CIA INAD SYNC B

MBR MB27(1) — B163 D13 — MBR MB28(1) — B163 D13 — MBR MB29(1) — B163 D13 — MBR MB3Ø(1) — B163 D13 — MBR MB31(1) — B163 D13 — MBR MB32(1) — B163 D13 — MBR MB33(1) — B133 D15 — MBR MB34(1) — B133 D15

M,V

B133 S D18

CIA INAD SYNC (Ø) — B165 D16

CCA IDLE (Ø) — B133 D18

CIA INAD SYNC (L)

B214 D17 1 INAD SYNC

CCB NO MEM
CCA IDLE (1) — B135 D19

CCA POWER CLEAR

CCA IDLE (1)
CCB GTD ADDRACK — B133 D18

CCC REQ PULSE
CCC CWWT (Ø) — B133 D15

REVISIONS			
DWR	CHANGE NO.	REV	
JWC	DF10-00006	A	

A. JOHNSON

QTY.	DESCRIPTION	PART NO.	ITEM NO.

PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .005 | FRACTIONS ± 1/64 | ANGLES ± 0°30'
FINAL SURFACE QUALITY √
REMOVE BURRS AND BREAK SHARP EDGES
MATERIAL
FINISH

D-CA-DF10-0-0

EQUIPMENT CORPORATION

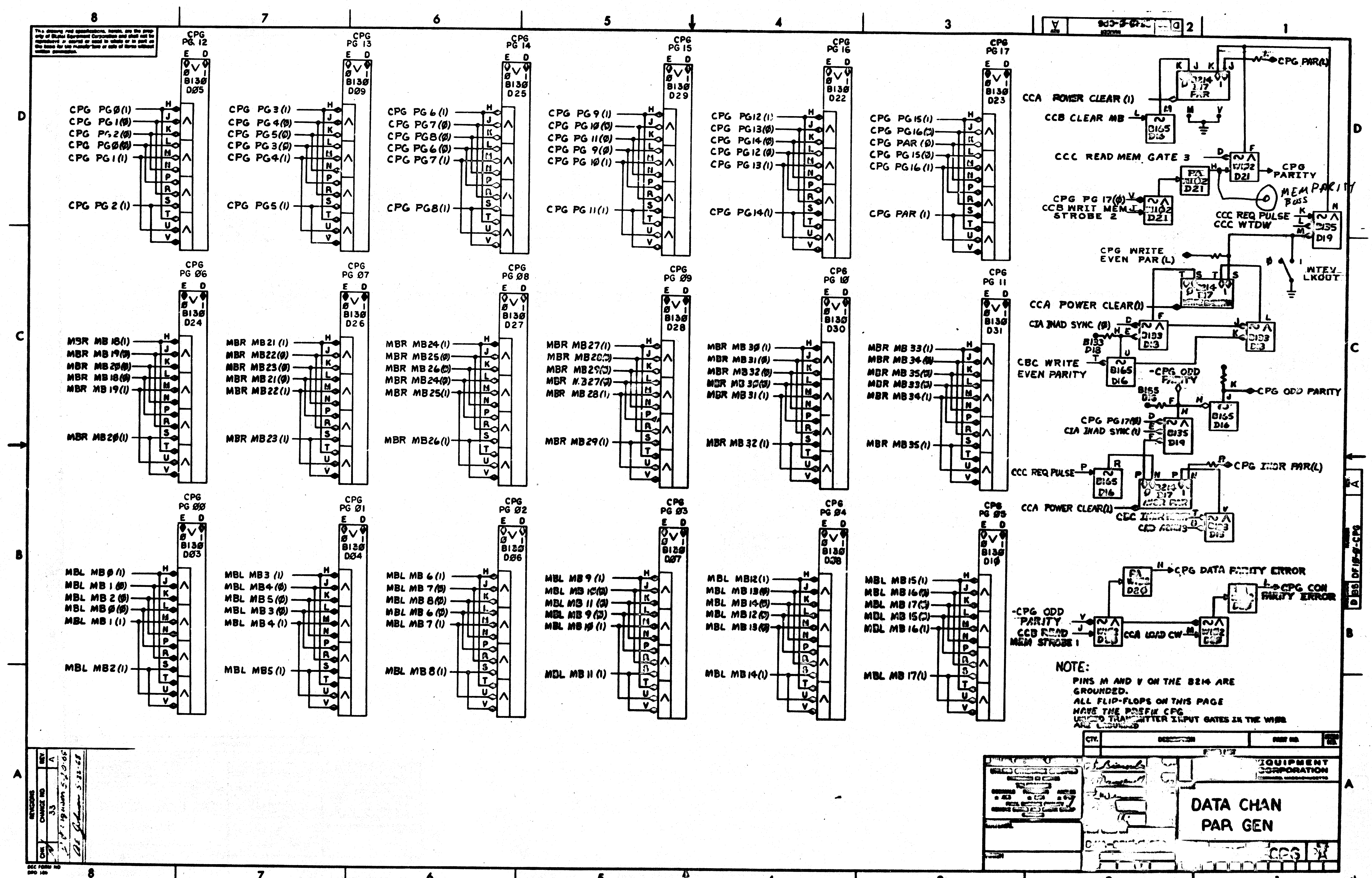
TITLE: INITIAL ADDRESS REGISTER

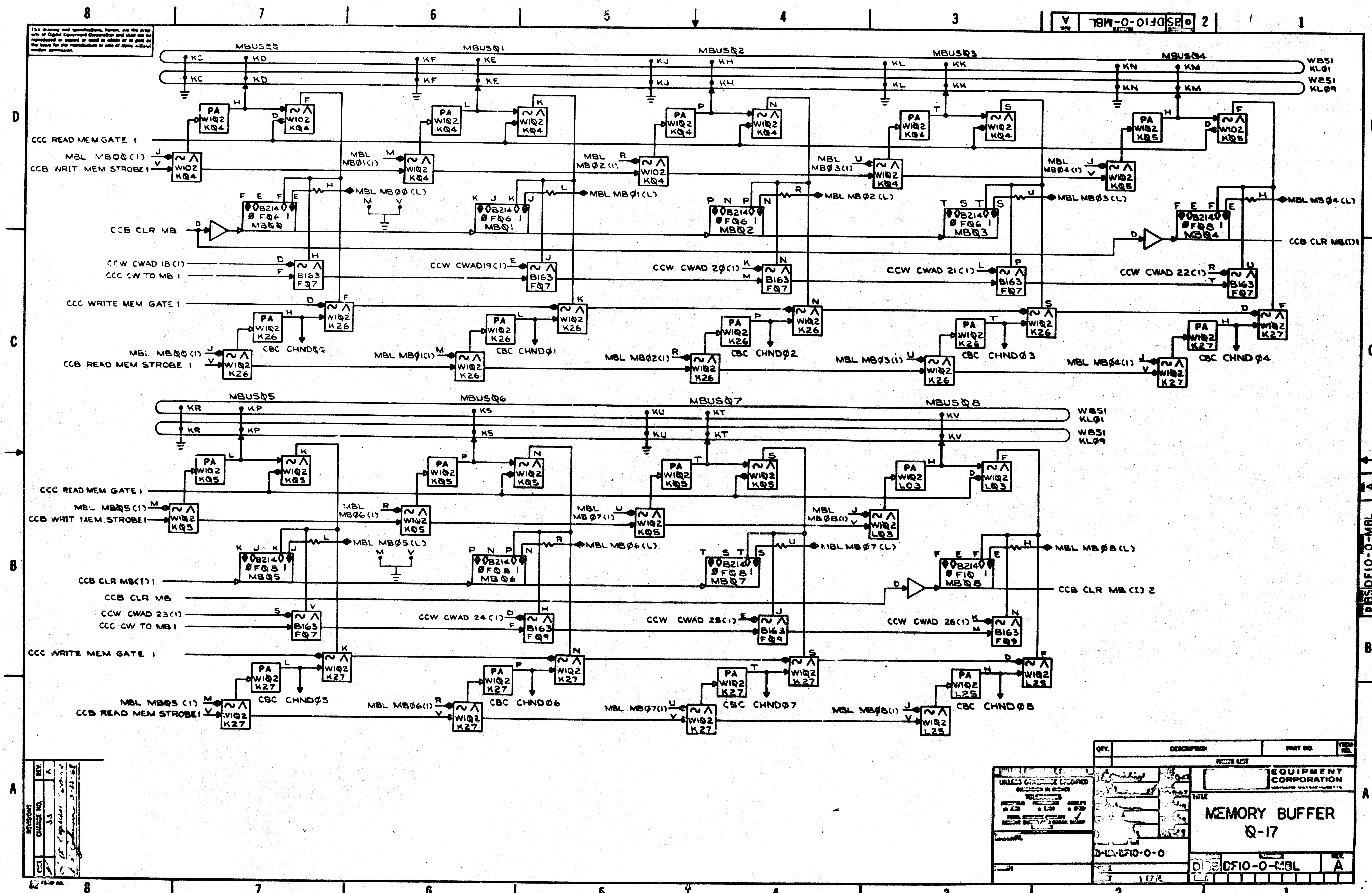
SIZE D | DRAWING NO. BS-DF10-0-CIA | REV A

SCALE | SHEET 1 OF 1

D BS-DF10-0-CIA A

BS-DF10-0-CIA A


CPG PG 12
B13Ø
DØ5
CPG PGØ(1)
CPG PG1(Ø)
CPG PG2(Ø)
CPG PGØ(Ø)
CPG PG1(1)
CPG PG2(1)
CPG PG 13
B13Ø
DØ9
CPG PG3(1)
CPG PG4(Ø)
CPG PG5(Ø)
CPG PG3(Ø)
CPG PG4(1)
CPG PG5(1)
CPG PG 14
B13Ø
D25
CPG PG6(1)
CPG PG7(Ø)
CPG PG8(Ø)
CPG PG6(Ø)
CPG PG7(1)
CPG PG8(1)
CPG PG 15
B13Ø
D29
CPG PG9(1)
CPG PG1Ø(Ø)
CPG PG11(Ø)
CPG PG9(Ø)
CPG PG1Ø(1)
CPG PG11(1)
CPG PG 16
B13Ø
D22
CPG PG12(1)
CPG PG13(Ø)
CPG PG14(Ø)
CPG PG12(Ø)
CPG PG13(1)
CPG PG14(1)
CPG PG 17
B13Ø
D23
CPG PG15(1)
CPG PG16(Ø)
CPG PAR(Ø)
CPG PG15(Ø)
CPG PG16(1)
CPG PAR(1)
CPG PG Ø6
B13Ø
D24
MBR MB18(1)
MBR MB19(Ø)
MBR MB2Ø(Ø)
MBR MB18(Ø)
MBR MB19(1)
MBR MB2Ø(1)
CPG PG Ø7
B13Ø
D26
MBR MB21(1)
MBR MB22(Ø)
MBR MB23(Ø)
MBR MB21(Ø)
MBR MB22(1)
MBR MB23(1)
CPG PG Ø8
B13Ø
D27
MBR MB24(1)
MBR MB25(Ø)
MBR MB26(Ø)
MBR MB24(Ø)
MBR MB25(1)
MBR MB26(1)
CPG PG Ø9
B13Ø
D28
MBR MB27(1)
MBR MB28(Ø)
MBR MB29(Ø)
MBR MB27(Ø)
MBR MB28(1)
MBR MB29(1)
CPG PG 1Ø
B13Ø
D3Ø
MBR MB3Ø(1)
MBR MB31(Ø)
MBR MB32(Ø)
MBR MB3Ø(Ø)
MBR MB31(1)
MBR MB32(1)
CPG PG 11
B13Ø
D31
MBR MB33(1)
MBR MB34(Ø)
MBR MB35(Ø)
MBR MB33(Ø)
MBR MB34(1)
MBR MB35(1)
CPG PG ØØ
B13Ø
DØ3
MBL MBØ(1)
MBL MB1(Ø)
MBL MB2(Ø)
MBL MBØ(Ø)
MBL MB1(1)
MBL MB2(1)
CPG PG Ø1
B13Ø
DØ4
MBL MB3(1)
MBL MB4(Ø)
MBL MB5(Ø)
MBL MB3(Ø)
MBL MB4(1)
MBL MB5(1)
CPG PG Ø2
B13Ø
DØ6
MBL MB6(1)
MBL MB7(Ø)
MBL MB8(Ø)
MBL MB6(Ø)
MBL MB7(1)
MBL MB8(1)
CPG PG Ø3
B13Ø
DØ7
MBL MB9(1)
MBL MB1Ø(Ø)
MBL MB11(Ø)
MBL MB9(Ø)
MBL MB1Ø(1)
MBL MB11(1)
CPG PG Ø4
B13Ø
DØ8
MBL MB12(1)
MBL MB13(Ø)
MBL MB14(Ø)
MBL MB12(Ø)
MBL MB13(1)
MBL MB14(1)
CPG PG Ø5
B13Ø
D1Ø
MBL MB15(1)
MBL MB16(Ø)
MBL MB17(Ø)
MBL MB15(Ø)
MBL MB16(1)
MBL MB17(1)
CPG PAR(1)
CCA POWER CLEAR (1)
CCB CLEAR MB
B165
CCC READ MEM GATE 3
CPG PARITY
MEM PARITY BUSS
CPG PG 17(Ø)
CCB WRIT MEM STROBE 2
CCC REQ PULSE
CCC WTDW
B135
D19
CPG WRITE EVEN PAR (L)
WTEV LKOUT
CCA POWER CLEAR(1)
CIA INAD SYNC (Ø)
B133
CBC WRITE EVEN PARITY
B165
D16
-CPG ODD PARITY
CPG ODD PARITY
CPG PG17(Ø)
CIA INAD SYNC (1)
CCC REQ PULSE
CPG INDR PAR(L)
CCA POWER CLEAR(1)
CPG DATA PARITY ERROR
CPG CON PARITY ERROR
-CPG ODD PARITY
CCB READ MEM STROBE 1
CCA LOAD CW
NOTE:
PINS M AND V ON THE B214 ARE GROUNDED.
ALL FLIP-FLOPS ON THIS PAGE HAVE THE PREFIX CPG
DATA CHAN PAR GEN
EQUIPMENT CORPORATION
CPG


