MASTER DRAWING LIST

MAINTENANCE MANUALS NO.	TITLE	UNIT VARIATIONS LP15-FA	LP15-FB
LP15-F	LINE PRINTER	X	X
	80 COL 64 CHAR		

USED ON OPTIONS							

REVISIONS REV.	DATE	CHG. NO.	APP'D.
A	7/70	00001	J.P.
B	7/70	00002	J.P.
C	8/70	00003	J.P.
D	11/70	00004	J.P.
E	12/70	00005	J.P.
F	1/71	00006	J.P.
H	4/71	00007	J.P.
J	5-71	00008	J.P.
K	9-71	00009	J.P.
L	1-72	MISC-86	A.V.

DRN. RAIMONDI — DATE 3/16/70
CHK'D. PFYFFER — DATE 3/23/70
ENG. J. PRATT — DATE 7/7/70
PROJ. ENG. J. PRATT — DATE 7/7/70
PROD. G. BUNDY — DATE 7/7/70
FIRST USED ON PDP 15
SCALE
SHEET 1 OF 3

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE
LINE PRINTER, 80 COL 64 CHAR
(60HZ + 50HZ)

SIZE	CODE	NUMBER	REV.
A	ML	LP15-F	L

DIST.

DRA 131

Dec 16–(325)–1048–N471

PRINT SET LP15-FA	DWG. NO.	REV. LET.	NO. OF SHEETS	TITLE	OPTION NO.
X	D-DI-LP15-F-1	A	1	DRAWING INDEX LIST	
X	D-UA-LP15-F-0			LINE PRINTER, 80 COL 64 CHAR	
X	A-PL-LP15-F-0			LINE PRINTER, 80 COL 64 CHAR	
	D-FD-LP15-F-26	A	2	FLOW CHART	
X	D-BS-LP15-F-Ø2	B	2	CONTROL 1 (LPØ2)	
X	D-BS-LP15-F-Ø3	D	1	CONTROL 2 (LPØ3)	
X	D-BS-LP15-F-Ø4		2	DATA BUFFERS (LPØ4)	
X	D-BS-LP15-F-Ø5	A	1	DB CONTROL (LPØ5)	
X	D-BS-LP15-F-Ø6		1	DB OUTPUT GATING LP DRIVER (LPØ6)	
X	D-BS-LP15-F-Ø7	B	2	CHARACTOR DECODER (LPØ7)	
X	D-BS-LP15-F-Ø8	C	1	COLUMN COUNTER (LPØ8)	
X	D-BS-LP15-F-Ø9	A	1	LINE COUNTER (LPØ9)	
X	D-BS-LP15-F-1Ø		1	VFU UNIT (LP1Ø)	
X	D-BS-LP15-F-11		1	IOT DECODE 1 (LP11)	
X	D-BS-LP15-F-12		1	IOT DECODE 2 (LP12)	
X	D-BS-LP15-F-13		1	I/O BUS RECEIVERS (LP13)	
X	D-BS-LP15-F-14		2	MAINTENANCE READ (LP14)	
X	D-BS-LP15-F-15		2	LP RECEIVERS I/O BUS DRIVERS (LP15)	
	D-IC-LP15-F-16		1	I/O BUS CABLES IN	
X	D-IC-LP15-F-17		1	I/O BUS CABLES OUT	
X	D-IC-LP15-F-18		1	INDICATOR CABLES	
X	D-TD-LP15-F-21		1	DCH TIMING HEADER CYCLE	
X	D-TD-LP15-F-22		1	DATA CYCLE CHARACTER XFER	
	D-TD-LP15-F-23		1	INTERNAL TIMING IOPS MODE	
X	D-TD-LP15-F-24	A	1	INTERNAL TIMING ALPHA MODE	
X	D-TD-LP15-F-25	A	1	LINE OVER TIMING	
X	D-MU-LP15-F-2Ø	E	2	MODULE UTILIZATION	
X	A-PL-LP15-F-2Ø	E	1	MODULE UTILIZATION (PL)	
X	D-IC-LP15-F-19	A	1	AC/DC PWR WIRING	

TITLE		SIZE	CODE	NUMBER	REV.
LINE PRINTER 80 COL 64 CHAR	SHEET 2 OF 3	A	ML	LP15-F	L

DRA 132

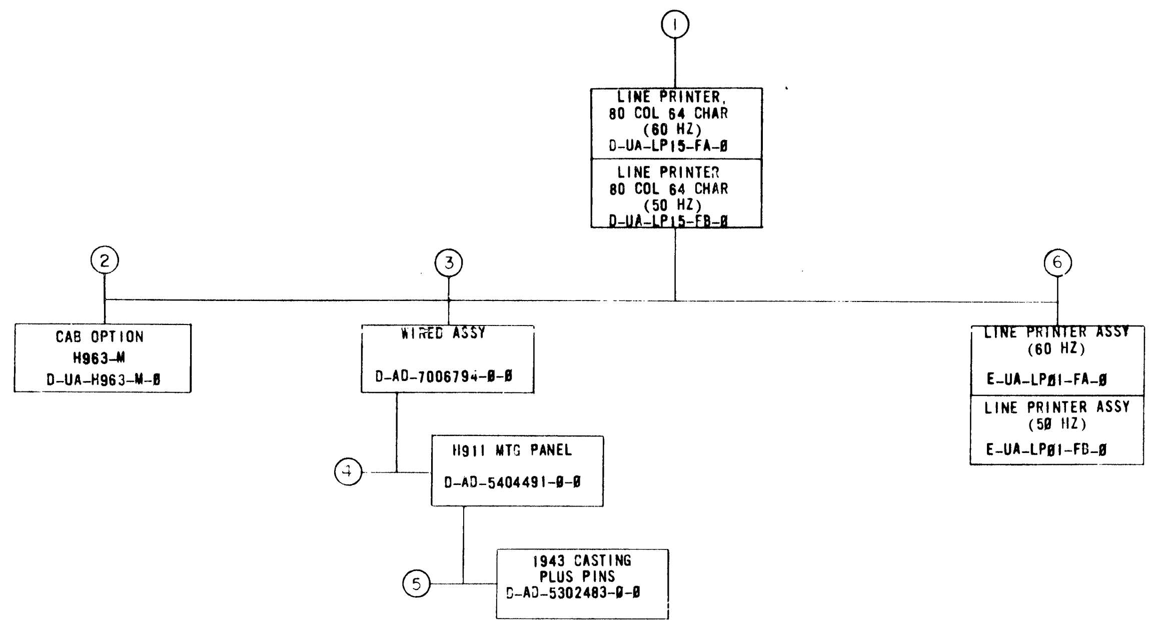
DEC 16–(325)–1048–1–N471

PRINT SET							DWG. NO.	REV. LET.	NO. OF SHEETS	TITLE	OPTION NO.
LP15-FA											
x							A-SP-LP15-F-27	B	41	ENGINEERING SPECIFICATIONS	
x							K-WL-LP15-F-28	K	1	WIRE LIST	
x							D-AD-7006794-0-0		1	WIRED ASSY	
x							A-PL-7006794-0-0			WIRED ASSY (PL)	
x							D-CS-H721-Ø-1	#	1	H721 CIRCUIT SCHEMATIC	
x							C-CS-716-Ø-1	#	1	716 CIRCIUT SCHEMATIC	