MEMORY BUFFER
Q-17
D BS DF10-0-MBL
A
EQUIPMENT CORPORATION
MBUS00
MBUS01
MBUS02
MBUS03
MBUS04
MBUS05
MBUS06
MBUS07
MBUS08
W851 KL01
W851 KL09
CCC READ MEM GATE 1
MBL MB00 (1)
CCB WRIT MEM STROBE 1
CCB CLR MB
CCW CWAD 18 (1)
CCC CW TO MB 1
CCC WRITE MEM GATE 1
MBL MB00 (1)
CCB READ MEM STROBE 1
CBC CHND00
CBC CHND01
CBC CHND02
CBC CHND03
CBC CHND04
CBC CHND05
CBC CHND06
CBC CHND07
CBC CHND08
MBL MB00 (L)
MBL MB01 (L)
MBL MB02 (L)
MBL MB03 (L)
MBL MB04 (L)
MBL MB05 (L)
MBL MB06 (L)
MBL MB07 (L)
MBL MB08 (L)
CCW CWAD 19 (1)
CCW CWAD 20 (1)
CCW CWAD 21 (1)
CCW CWAD 22 (1)
CCW CWAD 23 (1)
CCW CWAD 24 (1)
CCW CWAD 25 (1)
CCW CWAD 26 (1)
CCB CLR MB (1) 1
CCB CLR MB (1) 2
B214 0 FQ6 1 MB00
B163 FQ7
B163 FQ9
W102
PA

MBUS 9 MBUS 10 MBUS 11 MBUS 12 MBUS 13

WB51 KL01 WB51 KL09

CCC READ MEM GATE 1 — CCC READ MEM GATE 2

MBL MB 9 (1) MBL MB 10 (1) MBL MB 11 (1) MBL MB 12 (1) MBL MB 13 (1)

CCB WRIT MEM STROBE 1

MBL MB 9 (L) MBL MB 10 (L) MBL MB 11 (L) MBL MB 12 (L) MBL MB 13 (L)

B214 0 F10 1 MB9 B214 0 F10 1 MB10 B214 0 F10 1 MB11 B214 0 F11 1 MB12 B214 0 F11 1 MB13

CCB CLR MB (1) 2 — CCB CLR MB (1) 3

CCB CLR MB

CCW CWAD 27 (1) CCW CWAD 28 (1) CCW CWAD 29 (1) CCW CWAD 30 (1) CCW CWAD 31 (1)

CCC CW TO MB 1 — CCC CW TO MB 2

B163 F09 B163 F09 B163 F09 B163 F12 B163 F12

CCC WRITE MEM GATE 1 — CCC WRITE MEM GATE 2

CBC CHND 9 CBC CHND 10 CBC CHND 11 CBC CHND 12 CBC CHND 13

MBL MB 9 (1) MBL MB 10 (1) MBL MB 11 (1) MBL MB 12 (1) MBL MB 13 (1)

CCB READ MEM STROBE 1

MBUS 14 MBUS 15 MBUS 16 MBUS 17

WB51 KL01 WB51 KL09

CCC READ MEM GATE 2

MBL MB 14 (1) MBL MB 15 (1) MBL MB 16 (1) MBL MB 17 (1)

CCB WRIT MEM STROBE 1

MBL MB 14 (L) MBL MB 15 (L) MBL MB 16 (L) MBL MB 17 (L)

B214 0 F11 1 MB14 B214 0 F11 1 MB15 B214 0 F13 1 MB16 B214 0 F13 1 MB17

CCB CLR MB (1) 3 — CCB CLR MB (1) 4

CCB CLR MB

CCW CWAD 32 (1) CCW CWAD 33 (1) CCW CWAD 34 (1) CCW CWAD 35 (1)

CCC CW TO MB 2

B163 F12 B163 F12 B163 F12 B163 F12

CCC WRITE MEM GATE 2

CBC CHND 14 CBC CHND 15 CBC CHND 16 CBC CHND 17

MBL MB 14 (1) MBL MB 15 (1) MBL MB 16 (1) MBL MB 17 (1)

CCB READ MEM STROBE 1 — CCB READ MEM STROBE 2

PA WIQ2 LQ3 · WIQ2 LQ3 · WIQ2 LQ4 · WIQ2 LQ6 · WIQ2 L25 · WIQ2 L26 · WIQ2 L27

QTY. | DESCRIPTION | PART NO. | ITEM NO.

EQUIPMENT CORPORATION

SIZE MEMORY BUFFER Q-17

D-UA-DF10-0-0

DF10-0-MBL REV A

SHT 2 OF 2

MBUS 18 MBUS 19 MBUS 20 MBUS 21 MBUS 22

WBS1 KL02 WBS1 KL10

CCC READ MEM GATE 2
MBR MB 18 (1)
CCB WRIT MEM STROBE 1
MBR MB 19 (1)
MBR MB 20 (1)
MBR MB 21 (1)
MBR MB 22 (1)
MBR MB 8 (L)
MBR MB 19 (L)
MBR MB 20 (L)
MBR MB 21 (L)
MBR MB 22 (L)
CLR WRIT MEM STROBE 2
CCB CLR MB (1) 4
CCB CLR MB
CCB CLR MB (1) 5
CDA ADDR 18 (1)
CCC CW TO MB 2
CDA ADDR 19 (1)
CDA ADDR 20 (1)
CDA ADDR 21 (1)
CDA ADDR 22 (1)
CCC WRITE MEM GATE 2
MBR MB 18 (1)
CCB READ MEM STROBE 2
MBR MB 19 (1)
MBR MB 20 (1)
MBR MB 21 (1)
MBR MB 22 (1)
CBC CHND 18
CBC CHND 19
CBC CHND 20
CBC CHND 21
CBC CHND 22

MBUS 23 MBUS 24 MBUS 25 MBUS 26

WBS1 KL02 WBS1 KL10

CCC READ MEM GATE 2
CCC READ MEM GATE 3
MBR MB 23 (1)
CCB WRIT MEM STROBE 2
MBR MB 24 (1)
MBR MB 25 (1)
MBR MB 26 (1)
MBR MB 23 (L)
MBR MB 24 (L)
MBR MB 25 (L)
MBR MB 26 (L)
CCB CLR MB (1) 4
CCB CLR MB
CCB CLR MB (1) 6
CDA ADDR 23 (1)
CCC CW TO MB 2
CDA ADDR 24 (1)
CCC CW TO MB 3
CDA ADDR 25 (1)
CDA ADDR 26 (1)
CCC WRITE MEM GATE 2
CCC WRITE MEM GATE 3
MBR MB 23 (1)
CCB READ MEM STROBE 2
MBR MB 24 (1)
MBR MB 25 (1)
MBR MB 26 (1)
CBC CHND 23
CBC CHND 24
CBC CHND 25
CBC CHND 26

REVISIONS		
ECO NO.	REV.	
38	A	
D0F10-0X006	B	

A. JOHNSON

QTY.	DESCRIPTION	PART NO.	ITEM NO.
	PARTS LIST		

DIGITAL EQUIPMENT CORPORATION

TITLE: MEMORY BUFFER 18-35

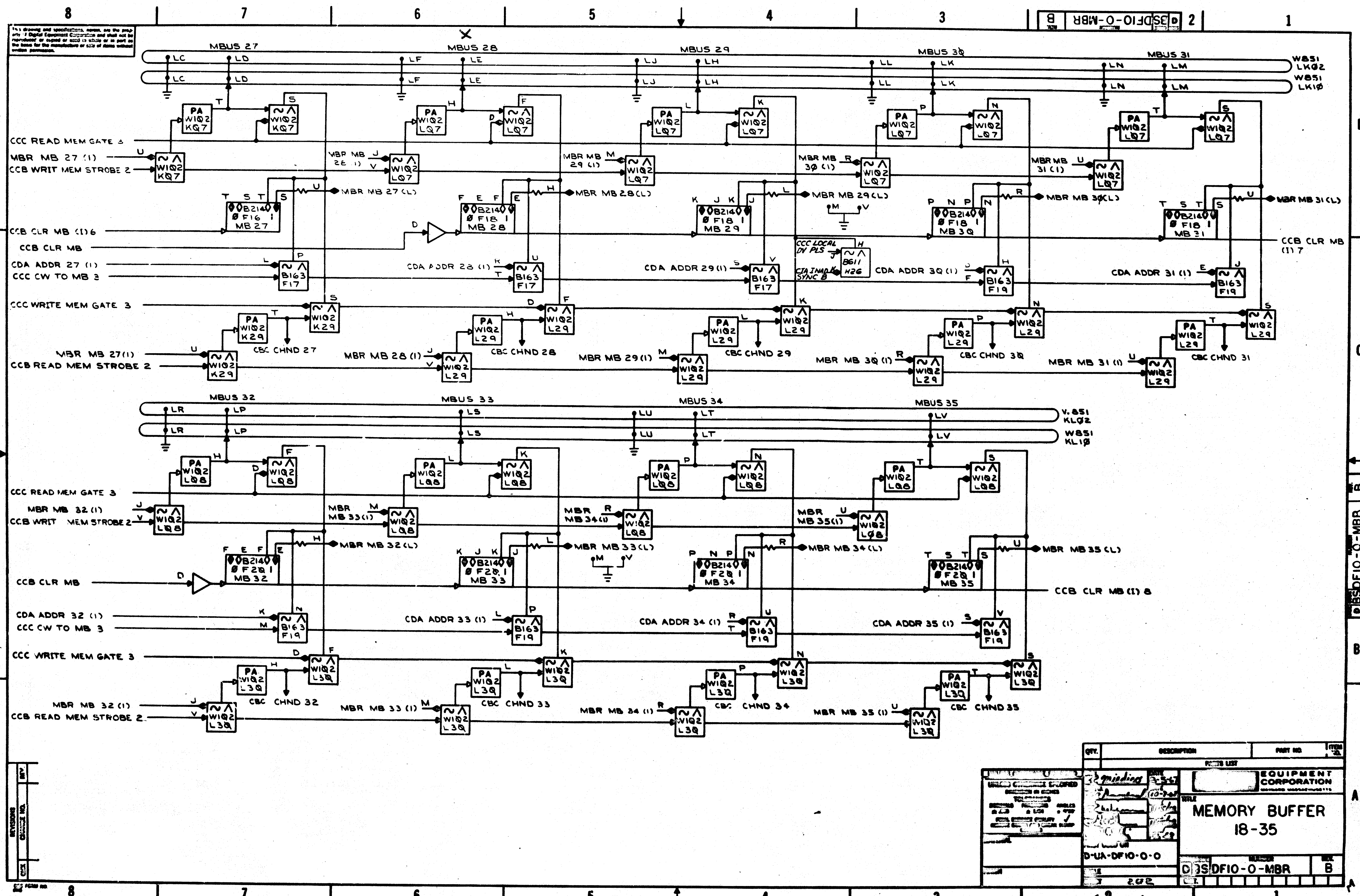
D-UA-DF10-0-0

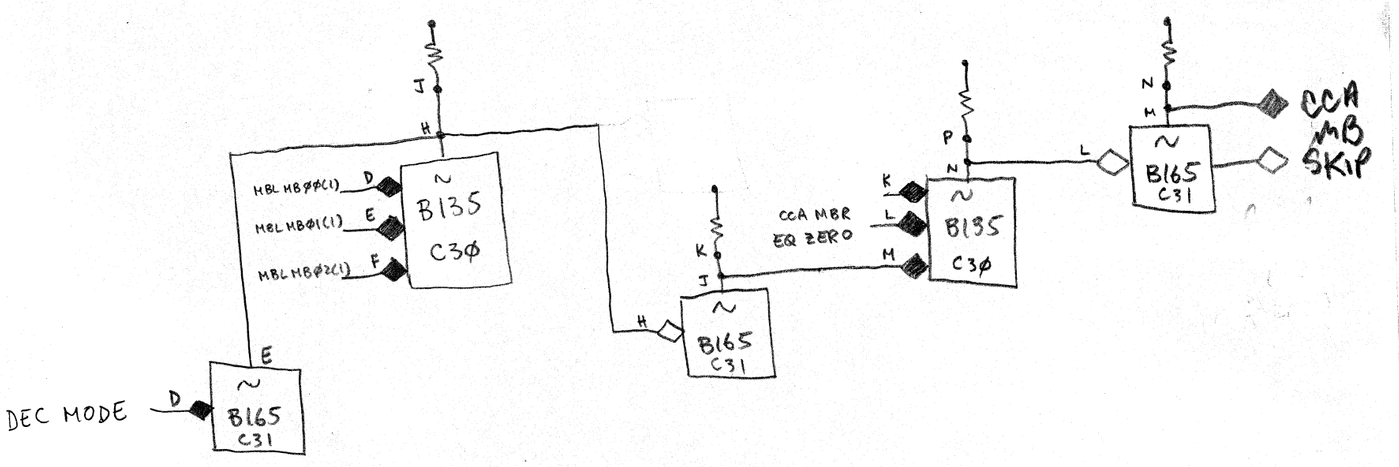
SIZE D | DWG NO. DF10-0-MBR | REV B

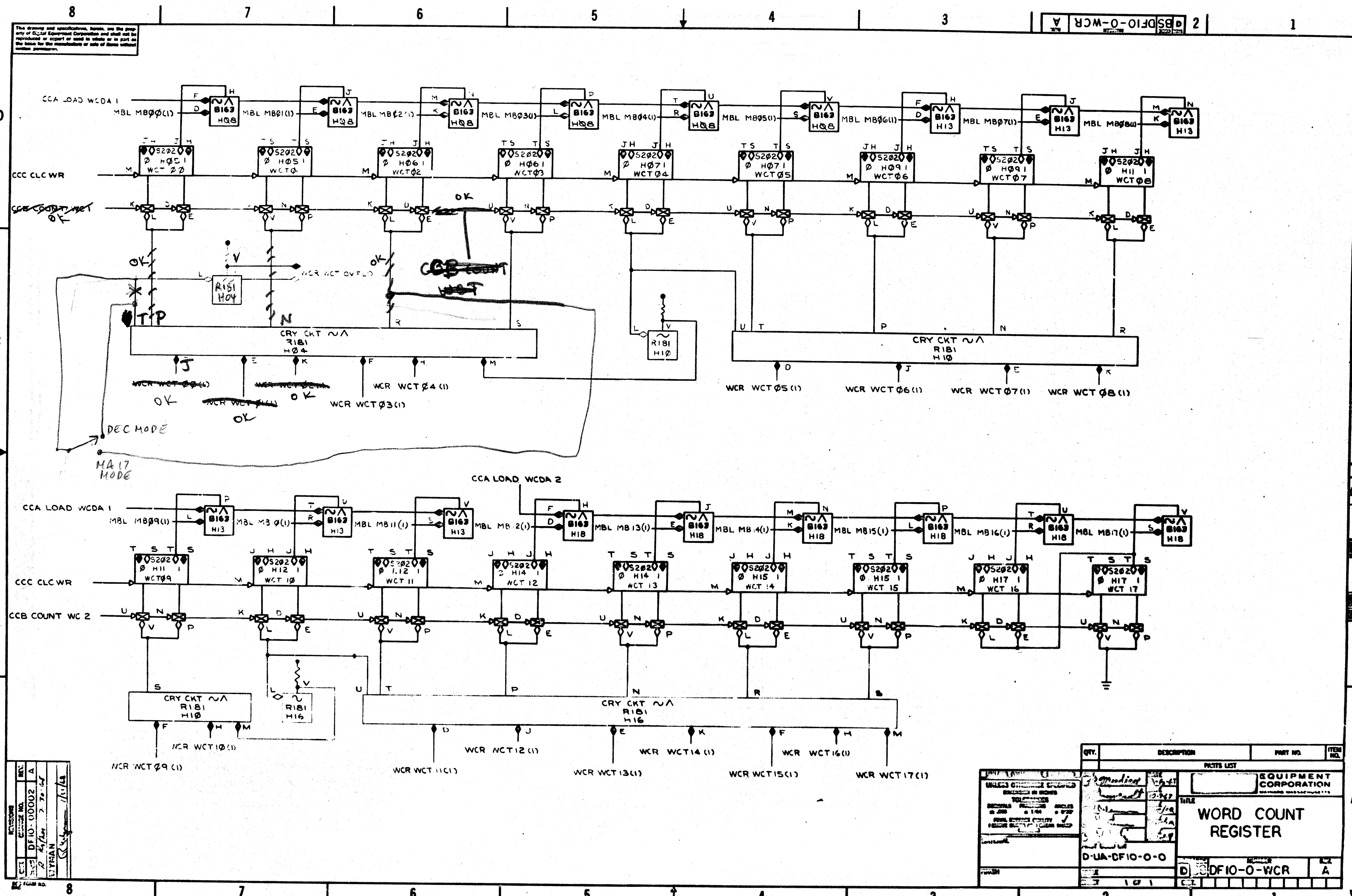
SCALE

8 7 6 5 4 3 2 1

D C B A


MBUS 27
MBUS 28
MBUS 29
MBUS 30
MBUS 31
WB51 LK02
WB51 LK10
CCC READ MEM GATE 3
MBR MB 27 (1)
CCB WRIT MEM STROBE 2
MBR MB 27 (L)
MBR MB 28 (L)
MBR MB 29 (L)
MBR MB 30 (L)
MBR MB 31 (L)
CCB CLR MB (1) 6
CCB CLR MB
CCB CLR MB (1) 7
CDA ADDR 27 (1)
CCC CW TO MB 3
CDA ADDR 28 (1)
CDA ADDR 29 (1)
CDA ADDR 30 (1)
CDA ADDR 31 (1)
CCC LOCAL DV PLS
CIA INAD SYNC B
B611 H26
CCC WRITE MEM GATE 3
CBC CHND 27
CBC CHND 28
CBC CHND 29
CBC CHND 30
CBC CHND 31
MBR MB 27(1)
CCB READ MEM STROBE 2
MBR MB 28 (1)
MBR MB 29 (1)
MBR MB 30 (1)
MBR MB 31 (1)
MBUS 32
MBUS 33
MBUS 34
MBUS 35
WB51 KL02
WB51 KL10
MBR MB 32 (1)
MBR MB 33(1)
MBR MB 34(1)
MBR MB 35(1)
MBR MB 32 (L)
MBR MB 33 (L)
MBR MB 34 (L)
MBR MB 35 (L)
CCB CLR MB (1) 8
CDA ADDR 32 (1)
CDA ADDR 33 (1)
CDA ADDR 34 (1)
CDA ADDR 35 (1)
CBC CHND 32
CBC CHND 33
CBC CHND 34
CBC CHND 35
EQUIPMENT CORPORATION
MEMORY BUFFER
18-35
D-UA-DF10-0-0
D 3S DF10-0-MBR
B


J
H
MBL MB ϕA(1)
MBL MBϕ1(1)
MBL MBϕ2(1)
D
E
F
B135
C3ϕ
E
DEC MODE
D
B165
C31
K
J
H
B165
C31
P
N
CCA MBR
EQ ZERO
K
L
M
B135
C3ϕ
N
M
L
B165
C31
CCA
MB
SKIP



CCA LOAD WCDA 1
CCA LOAD WCDA 2
CCC CLC WR
CCB COUNT WCT
CCB COUNT WC 2
WCR WCT OVFLO
DEC MODE
MA 17 MODE
OK
CRY CKT
R181 H04
R181 H10
R181 H16
WCR WCT04(1)
WCR WCT03(1)
WCR WCT05(1)
WCR WCT06(1)
WCR WCT07(1)
WCR WCT08(1)
WCR WCT09(1)
WCR WCT10(1)
WCR WCT11(1)
WCR WCT12(1)
WCR WCT13(1)
WCR WCT14(1)
WCR WCT15(1)
WCR WCT16(1)
WCR WCT17(1)
WORD COUNT REGISTER
EQUIPMENT CORPORATION
D-UA-DF10-0-0
D BS DF10-0-WCR A
DF10-00002