TITLE	SHEET	SIZE	CODE	NUMBER	REV.
LINE PRINTER 80 COL 64 CHAR	3 OF 3	A	ML	LP15-F	L

DRA 132

DEC 16-(325)-1048-1-N471



MECHANICAL

FIND NO.	DESCRIPTION	PART NO.	DEPT USAGE PROD	CUST	F/C
1.	LINE PRINTER, 80 COL 64 CHAR (60 HZ)	D-UA-LP15-FA-Ø			
	LINE PRINTER, 80 COL 64 CHAR	A-PL-LP15-FA-Ø			
	LINE PRINTER, 80 COL 64 CHAR (50 HZ)	D-UA-LP15-FB-Ø			
	LINE PRINTER 80 COL 64 CHAR	A-PL-LP15-FB-Ø			
	BCØ9B CABLE	D-UA-BCØ9B-1Ø-Ø			
	DATA PRODUCTS INTERFACE CABLE	D-IA-7006606-Ø-Ø			
	AC/DC PWR WIRING	D-IC-LP15-F-19			
	PLATE, NAME	B-IA-7408115-0-Ø			
	RETAINER BLOCK	C-MD-7407127-0-Ø			
2.	CAB OPTION H963-M	D-UA-H963-M-Ø			
	CAB OPTION H963-M	A-PL-H963-M-Ø			
	DRAWING INDEX LIST	D-DI-H963-M-1			
3.	WIRED ASSY	D-AD-7006794-Ø-Ø			
	WIRED ASSY	A-PL-7006794-Ø-Ø			
	LOGIC FRAME DECALS	A-DC-7406371-Ø-?			
	WIRE LIST	K-WL-LP15-F-28			
4.	H911 MTG PANEL	D-AD-5404491-Ø-Ø			
	H911 MTG PANEL	A-PL-5404491-Ø-Ø			
5.	1943 CASTING PLUS PINS	D-AD-5302483-Ø-Ø			
	1943 CASTING PLUS PINS	A-PL-5302483-Ø-Ø			
	1943 FRAME CASTING	E-MD-1202885-Ø-Ø			
6.	LINE PRINTER ASSY (60 HZ)	E-UA-LPØ1-FA-Ø			
	LINE PRINTER ASSY	A-PL-LPØ1-FA-Ø			
	LINE PRINTER ASSY (50 HZ)	E-UA-LPØ1-FB-Ø			
	LINE PRINTER ASSY	A-PL-LPØ1-FB-Ø			

ELECTRICAL

FIND NO	DESCRIPTION	PART NO.	DEPT USAGE PROD	CUST	F/C
1.	LINE PRINTER, 80 COL 64 CHAR	A-ML-LP15-F			
	CONTROL 1	D-BS-LP15-F-Ø2			
	CONTROL 2	D-BS-LP15-F-Ø3			
	DATA BUFFERS	D-BS-LP15-F-Ø4			
	DB CONTROL	D-BS-LP15-F-Ø5			
	DB OUTPUT GATING LP DRIVERS	D-BS-LP15-F-Ø6			
	CHARACTER DECODING	D-BS-LP15-F-Ø7			
	COLUMN COUNTER	D-BS-LP15-F-Ø8			
	LINE COUNTER	D-BS-LP15-F-Ø9			
	VFU UNIT	D-BS-LP15-F-1Ø			
	IOT DECODE 1	D-BS-LP15-F-11			
	IOT DECODE 2	D-BS-LP15-F-12			
	I/O BUS RECEIVERS	D-BS-LP15-F-13			
	MAINTENANCE READ	D-BS-LP15-F-14			
	LP RECEIVERS I/O BUS DRIVERS	D-BS-LP15-F-15			
	I/O BUS CABLES IN	D-IC-LP15-F-16			
	I/O BUS CABLES OUT	D-IC-LP15-F-17			
	INDICATOR CABLES	D-IC-LP15-F-18			
	AC/DC PWR WIRING	D-IC-LP15-F-19			
	MODULE UTILIZATION	D-MU-LP15-F-2Ø			
	DCH TIMING HEADER CYCLE	D-TD-LP15-F-21			
	DATA CYCLE CHARACTER XFER	D-TD-LP15-F-22			
	INTERNAL TIMING IOPS MODE	D-TD-LP15-F-23			
	INTERNAL TIMING ALPHA MODE	D-TD-LP15-F-24			
	LINE OVER TIMING	D-TD-LP15-F-25			
	FLOW CHART	D-FD-LP15-F-26			
	ENGINEERING SPECIFICATIONS	A-SP-LP15-F-27			
	WIRE LIST	K-WL-LP15-F-28			

QTY.	DESCRIPTION	PART NO.	ITEM NO.
	PARTS LIST		

FIRST USED ON OPTION/MODEL: PDP 15

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 3/13/70
CHK'D. [illegible] DATE 6-30-70
ENG. John Katt DATE 30 JAN 70
PROJ. ENG. John Katt DATE 30 JAN 70
PROD. [illegible] DATE [illegible]

NEXT HIGHER ASSY: A-ML-LP15-F

SCALE —//—
SHEET 1 OF 1

digital EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS

TITLE: DRAWING INDEX LIST (LP15-F)

SIZE: D | CODE: DI | NUMBER: LP15-F-1 | REV. A

DIST. G

REVISIONS

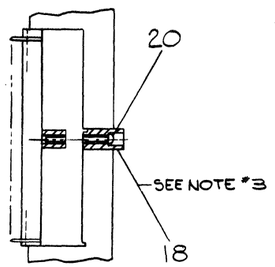
REV.	CHANGE NO.			CHK
A	MISC - 86	M. Poirier 1-5-72	A-VARTANIAN	A. Vartanian 1-6-72

DEC FORM NO. DRD 100

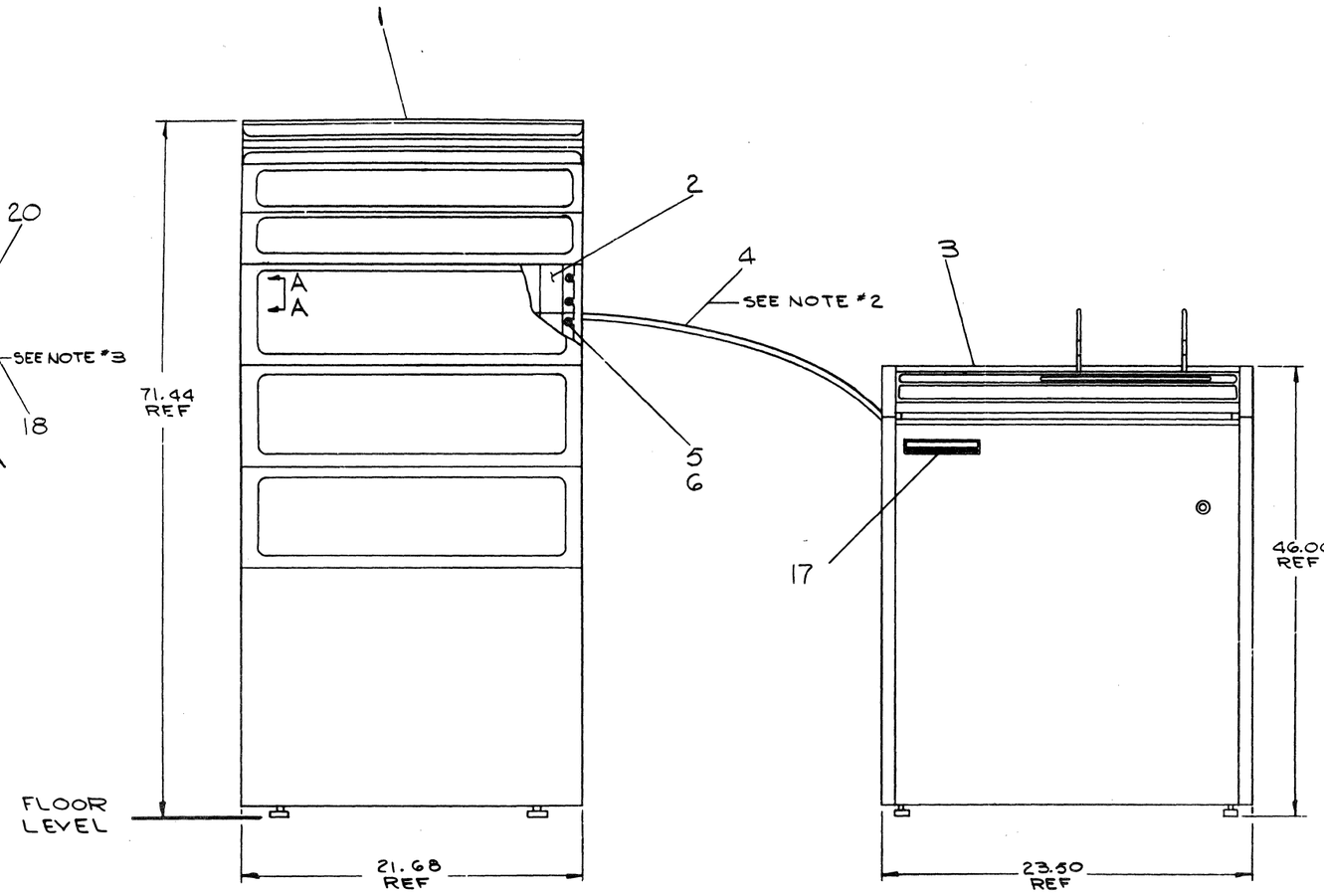
LEGEND	
NUMBER	VARIATION
LP15-FA	60HZ
LP15-FB	50HZ

NOTES:

1. FOR DRAWING INDEX LIST REFER TO DRAWING D-DI-LP15-F-1
2. LOCATION OF ITEM #4 (CABLE) WILL BE FROM REAR OF ITEM #3 (LINE PRINTER) TO SLOT B32 IN ITEM #2 (WIRED ASS'Y).
3. INSTALL RETAINER BLOCK ITEM #18 IN SLOTS A&B-2,3,4,5.



SECTION A-A
FRONT COVER REMOVED



QTY.	DESCRIPTION	PART NO.	ITEM NO.

PARTS LIST

REVISIONS	REV.	CHANGE NO.	CHK.

FIRST USED ON OPTION/MODEL: PDP-15

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 3/12/70
CHK.	[illegible]	DATE 6-30-70
ENG.	John Katt	DATE 10JUN70
PROJ. ENG.	Katt	DATE 10JUN70
PROD.	[illegible]	DATE [illegible]

NEXT HIGHER ASSY: A-ML-LP15-FA|FB

SCALE —//—

SHEET OF

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE: LINE PRINTER, 80 COL 64 CHAR

SIZE	CODE	NUMBER	REV.
D	UAL	LP15-F-Ø	

DIST. G

SIZE D | CODE UAL | NUMBER LP15-F-Ø | REV

GEC FORM NO. 699 300

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

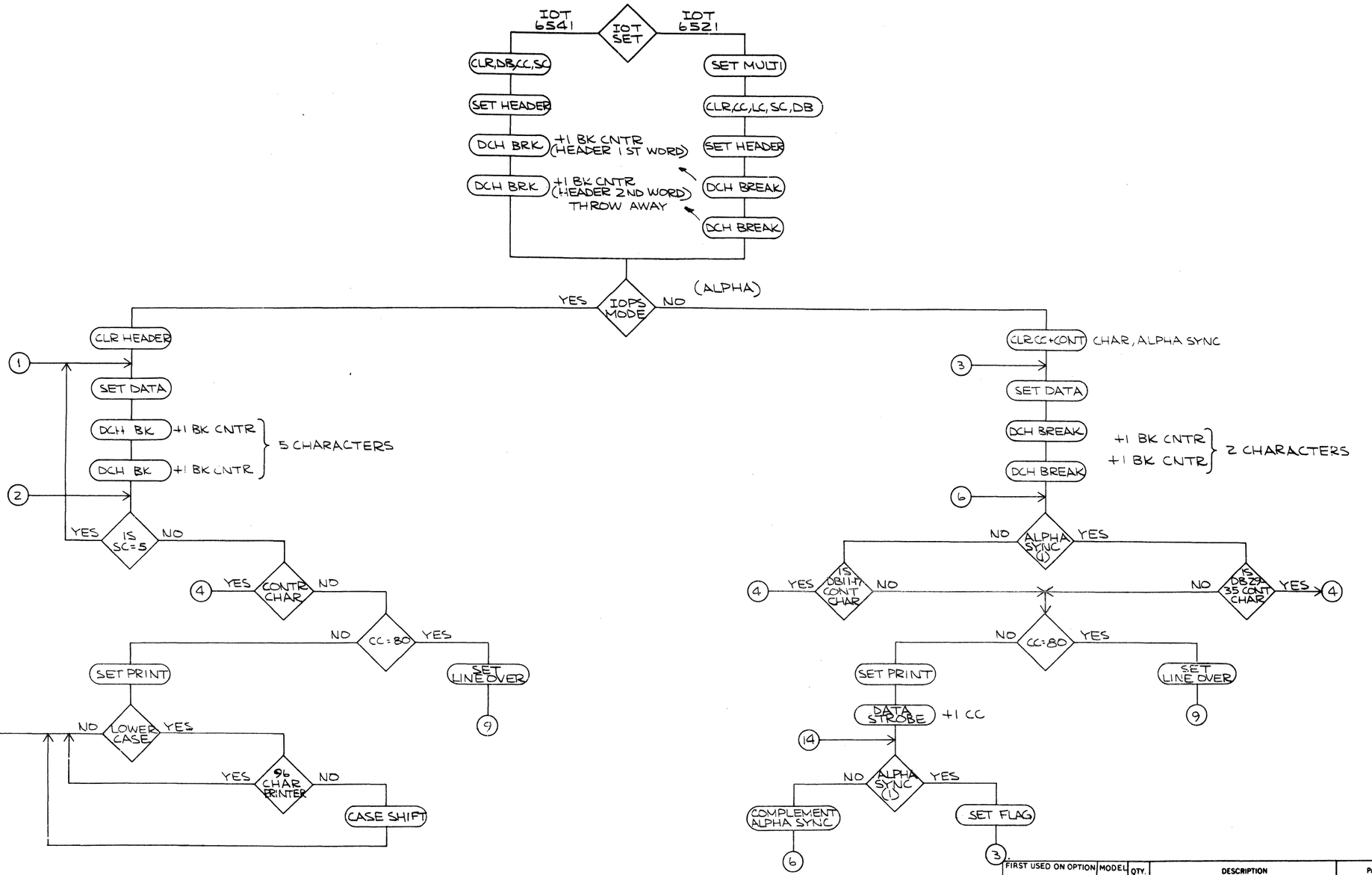
PARTS LIST

MADE BY G. FLANDERS DATE 3/12/70	CHECKED AL PFYFFER DATE 4/23/70	SECTION 1
ENG DATE John Platt 30JUN70	PROD DATE	ISSUED SECT. 1

ITEM NO.	DWG NO./PART NO.	DESCRIPTION	QUANTITY/VARIATION LP15-FA(60 Hz)	LP15-FB(50 Hz)
1	D-UA-H963-M-Ø	CAB OPTION, H963-M	1	1
2	D-AD-7006794-0-0	WIRED ASSY (LP15-F)	1	1
3	E-UA-LPØ1-FA-Ø	LINE PRINTER ASSY (60 Hz)	1	
3	E-UA-LPØ1-FB-Ø	LINE PRINTER ASSY (50 Hz)		1
4	D-IA-7006606-0-0	CABLE, DATA PRODUCTS INTERFACE	1	1
5	9006074-1	SCR PHL HD PAN #10-32 X 5/8 LG SST	8	8
6	9007651	WASH, LOCK EXT. TOOTH #10	8	8
7	9007786	NUT #10-32 TINNERMAN #C31758-032-27	8	8
8	D-UA-BCØ9B-Ø-Ø	BCØ9B CABLE	1	1
9	9107370-11	18 AWG WIRE INS BRN	A/R	A/R
10	9107440-50	14 AWG WIRE TWP GRN/BLK	A/R	A/R
11	9107440-29	14 AWG WIRE TWP RED/WHT	A/R	A/R
12	9107370-00	14 AWG WIRE INS BLK	A/R	A/R
13	9107370-66	14 AWG WIRE INS BLU	A/R	A/R
14	9107370-33	14 AWG WIRE INS ORN	A/R	A/R
15	A-PL-LP15-F-20	MODULE UTILIZATION	1	1
16	D-IC-LP15-F-19	AC/DC PWR WIRING	1	1
17	B-IA-7408115-0-0	PLATE, NAME	1	1
[illegible]	C-MD-7407127-0-0	RETAINER BLOCK	1	1
1	9107440-09	14 AWG WIRE TWP BLK/WHT	A/R	A/R
[illegible]	007799	SCR FIL. AD 8-32 X 1½	1	1

TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV.	ECO NO.
LINE PRINTER, 80 COL 64 CHAR	D-UA-LP15-F-0	A	PL	LP15-F-Ø		
	SHEET 1 OF 1	DIST.	G			

DEC FORM NO.
DRA 110



REVISIONS		
REV.	CHANGE NO.	CHK

FIRST USED ON OPTION	MODEL
PDP-15	

QTY.	DESCRIPTION	PART NO.	ITEM NO.