G7Ø4	D	E	F	H	J	K	L	M	N	P	R	S	T	U	V
A1Ø		CBC DEVICE PULSE B	WCR WCT OVFLO	CCC WTDW	CCC SYNC(Ø)	CCC DWT(1)	CCC CWWTRQ(Ø)	CCC CWWT(1)	CCC CWWT(Ø)	CCA DEV READ( )	CCB SET VCW	CCA DEV READ(Ø)	CCB COUNT CWAD2	CCA MBL EQ(Ø)	GND
B3	MBL MB Ø4(Ø)	MBL MB Ø4(1)	CCA LOAD CWAD 1	MBL M Ø3(1)	MBL MB Ø3(Ø)	CCA ENDRDDY	MBL MB Ø2(1)	MBL MB Ø2(Ø)	MBL MB Ø1(1)	MBL MB Ø1(Ø)	MBL MB ØØ(1)	MBL MB ØØ(Ø)	CCA LOAD CWAD 2	CCB COUNT CWAD 1	
C26	CCC MEM START	CCC SYNC (1)	CCA MBR EQ Ø					CBC SAWRITE B	CCA LOAD CWAD 3	CCA MBR EQ Ø					
DØ2	MBL MB Ø5(Ø)	MBL MB Ø5(1)	MBL MB Ø6(Ø)	MBL MB Ø6(1)	MBL MB Ø7(1)	MBL MB Ø8(1)	MBL MB Ø9(1)	MBL MB 1Ø(1)	MBL MB Ø7(Ø)	MBL MB 11(Ø)	MBL MB 11(1)	MBL MB Ø8(Ø)	MBL MB Ø9(Ø)	MBL MB 1Ø(Ø)	
C11	MBL MB 12(1)	MBL MB 13(Ø)	MBL MB 12(Ø)	MBL MB 13(1)		MBL MB 17(1)	MBL MB 16(1)	MBL MB 14(1)	MBL MB 15(1)	CAD DWT ØB	MBL MB 14(Ø)	MBL MB 15(Ø)	MBL MB 16(Ø)	MBL MB 17(Ø)	
E3	CAD GATA	CCC CW TO MB1	CCC CW TO MB2	CCC CW TO MB3	CAD ACKN 2	CAD ACKN 3	CCC·CWRD(Ø)		CCC DWT (Ø)	CCC CWRD(1)	CCC CLCWR	CAD ACKN 1	CCB COUNT WC2	CCB COUNT WC1	
J32	CCA XFER CW	CCA CYCLE TERMINATE	CCA POWER CLEAR	CCB DVPLS(1)	CCA CYCLE STOPØ	CCB VCW (1)	CCC LOCAL DV PLS			CCB MB FULL(1)	CCB DVPLS (Ø)			CCB MB FULL(Ø)	
K3	CCA LOAD WCDA 1	CCA LOAD WCDA 2	CCA LOAD WCDA 3	CCB COUNT ADR 1	MBR MB 35(1)	MBR MB 35(Ø)	MBR MB 34(1)	MBR MB 34(Ø)		MBL MB 17(1)	MBL MB 17(Ø)	MBL MB 16(1)	MBL MB 15(1)	MBL MB Ø6(1)	
K8	CCB COUNT ADR 2	MBR MB 21(1)	MBR MB 24(1)	MBR MB 26(1)	MBR MB 22(1)	MBR MB 23(Ø)	MBR MB 33(1)	MBR MB 33(Ø)	MBR MB 32(1)	MBR MB 25(Ø)	MBR MB 27(1)	MBR MB 25(1)	MBR MB 29(1)	MBR MB 2 (1)	
K25	MBL MB Ø2(Ø)	MBL MB Ø1(1)	MBL MB Ø6(Ø)	MBL MB Ø7(Ø) 1	MBL MB Ø3(1)	MBL MB Ø (Ø)	MBL MB ØØ(1)	MBL MB ØØ(Ø)	MBL MB Ø3(Ø)	MBL MB Ø4(Ø)	MBL MB Ø4(1)	MBL MB Ø5(Ø)	MBL MB Ø5(1)	MBL MB Ø2(1)	
K3Ø	MBR MB 2Ø(1)	MBR MB 21(Ø)	MBR MB 22(Ø)	MBR MB 26(Ø)	MBR MB 32(Ø)	CCC READ MEM	MBR MB 27(Ø)	MBR MB 2Ø(Ø)	MBR MB 24(Ø)	MBL MB Ø7(1)	MBR MB 23(1)	MBR MB 3Ø(Ø)	MBR MB 29(Ø)	MBR MB 29(Ø)	
L5	MBL MB Ø8(1)	MBL MB 12(1)	MBL MB 1Ø(1)	MBL MB Ø9(1)	READ MEM GATE 1	GATE 2	CCC READ MEM	MBL MB 12(Ø)	MBL MB 13(Ø)	MBL MB 11(1)	MBL MB 13(1)	MBL MB 14(1)	MBL MB 16(Ø)	MBL MB 15(Ø)	
L14	CCA SKIP (1)	CIA INAD SYNC(1)	MBR MB19 (1)	CCC DWT (1)	CCA IDLE (Ø)	CCA IDLE (1)	GATE 3				CCA DEV READ(1)		CCA DEV READ(Ø)		
L28	MBR MB 19(Ø)	MBR MB 31(1)	MBR MB 31(Ø)	MBL MB Ø9(Ø)	CCC WRITE MEM GATE 1	CCC WRITE MEM GATE 2	CCC WRITE MEM GATE 3	MBL MB Ø8(Ø)	MBL MB 11(Ø)	MBR MB 8(Ø)	MBR MB 18(1)	MBL MB Ø(Ø)	MBL MB 14(Ø)	MBR MB 3Ø(1)	GND

NAME	POINT	COMPONENT	POINT
CBC ACKN	F29J	100Ω	F3ØC
CCA LOAD CW	C28T	100Ω	D29C
CCA START	F21J	1ØØΩ	F21M
CCB CLEAR MB	B1ØJ	1ØØΩ	B11M
CCB DEVPULS	B1ØN	1ØØΩ	B11C
CCB GTD ADDRACK	B13N	1ØØΩ	B13C
CCB INT CHN PLS	L2ØM	[illegible]	L21R
CCB NO MEM	L2ØU	1ØØΩ	L21U
CCB READ MEM STROBE 1	B18T	1ØØΩ	B18V
CCB READ MEM STROBE 1	L25V	1ØØΩ	L28V
CCB SKIP PULSE	B13D	1ØØΩ	B15C
CCB WRIT MEM STROBE 1	KØ5V	1ØØΩ	LØ8C
CCB WRIT MEM STROBE 2	LØ8V	1ØØΩ	LØ9R
CCA START DLY	D12D	1ØØΩ	D12M
CCC REQ PULSE	B12F	1ØØΩ	B14C
CCC START CW WRITE	J23E	1ØØΩ	J24C
CCB READ MEM STROBE 2	L27V	1ØØΩ	L31U
CCC END MC	J24L	1ØØΩ	J28C
F21N	B16T	1ØØΩ	C17C
CCC TP2	B21L	[illegible]	B21M
CCA TP3	BØ6L	[illegible]	BØ7P
CCB GTD ADDRACK DLY	F25J	[illegible]	F26M
K16D	K17L	[illegible]	K18M
RES	C23S	6.8KΩ	C23P
RES	C22S	2KΩ	C22P
-CCC CONTROL WORD FETCH	L12U	1ØØΩ	L12M
CBC CROBAR	E27F	[illegible]	E27C
CBC CROBAR	E27J	[illegible]	E28C
RES	B3ØP	[illegible]	B3ØS
RES	B29P	[illegible]	B29S
RES	A2ØP	[illegible]	A29S
RES	B2ØU	[illegible]	C2ØC

QTY. | DESCRIPTION | PART NO. | ITEM NO.

PARTS LIST

REVISIONS
REV: A
CHANGE NO.: DF10·00006
A JOHNSON
CHK

DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED
DIMENSIONS IN INCHES
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30'
FINAL SURFACE QUALITY
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL

FINISH

DATE 9/5/67
DATE 10-9-67

FIRST USED ON D-UA-DF10-0-0
SCALE
SHEET 1 OF 1

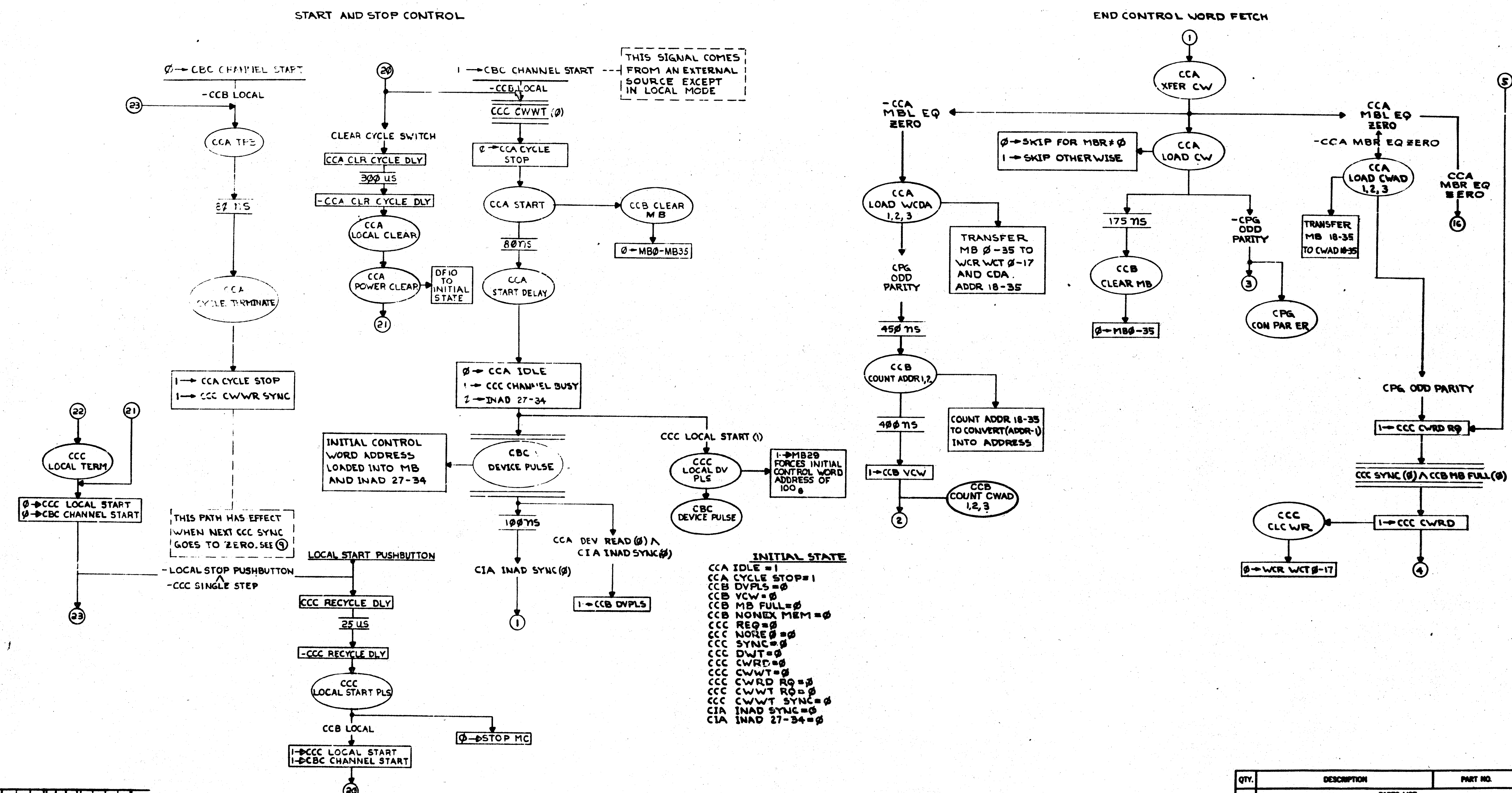
EQUIPMENT CORPORATION

TITLE
SIGNAL
TERMINATIONS

SIZE D | CODE BS | NUMBER DF1Ø-Ø-TERM | REV. A

DIST.

D BS DF1Ø-Ø-TERM A



START AND STOP CONTROL
Ø → CBC CHANNEL START
-CCB LOCAL
CCA TPS
CCA CYCLE TERMINATE
1 → CCA CYCLE STOP
1 → CCC CWWR SYNC
THIS PATH HAS EFFECT WHEN NEXT CCC SYNC GOES TO ZERO. SEE 9
CLEAR CYCLE SWITCH
CCA CLR CYCLE DLY
300 US
-CCA CLR CYCLE DLY
CCA LOCAL CLEAR
CCA POWER CLEAR
DF10 TO INITIAL STATE
1 → CBC CHANNEL START
-CCB LOCAL
CCC CWWT (Ø)
THIS SIGNAL COMES FROM AN EXTERNAL SOURCE EXCEPT IN LOCAL MODE
Ø → CCA CYCLE STOP
CCA START
CCB CLEAR MB
Ø → MBØ-MB35
80 ns
CCA START DELAY
Ø → CCA IDLE
1 → CCC CHANNEL BUSY
Z → INAD 27-34
INITIAL CONTROL WORD ADDRESS LOADED INTO MB AND INAD 27-34
CBC DEVICE PULSE
CCC LOCAL START (1)
CCC LOCAL DV PLS
1 → MB29 FORCES INITIAL CONTROL WORD ADDRESS OF 100₈
CBC DEVICE PULSE
100 ns
CIA INAD SYNC (Ø)
CCA DEV READ (Ø) ∧ CIA INAD SYNC (Ø)
1 → CCB DVPLS
CCC LOCAL TERM
Ø → CCC LOCAL START
Ø → CBC CHANNEL START
LOCAL START PUSHBUTTON
-LOCAL STOP PUSHBUTTON
-CCC SINGLE STEP
CCC RECYCLE DLY
25 us
-CCC RECYCLE DLY
CCC LOCAL START PLS
CCB LOCAL
1 → CCC LOCAL START
1 → CBC CHANNEL START
Ø → STOP MC
INITIAL STATE
CCA IDLE = 1
CCA CYCLE STOP = 1
CCB DVPLS = Ø
CCB VCW = Ø
CCB MB FULL = Ø
CCB NONEX MEM = Ø
CCC REQ = Ø
CCC NOREQ = Ø
CCC SYNC = Ø
CCC DWT = Ø
CCC CWRD = Ø
CCC CWWT = Ø
CCC CWRD RQ = Ø
CCC CWWT RQ = Ø
CCC CWWT SYNC = Ø
CIA INAD SYNC = Ø
CIA INAD 27-34 = Ø
END CONTROL WORD FETCH
CCA XFER CW
-CCA MBL EQ ZERO
CCA MBL EQ ZERO
-CCA MBR EQ ZERO
CCA LOAD CW
Ø → SKIP FOR MBR ≠ Ø
1 → SKIP OTHERWISE
CCA LOAD WCDA 1,2,3
TRANSFER MB Ø-35 TO WCR WCT Ø-17 AND CDA. ADDR 18-35
CPG ODD PARITY
450 ns
CCB COUNT ADDR 1,2
COUNT ADDR 18-35 TO CONVERT (ADDR-1) INTO ADDRESS
400 ns
1 → CCB VCW
CCB COUNT CWAD 1,2,3
175 ns
CCB CLEAR MB
Ø → MBØ-35
-CPG ODD PARITY
CPG CON PAR ER
CCA LOAD CWAD 1,2,3
TRANSFER MB 18-35 TO CWAD 18-35
CCA MBR EQ ZERO
CPG ODD PARITY
1 → CCC CWRD RQ
CCC SYNC (Ø) ∧ CCB MB FULL (Ø)
1 → CCC CWRD
CCC CLC WR
Ø → WCR WCT Ø-17

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES DECIMALS ±.005 FRACTIONS ±1/64 ANGLES ±0°30' FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP CORNERS

QTY.	DESCRIPTION	PART NO.	ITEM NO.

PARTS LIST

EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE: FLOW CHART A

D-UA-DF10-0-0

FD D DF10-0-00A REV. C

SHEET 1 OF 1

REVISIONS	CHANGE NO.	REV.
	ECO 4	A
	DF10-00006	C
	A. JOHNSON	

WAIT HERE IN LOCAL MODE SINGLE STEP OPERATION UNTIL STOP MC CLEARED BY START BUTTON

CBC CHANNEL START
CCC STOP MC (Ø)

30 ns

1→CCC SYNC

THIS ONE-SHOT WILL TIME OUT IF SYNC REMAINS ON FOR 1000 µSEC. IT IS HELD IN ITS SET STATE WHEN SYNC IS OFF

1→CCB NONEXMEM

100 µs

Ø→CCB NONEXMEM

CCB NO MEM

CCC NOREQ (Ø)

CCC REQN = 1

NOTE 1
IF THE DF10 IS USED WITH A MULTIPLEXER ACKN COMES FROM THE MPX. OTHERWISE ACKN IS ALWAYS ASSERTED IN THE DF10 BY A BACK PANEL JUMPER.

CBC ACKN

30 ns

1→CCC REQ
CCC REQ CYC = 1

CCC REQ PULSE

CCC CWRD (1)
CCW CWAD 18-35 TO MEM ADDRESS GATES. LIKEWISE CCC MCRD CCC MRDRQ

CCC CWWT (1)
CCC MCWR = 1
INAD 27-34 TO MEM ADDRESS GATES. CCC MCWR, CCC WTCW, CCC MWTRQ = 1

CCC DWT (1)
CDA ADDR 18-35 TO MEMORY ADDRESS GATES

CCA DEV READ (1)
CCC WTDW = 1
CCC MCWR = 1
CCC MWTRQ = 1

CCA DEV READ (Ø)
CCC RDDW = 1
CCC MCRD = 1
CCC MRDRQ = 1

CBC ACKN ← SEE NOTE 1

MEMORY ADDRESS AND CONTROL SIGNALS TO MEMORY CABLE

Ø→CCC CWWT
1→CCC NOREQ

CCC NO SUCH MEM

CCB CLEAR MB → Ø→MB

CCC CLR MPX

WCR WCTOVFLO

CCC IDLE (1)

Ø→CIA INAD SYNC

WCR WCTOVFLO ∧ CCC DWT (1)

Ø→CCB VCW

ACK N ∧ ADDRACK (FROM MEMORY)

CCB GTD ADDRACK

CCC CWWT (Ø)

1→CIA INAD SYNC

HOLD CCA READ CIA INAD 27-34

1→CCC NOREQ

CCC REQ CYC = Ø

THIS SIGNAL WILL NOT OCCUR ON MEMORY WRITE CYCS

CCC RDRS

MEMORY DATA IN MB

80 ns

CCB GTD ADDRACK DLY

CCC DWT (1) ∧ -WCR WCT OVFLO

-WCR WCTOVFLO

CCB COUNT WC 1,2
COUNT ADDR 1,2

COUNT WRT Ø-17
COUNT ADDR 18-35

CCC WTDW

Ø→CCB DVFLS

CCC WTCW

CCC WRCONWD COMPLETE

CCB VCW (1) ∧ CCC CWWT SYNC (1)

1→CCC CWWTRQ

CCC MWTRQ

CCB WRITE MEM STROBE 1,2

CCC WRRS

MB Ø-35 AND PARITY TO MEM CABLE #2

18 11 6 9

100 ns

CCC END MC

30 ns

CCB LOCAL
CCC SINGLE STEP

80 ns

1→STOP MC

Ø→MB

CCB CLEAR MB

Ø→CCC CWWT

Ø→CCC DWT
Ø→CCC CWRD

Ø→CCB AUX MB FULL

Ø→CCC SYNC

Ø→CCC REQ
Ø→CCC NOREQ

CCC CWWTRQ

-CCC CWWTRQ

Ø→CCB MB FULL

CCB VCW (1)

CYCLES TERMINATE HERE. THIS CHAIN DIES WHEN A NEW CW MUST BE FETCHED. SEE (9)

135 ns

CCA ENDRDDY

CCC DWT (1)

-CCC RDDW

CCC CYCLE STOP

1→CCA IDLE

CCC CWWT SYNC

THE OTHER PATH MAY TURN CCC SYNC ON AGN, TEMPORARILY KILLING THIS PATH

CCC SYNC (1)
Ø→CCC SYNC

CCC CWRD (1)
Ø→CCC CWRD

CCC DWT (1)
Ø→CCC DWT

REVISIONS			
DATE	CHANGE NO.	REV.	
2-24-67	ECO#4	A	
7-20-68	DF10-00002	B	
7-30-68	DF10-00006	C	

A. JOHNSON

QTY.	DESCRIPTION	PART NO.	ITEM NO.
	PARTS LIST		

DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED
DIMENSIONS IN INCHES
TOLERANCES
DECIMALS ± .030 FRACTIONS ± 1/64 ANGLES ± 0°30'
FINISH
MATERIAL

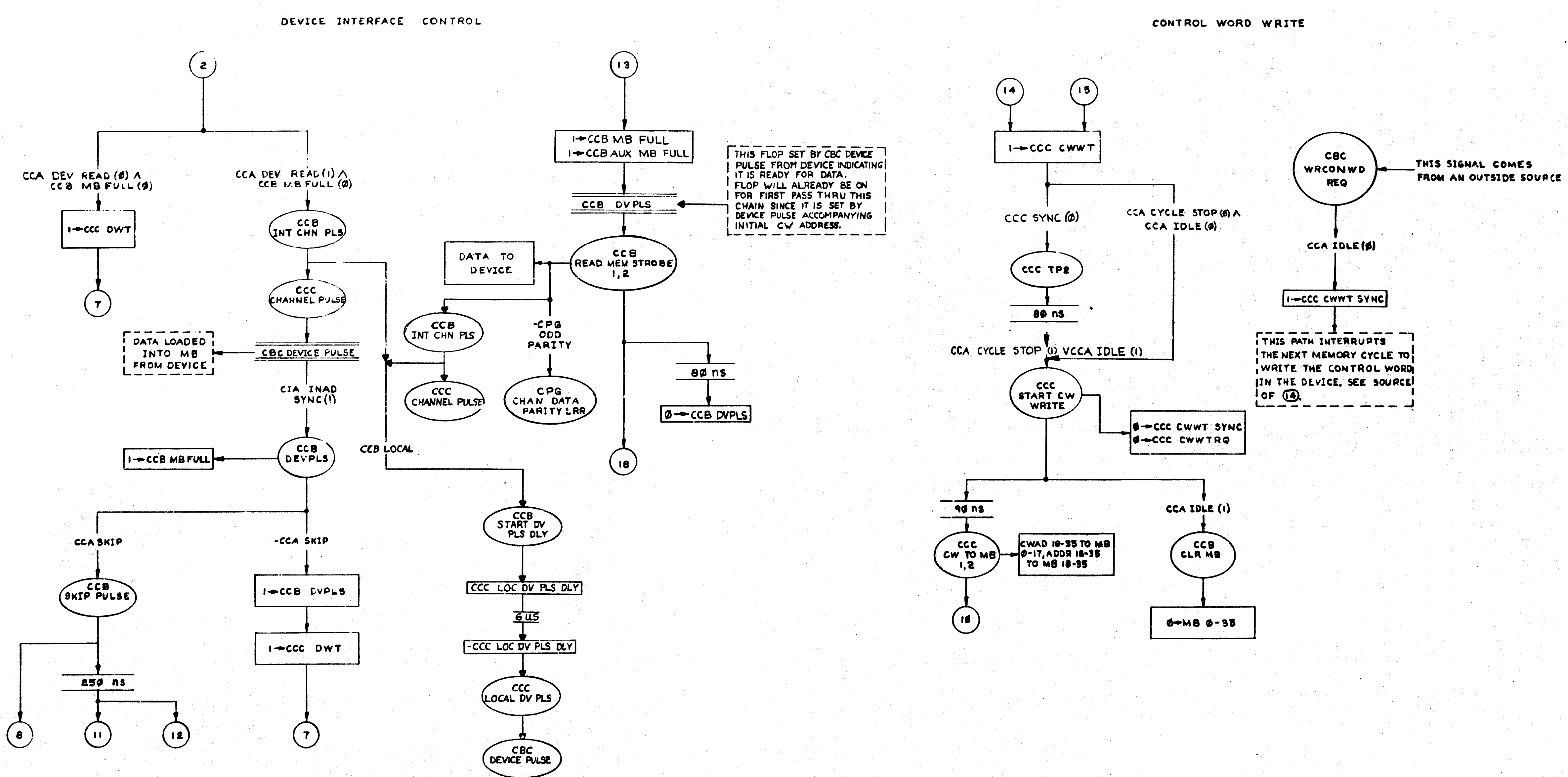
EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE
FLOW CHART B
MEMORY CYCLE

SIZE ED | CODE D | NUMBER DF10-0-008 | REV. C

DF10-0-0

SHEET



REV.	CHANGE NO.	
A	ECO 4	2-26-68
B	DF10-00006	11-15-68
	A. JOHNSON	

EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

FLOW CHART C

D-UA-DF10-0-0

D FD-DF10-0-00C REV. B

SHEET 1 OF 1

SIGNAL NAME	FROM PIN	TO PIN	COLOR	REMARKS
CDC [illegible]	K16J	E31E	WHITE	TWISTED PAIR
GND	K17M	E31F	BLACK	↑
~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~WHITE~~	
~~GND~~	~~[illegible]~~	~~[illegible]~~	~~BLACK~~	
~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~WHITE~~	
~~GND~~	~~[illegible]~~	~~[illegible]~~	~~BLACK~~	
CDC WRITE EVEN PAR	K21P	D18K	WHITE	
GND	K21R	D18C	BLACK	
CDC WRITE EVEN PAR	D16T	K11P	WHITE	
GND	D17V	K11N	BLACK	
CCD [illegible]PULS	B12K	K13K	WHITE	
GND	B12C	K13C	BLACK	
CCD INT CHN PLS	B18N	L2ØM	WHITE	
GND	B19M	L19C	BLACK	
CCC [illegible]	FØ2P	L16L	WHITE	
GND	FØ1N	L16M	BLACK	
CCC [illegible]	L16L	F32P	WHITE	
GND	L17C	F32R	BLACK	
CCC [illegible]	FØ2S	L16U	WHITE	
GND	FØ1N	L16V	BLACK	
CCC [illegible]	L16U	F32S	WHITE	
GND	L16V	F31R	BLACK	
CCC REQ CYC	FØ1M	L12D	WHITE	↓
GND	FØ1L	L12C	BLACK	TWISTED PAIR

REVISIONS			
REV.	DATE	CHG. NO.	APP'D.
A	11/14/67	[illegible]	[illegible]

DRN. H.D.F. DATE 9/19/67 — CHK'D. [signature] 1-12-68 — ENG. [signature] 11/15/68 — PROJ. ENG. [signature] 11/15/68 — [signature] 1-16-68

FIRST USED ON D-UA-DF10-0-0

EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS

TITLE GENERAL WIRING SHEET FOR DF-1Ø CHANNEL TWISTED PAIR

SIZE A CODE WL NUMBER DF10-0-5 REV. A

SCALE — SHEET 1 OF 3 — DIST.