PARTS LIST

UNLESS OTHERWISE SPECIFIED

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.	A. Raimondi	DATE 9-14-70
CHK'D		DATE 9-30-70
ENG.	John Platt	DATE 30 JAN 70
PROJ./ENG.	John Platt	DATE 30 JAN 70
MOD.		DATE

NEXT HIGHER ASS'Y: A-ML-LP15-F

SCALE NONE

SHEET 1 OF 2

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

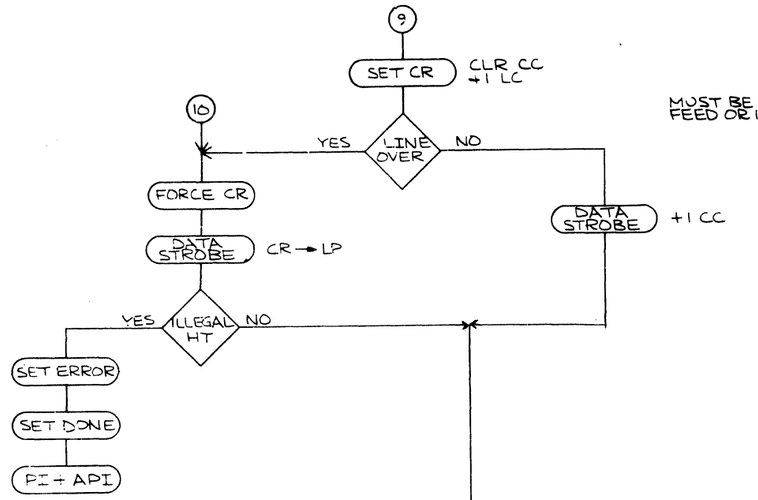
TITLE: FLOW CHART

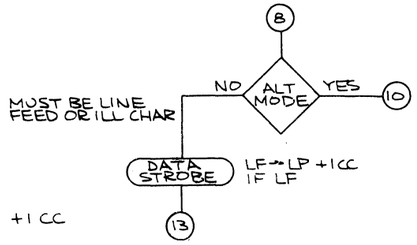
SIZE	CODE	NUMBER	REV.
D	FD	LP15-F-26	A

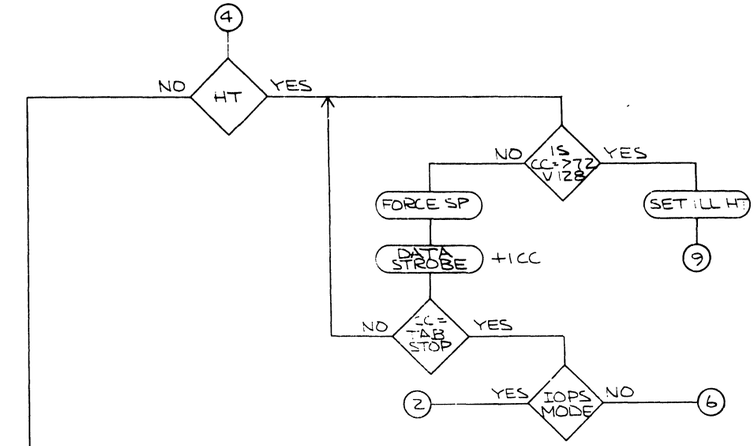
DIST.

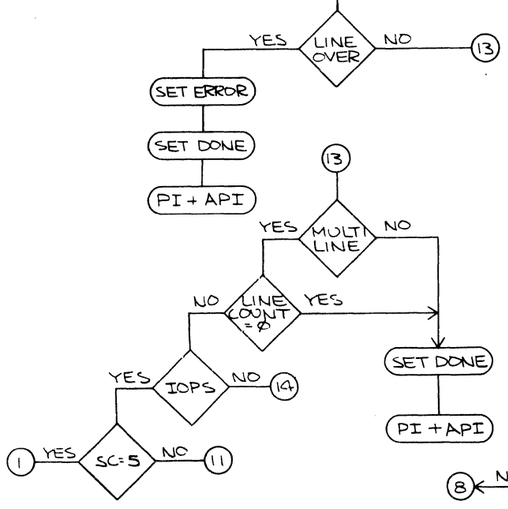
DEC FORM 1-J
DRD 102A

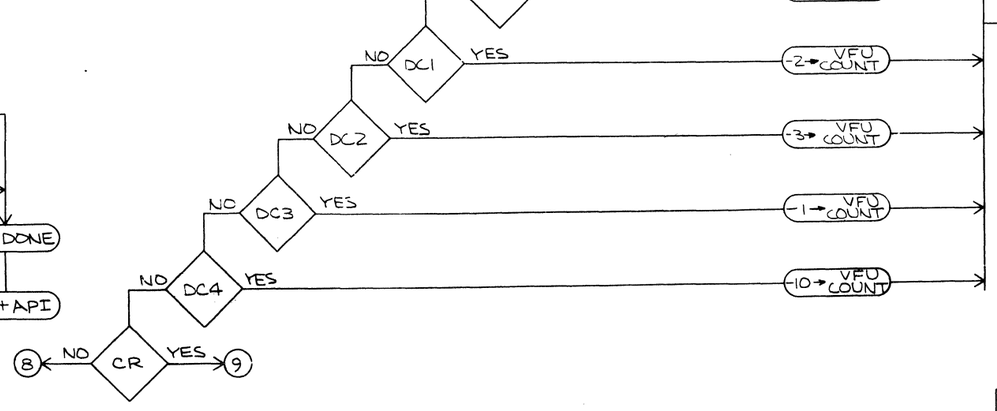
SIZE D CODE FD NUMBER LP15-F-26 REV A

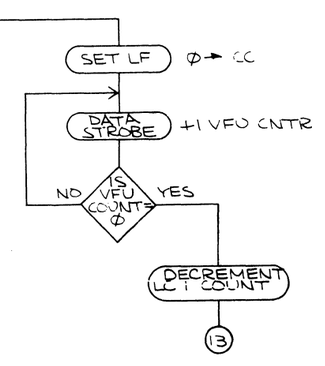












REVISIONS			
SYM	CHANGE NO	REV	
	LP15F-00004	A	Eddie Villanueva 11-17-72
			J. SWANSON 11/30/72

FIRST USED ON OPTION/MODEL: PDP-15	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 7
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL

FINISH

DRN. N. Raimondi	DATE	4-19-70
CHK'D. [illegible]	DATE	6-20-72
ENG. [illegible]	DATE	30 JAN 70
PROJ. ENG. [illegible]	DATE	30 JAN 70
PROG. [illegible]	DATE	6-20-72