DEC FORM NO. DRA 104

SIGNAL NAME	FROM PIN	TO PIN	COLOR	REMARKS
CDC [illegible]	F29J	K16K	WHITE	TWISTED PAIR
GND	F29C	K16E	BLACK	↑
CDC A[illegible]ACK	EØ1D	K12J	WHITE	
GND	EØ1C	K12C	BLACK	
CDC A[illegible]ACK	K12J	E31D	WHITE	
GND	K12M	E31C	BLACK	
CDC C[illegible] RESET	EØ9D	K11M	WHITE	
GND	EØ9C	K1ØR	BLACK	
CDC C[illegible] RESET	D16P	K21M	WHITE	
GND	C16C	K21N	BLACK	
~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~WHITE~~	
~~GND~~	~~[illegible]~~	~~[illegible]~~	~~BLACK~~	
~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~WHITE~~	
~~GND~~	~~[illegible]~~	~~[illegible]~~	~~BLACK~~	
~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~WHITE~~	
~~GND~~	~~[illegible]~~	~~[illegible]~~	~~BLACK~~	
~~GND~~	~~[illegible]~~	~~[illegible]~~	~~BLACK~~	
CDC [illegible] PULSE B	D12R	K12T	WHITE	
GND	D11V	K12V	BLACK	
CDC IGNORE PARITY	FØ2T	D15T	WHITE	
GND	FØ2R	E15C	BLACK	
CDC IGNORE PARITY	D15T	F32T	WHITE	
GND	E18C	F32U	BLACK	
CDC [illegible]	EØ1E	K16J	WHITE	↓
GND	EØ1F	K17C	BLACK	TWISTED PAIR

REVISIONS			
REV.	DATE	CHG. NO.	APP'D.

DRN. H.D.F. DATE 9/19/67 — CHK'D. [signature] 1-12-68 — ENG. [signature] 11/15/68 — PROJ. ENG. [signature] 11/15/68 — [signature] 1-16-68

FIRST USED ON D-UA-DF10-0-0

EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS

TITLE GENERAL WIRING SHEET FOR DF-1Ø CHANNEL TWISTED PAIR

SIZE A CODE WL NUMBER DF10-0-5 REV. A

SCALE — SHEET 2 OF 3 — DIST.

DEC FORM NO. DRA 104

SIGNAL NAME	FROM PIN	TO PIN	COLOR	REMARKS
CCC REQ CYC	L11D	E31M	WHITE	TWISTED PAIR
GND	L14C	E31L	BLACK	↑
CCC WRRS	EØ1H	L2ØH	WHITE	
GND	EØ2C	L2ØC	BLACK	
CCC WRRS	L2ØH	E31H	WHITE	
GND	L21N	E32J	BLACK	
CPG CON PARITY ERROR	L21K	D2ØL	WHITE	
GND	L22C	C19V	BLACK	
CPG CON PARITY ERROR	D2ØL	L11K	WHITE	
GND	E2ØC	L11N	BLACK	
CPG DATA PARITY ERROR	L21H	D2ØH	WHITE	
GND	L21L	D21C	BLACK	
CPG DATA PARITY ERROR	D2ØH	L11H	WHITE	
GND	D2ØC	L11L	BLACK	
CPG PARITY	EØ1K	D21H	WHITE	
GND	EØ1R	D23C	BLACK	
CPG PARITY	D21H	E31K	WHITE	
GND	D22C	E31N	BLACK	
F21N	F21N	B16T	WHITE	↓
	F21V	C18C	BLACK	TWISTED PAIR

REVISIONS			
REV.	DATE	CHG. NO.	APP'D.

DRN. H.D.F. DATE 9/19/67 — CHK'D. [signature] 1-12-68 — ENG. [signature] 11/15/68 — PROJ. ENG. [signature] 11/15/68 — [signature] 1-16-68

FIRST USED ON D-UA-DF10-0-0

EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS

TITLE GENERAL WIRING SHEET FOR DF-1Ø CHANNEL TWISTED PAIR

SIZE A CODE WL NUMBER DF10-0-5 REV. A

SCALE — SHEET 3 OF 3 — DIST.

DEC FORM NO. DRA 104

COMPONENT NAME	VALUE	POL.	FROM PIN	TO PIN	POL.
CBC ACKN	100 OHM		F29J	F30C	
CCA LOAD CW	100		C28T	D29C	
CCA START:	100		F21J	F21M	
CCB CLEAR MB	100		B10J	B11M	
CCB DEVPULS	100		B10N	B11C	
CCB GTD ADDRACK	100		B13N	B13C	
CCB INT CHN PLS	100		L20M	L21R	
CCB NO MEM	100		L20U	L21U	
CCB READ MEM STROBE 1	100		B18T	B18V	
CCB READ MEM STROBE 1	100		L25V	L28V	
CCB SKIP PULSE	100		B13D	B15C	
CCB WRIT MEM STROBE 1	100		K05V	L05C	
CCB WRIT MEM STROBE 2	100		L08V	L00R	
CCA START DLY	100		D12D	D12M	
RES	2K		C22S	C22P	
CCC REQ PULSE	100		B12F	B14C	
CCC START CW WRITE	100		J23E	J24C	
CCB READ MEM STROBE 2	100		L27V	L31U	
CCC END MC	100		J24L	J23C	
F21N	100		B16T	C17C	
CCC TP2	100		B21L	B21M	
CCA TP3	100		B06L	E07P	
CCB GTD ADDRACK DLY	100		F25J	F26M	
K16D	100		K17L	K18M	
RES	6.8K		C23S	C23P	
-CCC CONT. WORD FETCH	100 OHM		L12U	L12M	

REVISIONS			
REV.	DATE	CHG. NO.	APP'D.
A	2/22/68	4	DEG
B	11/11/69	DF10 00006	DEJ

DRN. R. HUEBNER DATE 9-19-67
DATE 1-12-68
DATE 11-6-69
DATE 11-6-69
DATE 11-6-69

EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE
EXTERNAL COMPONENT LIST
FOR
DF-10 CHANNEL

D-UA-DF10-0-0

SIZE A | CODE CP | NUMBER DF10-0-6 | REV. B

SCALE

SHEET 1 OF 2

DIST.

DEC FORM NO. DRA 106

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COMPONENT NAME	VALUE	POL.	FROM PIN	TO PIN	POL.
CBC CROBAR	IN4001 DIODE	+	E27f	E27C	-
CBC CROBAR	IN4001 DIODE	+	E27J	E28C	-
RES	10K OHM		B30P	B30S	
RES	2.2K		B29P	B29S	
RES	10K		A20P	A20S	
RES	100		B20U	C20C	

REVISIONS			
REV.	DATE	CHG. NO.	APP'D.

DRN. DATE
CHK'D. DATE
ENG. DATE
PROJ. ENG. DATE
PROD. DATE
FIRST USED ON
SCALE
SHEET 2 OF 2

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE
EXTERNAL COMPONENT LIST
FOR

SIZE A | CODE CP | NUMBER DF10-0-6 | REV. B

DIST.

DEC FORM NO. DRA 106

DRWG NO
K-WL-DF10-0-2

REVLTR
B

REVISIONS				
REV LTR	ECO NO	DATE	ENG	
A	16	3-28-69	[illegible]	
B	DF10-00006	11/11/69	[illegible]	

DRAWN J F Fleming	DATE 9-11-67	EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	TITLE DATA CHANNEL DF10
CHECKED [illegible]	DATE 1-12-68		FOR TAPE* FILE*
ENG [illegible]	DATE 1/15/68	ASSY NO	SIZE K / CODE WL / DF10-0-2 / REV LTR
PROJ ENG [illegible]	DATE 1/15/68	SCALE / SHEET OF	DIST.
PROD [illegible]	DATE 1-16-68		

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

ENGINEERING SPECIFICATION — DATE 2/16/68

TITLE CHANNEL MANUFACTURING TEST PLAN OUTLINE (OFFLINE)

REVISIONS

REV	DESCRIPTION	CHG NO	ORIG	DATE	APPD BY	DATE
—	ORIGINATED	6	R.Wyman	2/21/68	—	—

ENG Robert Wyman | APPD | SIZE A | CODE SP | NUMBER DF10-0-7 | REV

DEC FORM NO DRA 107

SHEET 1 OF 6

ENGINEERING SPECIFICATION ☐ CONTINUATION SHEET

TITLE CHANNEL MANUFACTURING TEST PLAN OUTLINE (OFFLINE)

Setup

Connect a twisted pair from the Channel to the tester according to the table below:

	Channel	Tester
Signal	L12U	B21L
Ground	L12M	B21C

Then check voltages at several points in all mounting panels of the Channel.

Control Test

A. Verify that the channel can successfully load control word addresses.

1. Set the following tester conditions:

Control Word	0 000000 000001
Memory Data	1 000000 000000
Channel Data	000000 000001
Terminate Clock	0
Memory Cycle Terminate	0
Write	0
Continue	1
Write Control Word	0
Even Parity	0
Ignore Memory Parity	1
Recycle Delay	100
Terminate Delay	100

2. When the start pushbutton on the tester is pushed, the channel should continuously fetch the value set in the control word switches and load it in the control word address register (CWAD). Verify the CCA END RDDY delay time. (CCC RDRS to CCA ENDRDDY 135 ± 6 ns). Verify the CCB CLEAR MB delay. (CCA LOAD CW to CCB CLEAR MB 220 ± 6 ns)

SIZE A | CODE SP | NUMBER DF10-0-7 | REV

DEC FORM NO DRA 108

SHEET 2 OF 6

ENGINEERING SPECIFICATION ☐ CONTINUATION SHEET

TITLE CHANNEL MANUFACTURING TEST PLAN OUTLINE (OFFLINE)

Verify the CCB GTD ADDRACK delay. (CCB GTD ADDRACK to CCB GTD ADDRACK DLY 85 ± 6 ns.) Verify the CCC SYNC turn-off delay (CCC END MC to CCC SYNC off 85 ± 6 ns).

3. Verify the operation of each bit in the control word address register by turning the control word switches 18 - 35 on one at a time. Do not have more than two nor less than one switch on at any one time.

4. Turn on the parity bit and bit 35 of the control word switches. Turn off the Ignore Memory Parity Switch. The channel should now terminate upon fetching the first control word and send the Control Word Parity Error pulse. The tester should then generate RECYCLE and reinitiate the operation. Repeat this test with parity bit off, 35, 34 on; 35 off, 34, 33 on; etc. through bits 18, 19 on, all others off. Verify the time from CBC DEVICE PULSE to CCA XFER CW (100 ± 20 ns). Verify the time from CCA DTP3 to CCA CYCLE TERMINATE (66 ± 3 ns).

5. Verify that each termination in 4 above causes the contents of CWAD and ADDR to be transmitted to memory. (ADDR, the data address, should be 0.) Verify the time from CCC TP2 to CCC START CW WRITE (85 ± 6 ns) and CCC START CW WRITE to CCC CW TO MB1 (95 ± 6 ns).

B. Verify that the control word register loads and counts properly.

1. Set the following tester conditions:

Control Word	1 000001 000001
Memory Data	0 000000 000001
Channel Data	000000 000001
Terminate Clock	0
Memory Cycle Terminate	0
Write	0
Continue	1
Write Control Word	0
Even Parity	0

SIZE A | CODE SP | NUMBER DF10-0-7 | REV

DEC FORM NO DRA 108

SHEET 3 OF 6

ENGINEERING SPECIFICATION ☐ CONTINUATION SHEET

TITLE CHANNEL MANUFACTURING TEST PLAN OUTLINE (OFFLINE)

Ignore Memory Parity	1
Recycle Delay	100
Terminate Delay	100

2. When the Start pushbutton is pushed, the channel should load the contents of the Control Word switches into the Control Word register (WC and ADDR) and count WC up until it overflows. Check each WC bit position one at a time to verify that it is properly loaded. (Be sure WC ≠ 0 when loaded.) Do the same for ADDR. (Be sure ADDR ≠ 0 when loaded.) To speed the testing, set the Terminate Clock switch to 1. Then when the Terminate Delay times out, the channel will be forced idle. Verify the time relationship between CCA LOAD WCDA 1, CCB COUNT ADR 1 and CCB SET VCW. (CCA LOAD WCDA 1 to CCB COUNT ADR 1 500 ± 50 ns. CCA LOAD WCDA 1 to CCB SET VCW 850 ns ± 50 ns.)

3. Turn off the Terminate Clock. Set the Word Count portion of the Control Word switches to 777777, Address portion to anything, parity odd, and turn the Ignore Memory Parity switch off. Start the operation and verify that CWAD counts properly.

Data Test

A. Verify that data is transferred properly through the channel.

1. Set the following tester condtions:

Control Word	1 000001 000001
Memory Data	0 000000 000001
Channel Data	000000 000001
Terminate Clock	0
Memory Cycle Terminate	0
Write	0
Continue	1
Write Control Word	0
Even Parity	0

SIZE A | CODE SP | NUMBER DF10-0-7 | REV

DEC FORM NO DRA 108

SHEET 4 OF 6

Ignore Memory Parity	0
Recycle Delay	100
Terminate Delay	100

2. Start the operation, and using the Channel Data switches verify the operation of the data path (including the parity network) for floating ones.

   Verify that total cycle time for a data transfer is 740 ns ± 50 ns + 2 channel cable delays + 2 memory cable delays (1.5 ns per foot of cable).

   Turn on Even Parity and verify that even parity is transmitted to memory for floating ones.

3. Set the Address portion of the Control Word switches to zero (with proper parity) and verify that the skip operation is properly performed, i.e. no data transferred to memory. Verify the delay from CCB SKIP PULSE to CCB SKIP PULSE DLY (266 ± 10 ns). Verify that total cycle time is 600 ± 50 ns + 2 memory cable delays + 2 channel cable delays (1.5 ns per foot).

4. Set Write = 1. Using the Memory Data switches verify the operation of the data path (including the parity network) for floating ones. Verify the timing from CCB READ MEM STROBE 1 to CCB DVPLS going off (75 ± 6 ns). Verify that total cycle time is 570 ± 50 ns + 2 memory cable delays (1.5 ns per foot). (Channel cable delays do not enter into this time.)

5. Turn on Write Control Word and verify that CWAD and ADDR are transmitted to memory. Set the Word Count portion of the control word to 777777, Address portion anything, parity odd. Verify that no control word write cycle is taken even though Write Control Word is on.

Termination Tests

A. Verify that termination of the channel by the device causes no malfunction.

   1. Set the following tester conditions:

Control Word	1 000001 000001
Memory Data	1 000000 000000
Channel Data	000000 000001
Terminate Clock	1
Memory Cycle Terminate	0
Write	0
Continue	1
Write Control Word	0
Even Parity	0
Ignore Memory Parity	0
Recycle Delay	100
Terminate Delay	100

2. Start the operation, and using the low order nine bits of the Channel Data switches, verify the operation of the INAD register.

3. Verify that the channel terminates properly after each operation.

4. Turn on the Memory Cycle Terminate switch and verify that the channel terminates properly.

5. Turn off Memory Cycle Terminate and Terminate Clock. Set Recycle Delay to 100. Turn on No Memory Switch and start the operation. The normal start-up cycle should now ensue, but the first control word will never be fetched. Instead, the CCB NONEXMEM single shot should time out generating the NO SUCH MEM pulse on the Channel Bus and terminating the cycle. Verify proper operation.

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

ENGINEERING SPECIFICATION DATE May 14,1968

TITLE DF 10 RECOMMENDED SPARE PARTS LIST

REVISIONS

REV	DESCRIPTION	CHG NO	ORIG	DATE	APPD BY	DATE
--	ORIGINATOR	33	--	--	--	--

ENG	APPD	CODE	SIZE	NUMBER	REV
Fertig	W E Johnson	SP	A	DF10-0-8	

SHEET 1 OF 4

ENGINEERING SPECIFICATION CONTINUATION SHEET

TITLE DF 10 RECOMMENDED SPARE PARTS LIST

MODULES

Type	Amount
B130	2
B133	2
B134	1
B135	1
B137	1
B163	2
B165	1
B212	1
B214	1
B311	1
B611	1
B683	1
B685	1
G704	1
R001	1
R303	1
R613	1
S181	1
S603	1
W012	1
W102	2
W250	1
W301	1

CODE	SIZE	NUMBER	REV
SP	A	DF10-0-8	

SHEET 2 OF 4

ENGINEERING SPECIFICATION CONTINUATION SHEET

TITLE DF 10 RECOMMENDED SPARE PARTS LIST

TRANSISTORS

Type	Part No.	Quantity
DEC SDA-86718-1	15-02105	2
2894	15-03097	2
2N3605	15-02151	2
2N4258	15-05321	6
DEC 3009B-S	15-03100	2
2N2904	15-01742	2
DEC 3639-D	15-02762-02	8
DEC 2894-38-S	15-03099	2
DEC 3009A-S	15-01999	2
DEC 2894-2S	15-03098	2
DEC 6534	15-03409	2

SIZE	CODE	NUMBER	REV
A	SP	DF10-0-8	

DEC FORM NO DRA 108

SHEET 3 OF 4

ENGINEERING SPECIFICATION CONTINUATION SHEET

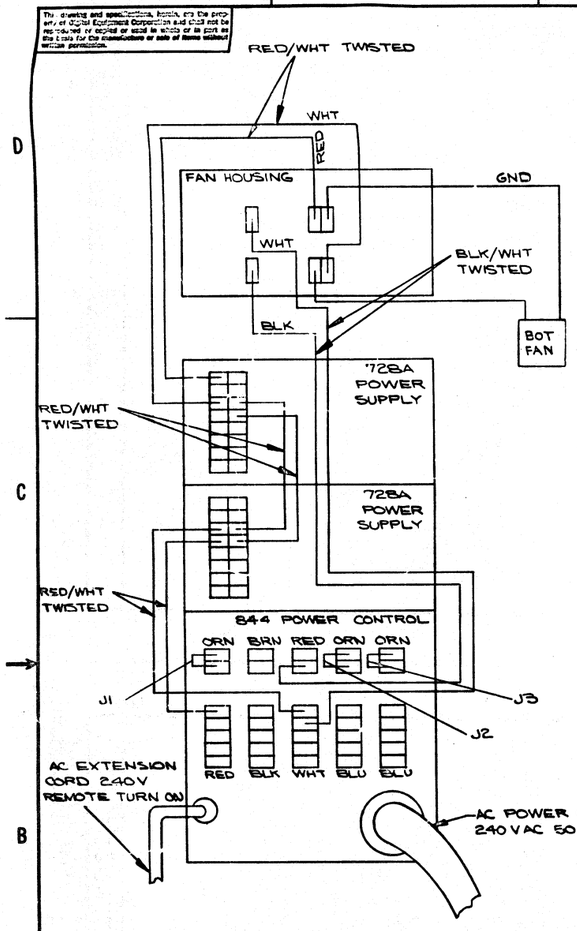
TITLE DF 10 RECOMMENDED SPARE PARTS LIST

ADDITIONAL

Description	Part No.	Quantity
D662	11-00113	10
D664	11-00114	10
D668	11-02161	6
INDICATOR LIGHTS	12-555	10
TRIMPOT	A-13-5395	1

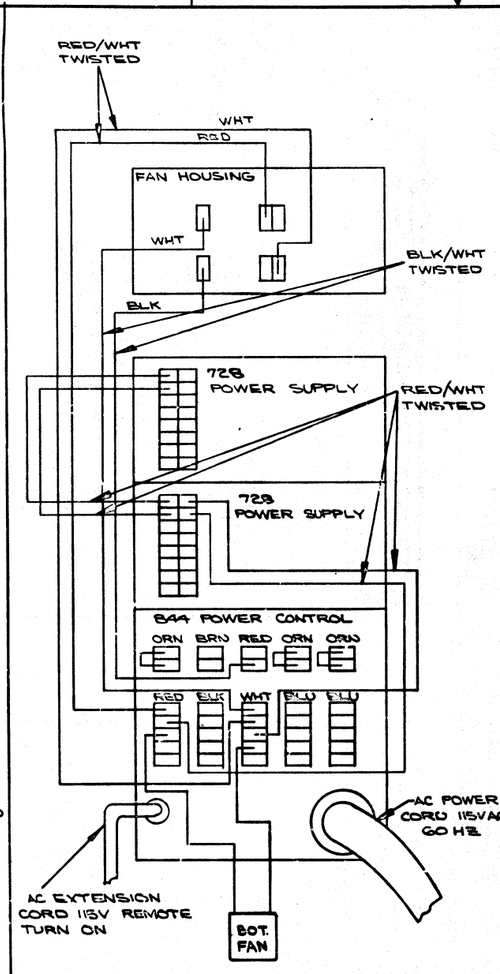
CODE	SIZE	NUMBER	REV
SP	A	DF10-0-8	

SHEET 4 OF 4

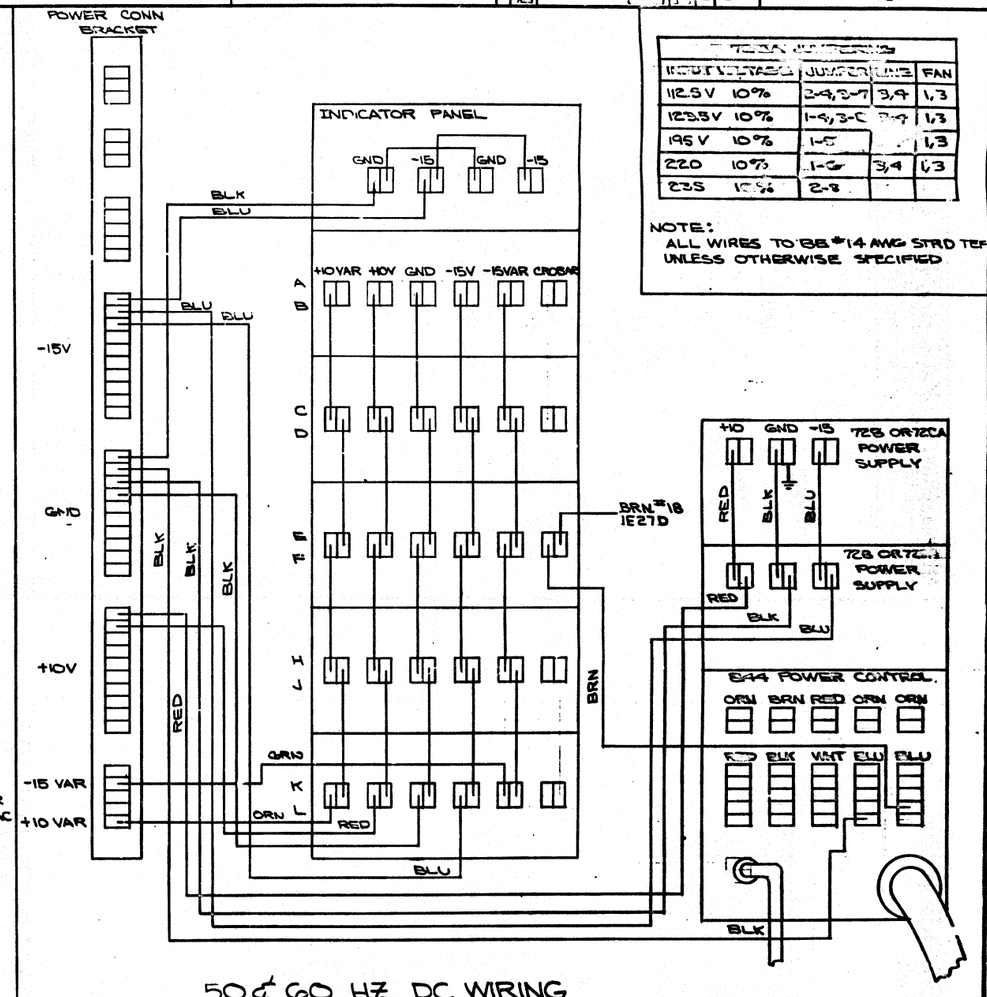


115V OR 230V 50 HZ AC WIRING

NOTE:
REMOVE JUMPERS J1, J2, & J3 FROM 844 P.C. FOR 230V 50 HZ. OPERATION



115V 60 HZ AC WIRING



50 & 60 HZ DC WIRING

TERMINATING			
INPUT VOLTAGE	JUMPER	LINE	FAN
112.5 V 10%	2-4, 3-7	3,4	1,3
123.5V 10%	1-5, 3-7	3-7	1,3
195 V 10%	1-5		1,3
220 10%	1-5	3,4	1,3
235 10%	2-8		