NEXT HIGHER ASS'Y: A-ML-LP15-F

SCALE: NONE

SHEET 2 OF 2

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

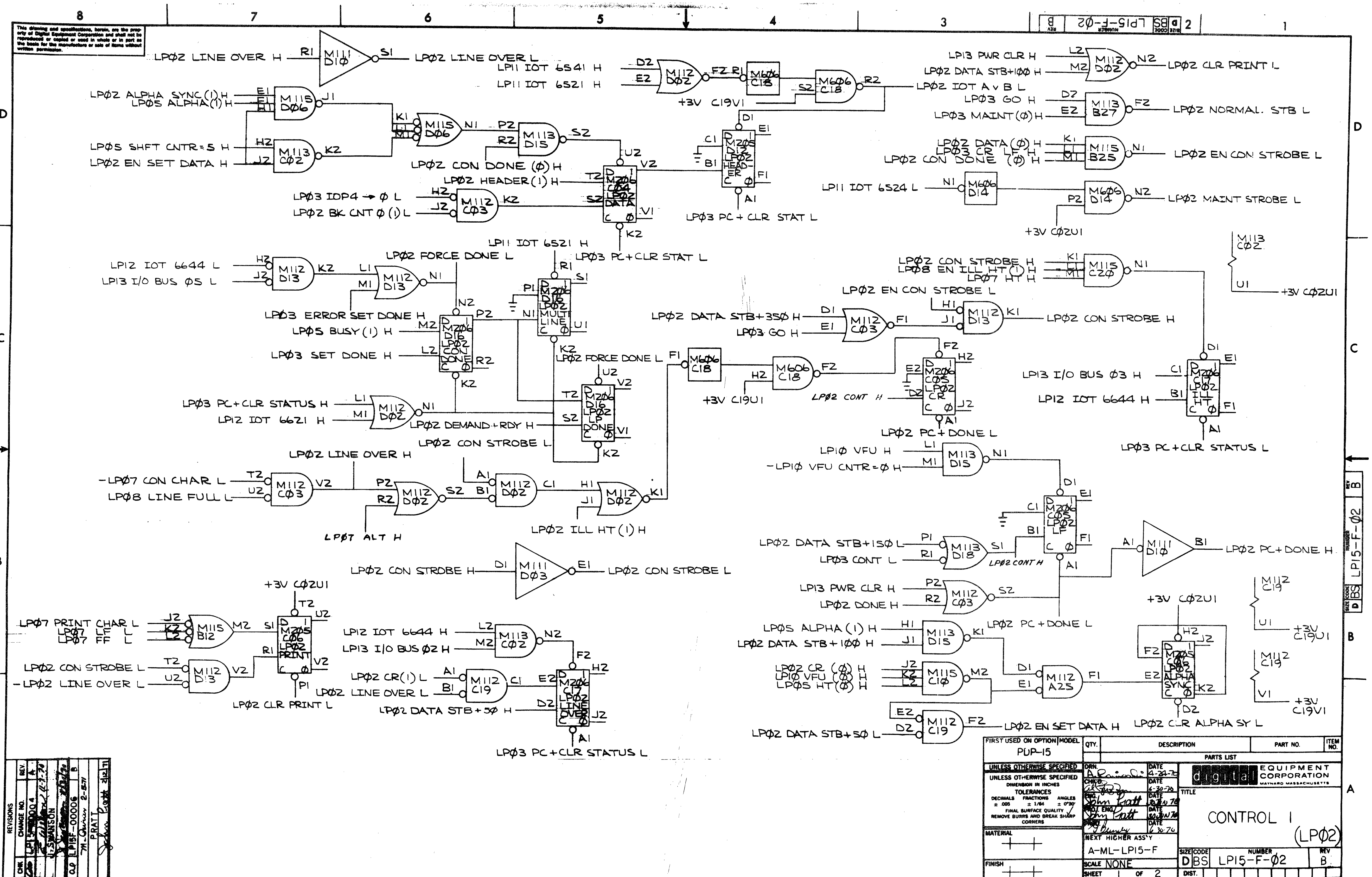
TITLE: FLOW CHART

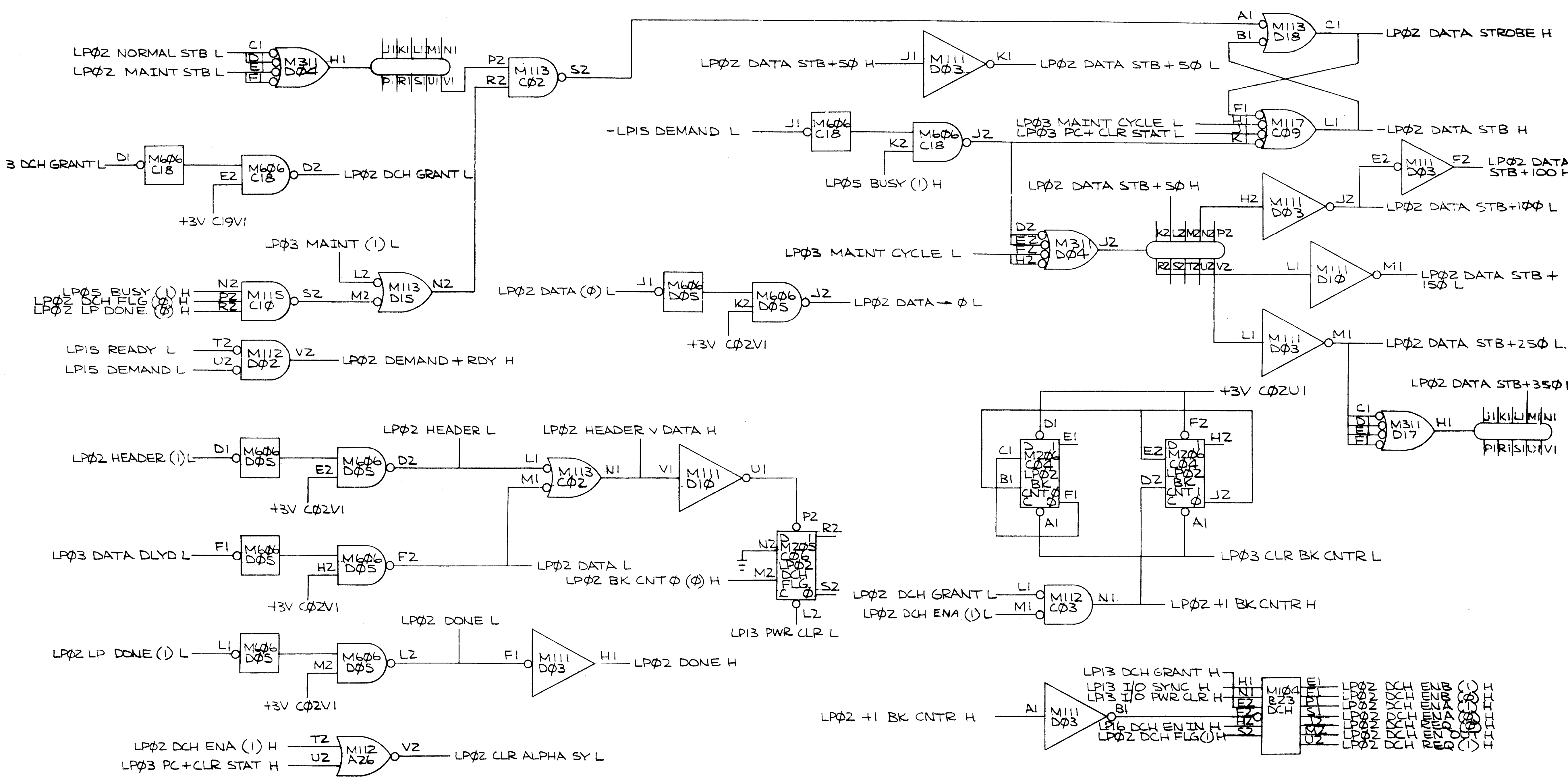
SIZE	CODE	NUMBER	REV.
D	FD	LP15-F-26	A

DIST.

DEL FORM NO. DRD 102A

SIZE D CODE FD NUMBER LP15-F-26 REV A


LPØ2 LINE OVER H
LPØ2 LINE OVER L
LPØ2 ALPHA SYNC (1) H
LPØ5 ALPHA (1) H
LPØ5 SHFT CNTR=5 H
LPØ2 EN SET DATA H
LPØ2 CON DONE (Ø) H
LPØ2 HEADER (1) H
LPØ3 IOP4 → Ø L
LPØ2 BK CNT Ø (1) L
LP11 IOT 6541 H
LP11 IOT 6521 H
+3V C19V1
LPØ3 PC + CLR STAT L
LP13 PWR CLR H
LPØ2 DATA STB+1ØØ H
LPØ2 CLR PRINT L
LPØ2 IOT A v B L
LPØ3 GO H
LPØ3 MAINT (Ø) H
LPØ2 NORMAL. STB L
LPØ2 DATA (Ø) H
LPØ3 CR LF H
LPØ2 CON DONE (Ø) H
LPØ2 EN CON STROBE L
LP11 IOT 6524 L
LPØ2 MAINT STROBE L
+3V CØ2U1
LP12 IOT 6644 L
LP13 I/O BUS ØS L
LPØ2 FORCE DONE L
LP11 IOT 6521 H
LPØ3 PC+CLR STAT L
LPØ3 ERROR SET DONE H
LPØ5 BUSY (1) H
LPØ3 SET DONE H
LPØ3 PC+CLR STATUS H
LP12 IOT 6621 H
LPØ2 DEMAND+RDY H
LPØ2 CON STROBE L
LPØ2 LINE OVER H
-LPØ7 CON CHAR L
LPØ8 LINE FULL L
LPØ7 ALT H
LPØ2 ILL HT (1) H
LPØ2 CON STROBE H
LPØ2 CON STROBE L
LPØ2 FORCE DONE L
LPØ2 CON STROBE H
LPØ8 EN ILL HT (1) H
LPØ7 HT H
LPØ2 EN CON STROBE L
LPØ2 DATA STB+35Ø H
LPØ3 GO H
LPØ2 CON STROBE H
+3V C19U1
LPØ2 CONT H
LP13 I/O BUS Ø3 H
LP12 IOT 6644 H
LPØ2 PC+DONE L
LPØ3 PC+CLR STATUS L
LP1Ø VFU H
-LP1Ø VFU CNTR=Ø H
LPØ2 DATA STB+15Ø L
LPØ3 CONT L
LPØ2 CONT H
LPØ2 PC+DONE H
LP13 PWR CLR H
LPØ2 DONE H
LPØ2 PC+DONE L
LPØ5 ALPHA (1) H
LPØ2 DATA STB+1ØØ H
LPØ2 CR (Ø) H
LP1Ø VFU (Ø) H
LPØ5 HT (Ø) H
LPØ2 DATA STB+5Ø L
LPØ2 EN SET DATA H
LPØ2 CLR ALPHA SY L
+3V CØ2U1
+3V C19U1
+3V C19V1
LPØ7 PRINT CHAR L
LPØ7 LF L
LPØ7 FF L
LPØ2 CON STROBE L
-LPØ2 LINE OVER L
LPØ2 CLR PRINT L
LP12 IOT 6644 H
LP13 I/O BUS Ø2 H
LPØ2 CR (1) L
LPØ2 LINE OVER L
LPØ2 DATA STB+5Ø H
LPØ3 PC+CLR STATUS L
FIRST USED ON OPTION PDP-15
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES
DIGITAL EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS
TITLE CONTROL I (LPØ2)
NEXT HIGHER ASS'Y A-ML-LP15-F
SIZE D CODE BS NUMBER LP15-F-Ø2 REV B
SCALE NONE SHEET 1 OF 2



FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PDP-15		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 CORNERS

MATERIAL

FINISH

DRN. A. Rosinski 4-27-70 · CHK'D 6-20-70 · ENG. John Gatt 30 JAN 70 · PROJ. ENG. John Gatt 30 JAN 70 · PROD. 6-30-70

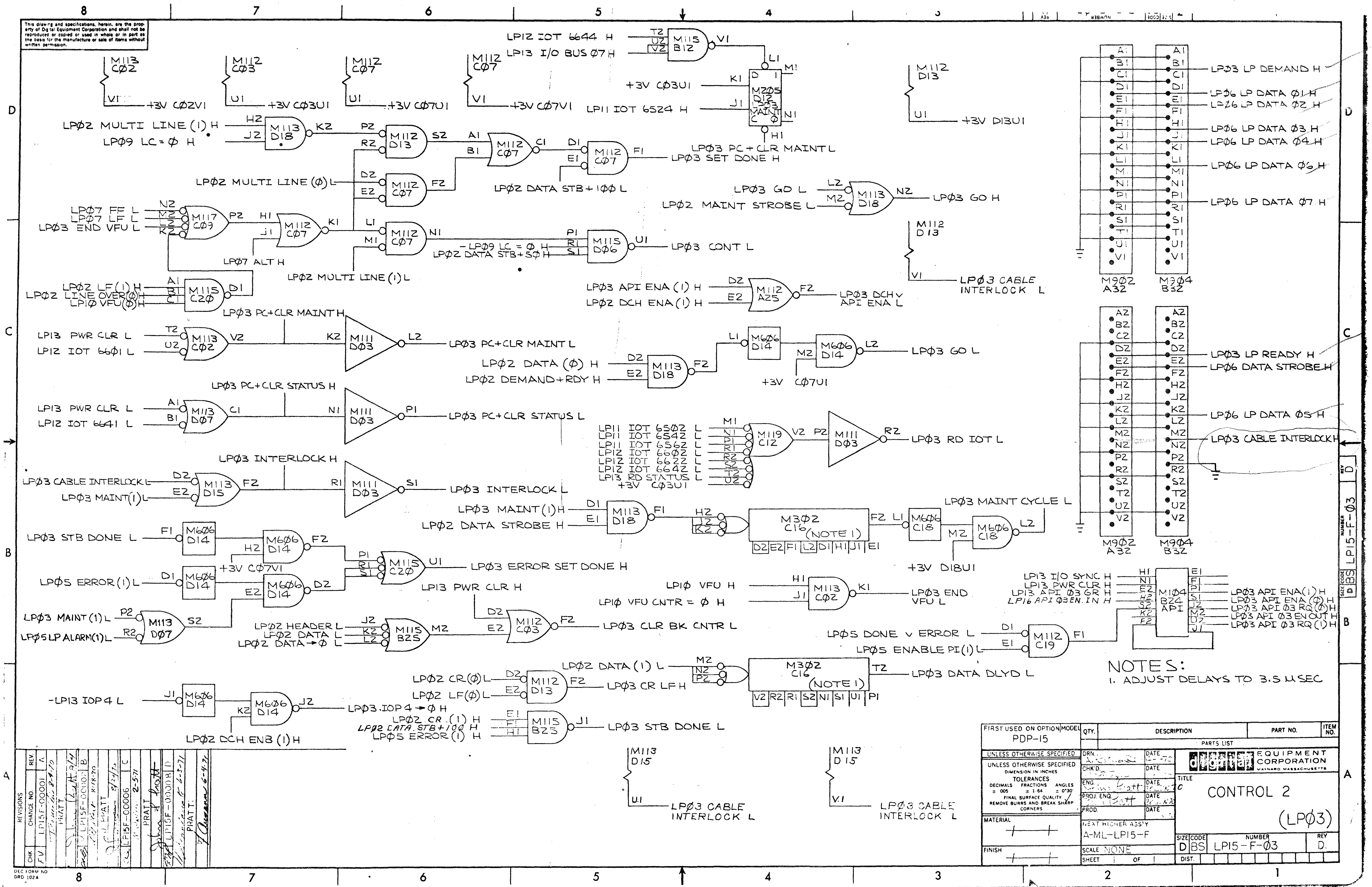
digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE CONTROL I (LPØ2)