NOTE:
ALL WIRES TO BE #14 AWG STRD TEF UNLESS OTHERWISE SPECIFIED

REVISIONS		
CHK	CHANGE NO	REV
	ECO 3041	A
	ADDED 2 FANS	

QTY.	DESCRIPTION	PART NO.

DIGITAL EQUIPMENT CORPORATION

WIRING, POWER DC & AC

C-DF10-0-4

A

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

ENGINEERING SPECIFICATION DATE 10/7/69

TITLE CHANNEL MANUFACTURING TEST PLAN OUTLINE (ONLINE)

REVISIONS

REV	DESCRIPTION	CHG NO	ORIG	DATE	APPD BY	DATE

ENG	APPD	SIZE	CODE	NUMBER	REV
Arthur Johnson		A	SP	DF10-0-9	

DEC FORM NO. DRA 107

SHEET 1 OF 3

ENGINEERING SPECIFICATION CONTINUATION SHEET

TITLE CHANNEL MANUFACTURING TEST PLAN OUTLINE (ONLINE)

General This procedure tests the LOCAL mode feature of the DF10. For additional on-line tests, see test procedure for devices using channel bus.

Set Up DF10 connected to MA10 or MB10 via memory bus.

Procedure

1. Set the following DF10 conditions:

   LOCAL 1

   Device Write Ø

   MEM Cycle Single Step Ø

   Clear Cycle Ø

   At the KA10 console, load a control word into 100_8 as follows:

   LOC 100_8 = 000000 000000

2. Press the LOCAL START pushbutton. The DF10 should start, fetch the zero control word, terminate, and then recycle, the operation repeating until the LOCAL STOP pushbutton is pressed. Verify the length of RECYCLE DLY (25 us ± 20%).

3. Display CCC LOCAL START (1) on the scope. Hold down LOCAL STOP pushbutton and press LOCAL START. Verify the channel cycles only once.

4. Load the following location at the KA10 console.

   LOC 100 = 0——0 001000

   1000 = 777777 003777
   1001 = 000000 000000
   4000 = 777777 777777

5. When the LOCAL START pushbutton is pressed, the DF10 should fetch the control words, do a one word data transfer (zeroes to memory), and then terminate. The operation should repeat until LOCAL STOP is pressed. Verify CCC LOC DV PLS DLY (6 us ± 20%).

SIZE	CODE	NUMBER	REV
A	SP	DF10-0-9	

DEC FORM NO DRA 108

SHEET 2 OF 3

ENGINEERING SPECIFICATION CONTINUATION SHEET

TITLE CHANNEL MANUFACTURING TEST PLAN OUTLINE (ONLINE)

6. Display 4000_8 to verify that zeroes are written in this location.

7. Display location 101_8 to verify that the correct control word is being written into memory.

   101_8 = 001001 004001

8. Stop the DF10 by pressing LOCAL STOP. Set MEM CYCLE SINGLE STEP = 1 and press LOCAL START. The DF10 should stop after doing the first memory cycle. When LOCAL START is pressed, a second memory cycle should take place. Continue to single step by pressing LOCAL START button and verify correct operation.

9. Clear the DF10 by pressing CLEAR button and enter "ones" in location 4000_8. Set DEVICE WRITE = 1 and press LOCAL START. Verify that "ones" are read from memory into the DF10 memory buffer during the data word transfer.

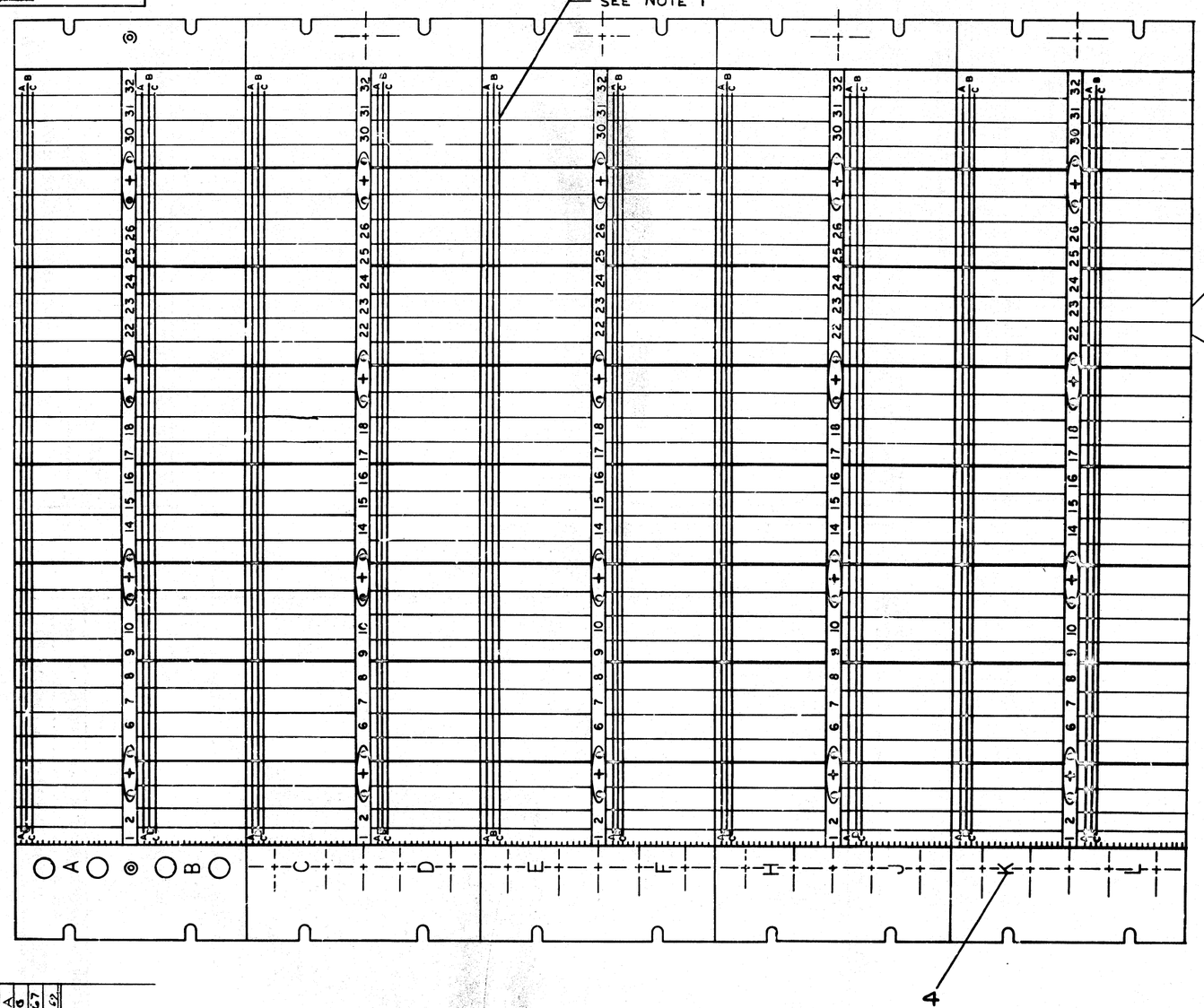
   (NOTE: This may be verified visually in the MB lights by increasing the word count of the control word in location 1000_8 and entering "ones" in the appropriate number of locations starting at location 4000_8.)

10. Set CLEAR CYCLE = 1 and press LOCAL START. Verify CCA CLR CYCLE DLY (300 us ± 20%). Verify that CCC LOCAL START is cleared when CCA CLR CYLCE DLY times out.

SIZE	CODE	NUMBER	REV
A	SP	DF10-0-9	

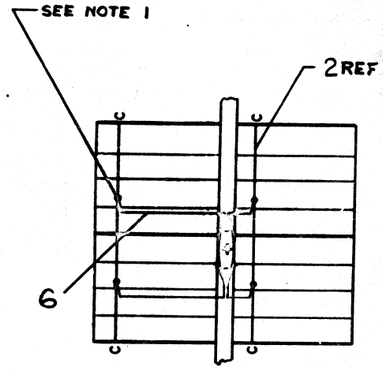
DEC FORM NO DRA 108

SHEET 3 OF 3



NOTES:

1. CONNECTIONS ON ITEMS #3 & #6 TO BE SOLDERED AND LOCATED AT MINIMUM PRACTICAL HEIGHT ABOVE BLOCK.
2. USE YELLOW WIRE (ITEM #5) FOR MACHINE WRAPPED & BLUE WIRE (ITEM #7) FOR HAND WRAPPED WIRING.
3. ALL CONN BLOCKS TO BE GROUNDED TO GND LUGS AS SHOWN.



DETAIL A
20 PLACES
SEE NOTE 3

REVISIONS			
	REV.		
ECO # 3123	A		
REVISED PER DWG		11-14-67	

QTY.	DESCRIPTION	PART NO.	ITEM NO.

DRAWN CH MANTALA 11/67
CHECKED R.STONE 11/67
ENGR MANTALA 11/67
QA MAN 11/67
MFG OFFICE 11/67

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE: WIRED ASSEMBLY (DF10)

SIZE D-UA-DF10-0-0 REV A

SCALE

SEE ALSO AD-7005561-0-0 REV A

PARTS LIST

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PART NO.	DRWG. NO.	NO. REQD.	DESCRIPTION ITEM — STOCK SIZE — CAT. NO. — MFG.	DEC. STOCK NO.
1	D-AD-1943-D-0	5	1943D MTG PANEL ASSY	
2		A/R	CHAIN, VOLTAGE	1202188-0-0
3	REFER TO MDL		WIRE LIST	
4		A/R	PANEL SCOTCHCALS ⅛ HIGH	
5		A/R	#24 AWG SOLID TEF YEL	
6		A/R	#22 AWG SOLID KYNAR WHT	
7		A/R	#24 AWG SOLID KYNAR BLU	

REVISIONS

CHANGE NO.	DATE	ENG.
ECO #3123 UPPED REV		
LTR TO AGREE WITH ASSY		lap

MADE BY A. HUHTALA	DATE 8/1/67	TITLE WIRED ASSY	SIZE A	CODE PL	NUMBER 7005561-0-0	REV. A
CHECKED H. Stowe	DATE 8-30-67	FOR DF10	ASSY. NO. D-AD-7005561-0-0		SHEET 1 OF 1	
ENG D. Tuttle	8/31/67					

DEC FORM NO
DRA 109