NEXT HIGHER ASS'Y A-ML-LP15-F

SIZE D CODE BS NUMBER LP15-F-Ø2 REV B

SCALE NONE · SHEET 2 OF 2



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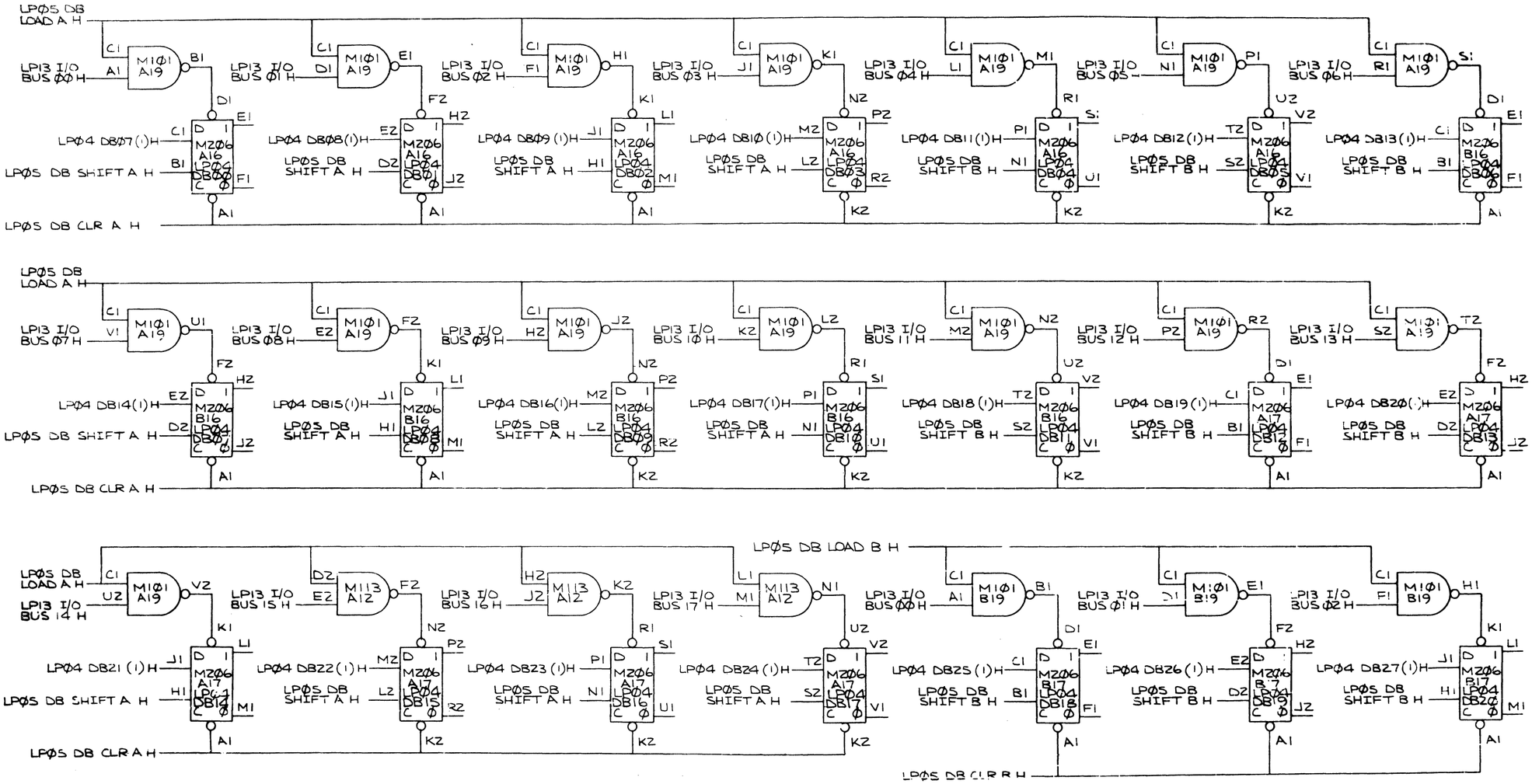
LP12 IOT 6644 H
LP13 I/O BUS Ø7 H
+3V CØ3U1
LP11 IOT 6524 H
M205 D12
LPØ3 PC+CLR MAINT L
LPØ3 SET DONE H
LPØ2 MULTI LINE (1) H
LPØ9 LC=Ø H
LPØ2 MULTI LINE (Ø) L
LPØ2 DATA STB+1ØØ L
LPØ7 FF L
LPØ7 LF L
LPØ3 END VFU L
LPØ7 ALT H
LPØ9 LC=Ø H
LPØ2 DATA STB+5Ø H
LPØ3 CONT L
LPØ2 MULTI LINE (1) L
LPØ3 GO L
LPØ2 MAINT STROBE L
LPØ3 GO H
LPØ3 CABLE INTERLOCK L
LPØ2 LF (1) H
LPØ2 LINE OVER (Ø) H
LP1Ø VFU (1) H
LPØ3 PC+CLR MAINT H
LPØ3 API ENA (1) H
LPØ2 DCH ENA (1) H
LPØ3 DCH v API ENA L
LP13 PWR CLR L
LP12 IOT 66Ø1 L
LPØ3 PC+CLR MAINT L
LPØ2 DATA (Ø) H
LPØ2 DEMAND+RDY H
LPØ3 GO L
+3V CØ7U1
LPØ3 PC+CLR STATUS H
LP13 PWR CLR L
LP12 IOT 6641 L
LPØ3 PC+CLR STATUS L
LP11 IOT 65Ø2 L
LP11 IOT 6542 L
LP11 IOT 6562 L
LP12 IOT 66Ø2 L
LP12 IOT 6622 L
LP12 IOT 6642 L
LP13 RD STATUS L
+3V CØ3U1
LPØ3 RD IOT L
LPØ3 INTERLOCK H
LPØ3 CABLE INTERLOCK L
LPØ3 MAINT (1) L
LPØ3 INTERLOCK L
LPØ3 MAINT (1) H
LPØ2 DATA STROBE H
M3Ø2 C16 (NOTE 1)
LPØ3 MAINT CYCLE L
+3V D18U1
LPØ3 STB DONE L
+3V CØ7V1
LPØ3 ERROR SET DONE H
LPØ5 ERROR (1) L
LP13 PWR CLR H
LP1Ø VFU H
LP1Ø VFU CNTR = Ø H
LPØ3 END VFU L
LPØ3 MAINT (1) L
LPØ5 LP ALARM (1) L
LPØ2 HEADER L
LPØ2 DATA L
LPØ2 DATA→Ø L
LPØ3 CLR BK CNTR L
LPØ5 DONE v ERROR L
LPØ5 ENABLE PI (1) L
LPØ2 CR (Ø) L
LPØ2 LF (Ø) L
LPØ3 CR LF H
LPØ2 DATA (1) L
M3Ø2 C16 (NOTE 1)
LPØ3 DATA DLYD L
-LP13 IOP4 L
LPØ3 IOP4→Ø H
LPØ2 CR (1) H
LPØ2 DATA STB+1ØØ H
LPØ5 ERROR (1) H
LPØ3 STB DONE L
LPØ2 DCH ENB (1) H
LPØ3 CABLE INTERLOCK L
LPØ3 CABLE INTERLOCK L
LPØ3 LP DEMAND H
LPØ6 LP DATA Ø1 H
LPØ6 LP DATA Ø2 H
LPØ6 LP DATA Ø3 H
LPØ6 LP DATA Ø4 H
LPØ6 LP DATA Ø6 H
LPØ6 LP DATA Ø7 H
M9Ø2 A32
M9Ø4 B32
LPØ3 LP READY H
LPØ6 DATA STROBE H
LPØ6 LP DATA Ø5 H
LPØ3 CABLE INTERLOCK H
LP13 I/O SYNC H
LP13 PWR CLR H
LP13 API Ø3 GR H
LP16 API Ø3 EN. IN H
M1Ø4 B24 API
LPØ3 API ENA (1) H
LPØ3 API ENA (Ø) H
LPØ3 API Ø3 RQ (Ø) H
LPØ3 API Ø3 EN OUT H
LPØ3 API Ø3 RQ (1) H
NOTES:
1. ADJUST DELAYS TO 3.5 μSEC
FIRST USED ON OPTION/MODEL PDP-15
UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES
digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS
TITLE CONTROL 2 (LPØ3)
NEXT HIGHER ASSY A-ML-LP15-F
SIZE D CODE BS NUMBER LP15-F-Ø3 REV D
SCALE NONE
SHEET 1 OF 1
DEC FORM NO DRD 102A



FIRST USED ON UPTIME MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PDP-15		PARTS LIST		

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

MATERIAL

FINISH

DRN	A. Rainone	DATE 3-25-70
CHK'D	Lee Hamilton	DATE 6-10-70
ENG	John Gatt	DATE 30JUN70
MOD ENG	John Gatt	DATE 30JUN70
PROD		DATE

NEXT HIGHER ASS'Y A-ML-LPI5-F

SCALE NONE SHEET 1 OF 2

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE DATA BUFFER (LPØ4)

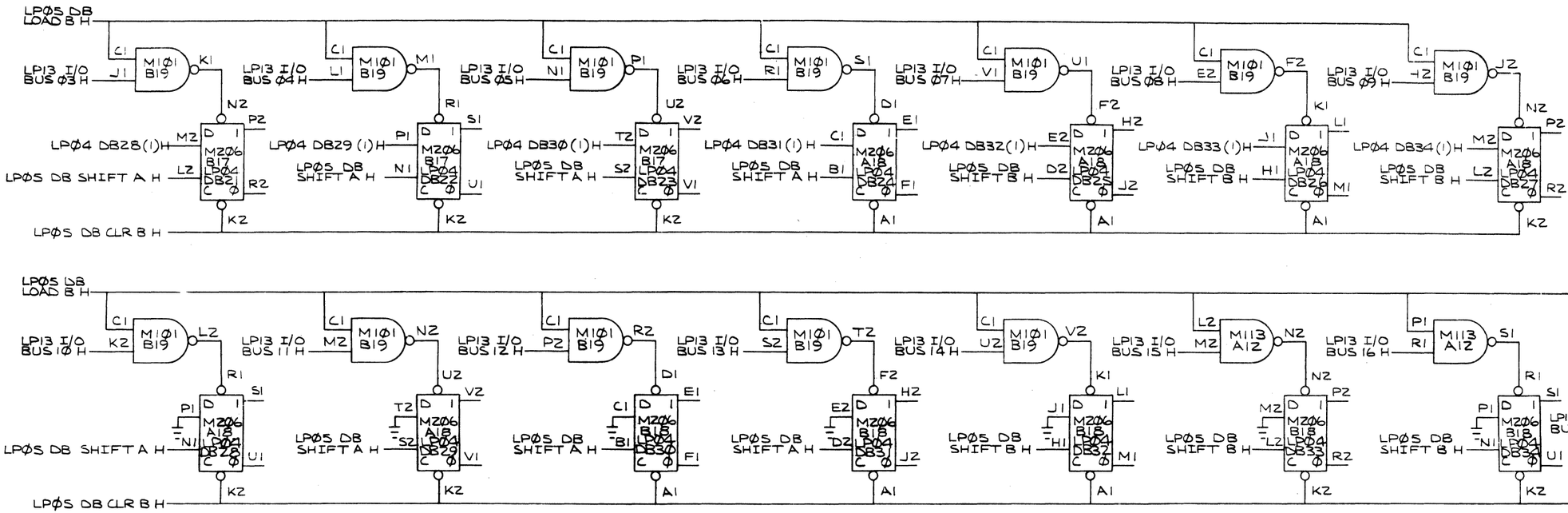
SIZE D CODE DBS NUMBER LPI5-F-Ø4 REV *

DIST.

REVISIONS	REV.
CHANGE NO.	
CHK	

DEC FORM NO DRD 102A

LPI5-F-Ø4



FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PDP-15		PARTS LIST		

UNLESS OTHERWISE SPECIFIED
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. A. Raimondo	DATE 3-26-70	
CHK'D.	DATE 6-19-70	
ENG.	DATE 30 JUN 70	
PROJ. ENG.	DATE 30 JUN 70	
APPD.	DATE 6-30-70	

NEXT HIGHER ASS'Y
A-ML-LPI5-F

SCALE NONE
SHEET 2 OF 2

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE
DATA BUFFER
(LPØ4)

SIZE D | CODE BS | NUMBER LPI5-F-Ø4 | REV.
DIST.

REVISIONS | REV | CHANGE NO | CHK

DEC FORM NO. DRD 102A

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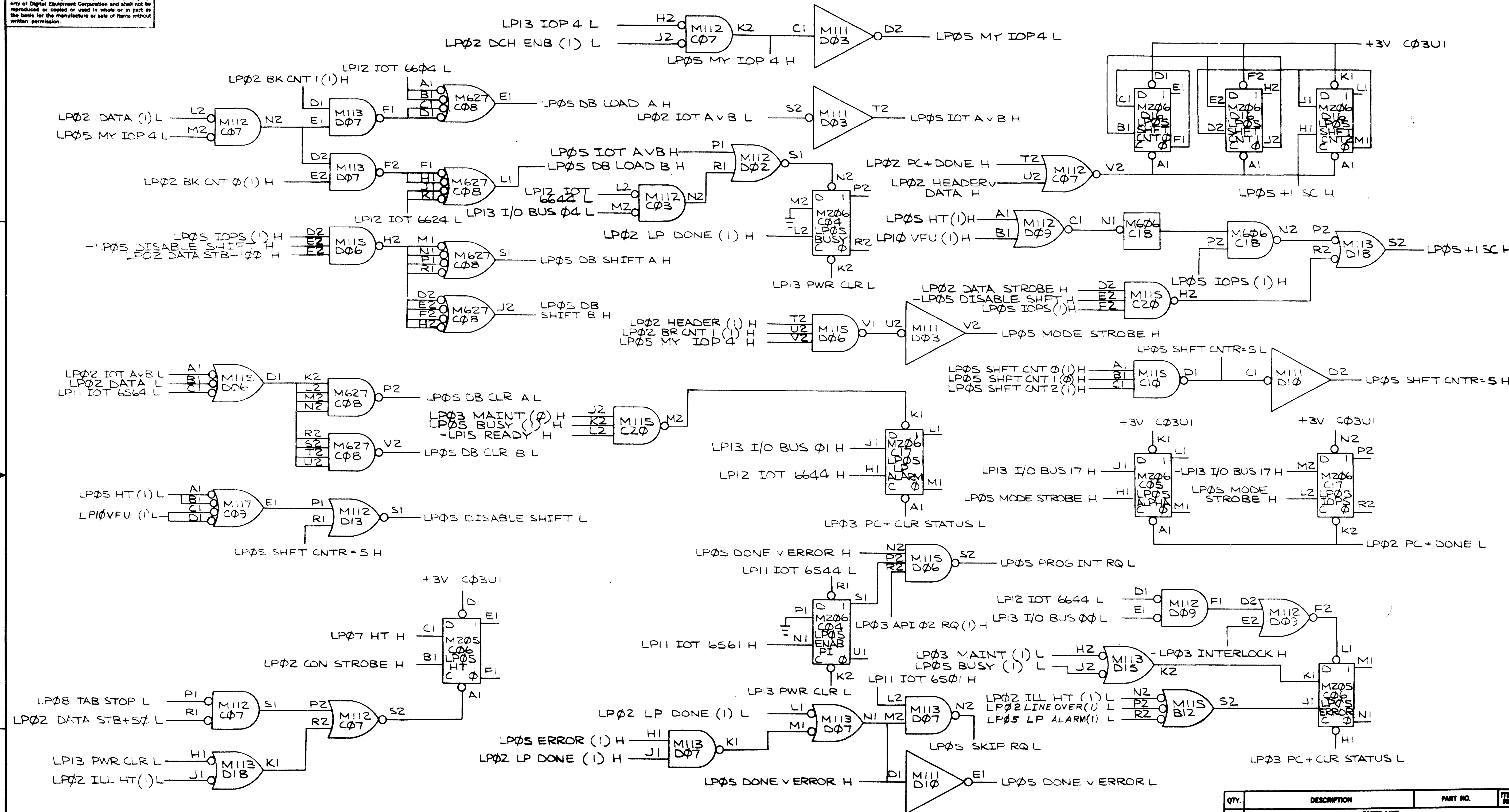


LP13 IOP 4 L
LPØ2 DCH ENB (1) L
M112 CØ7
M111 DØ3
LPØ5 MY IOP 4 H
LPØ5 MY IOP4 L
+3V CØ3U1
LP12 IOT 66Ø4 L
LPØ2 BK CNT 1(1) H
M113 DØ7
M627 CØ8
LPØ5 DB LOAD A H
LPØ2 IOT A v B L
LPØ5 IOT A v B H
LPØ2 DATA (1) L
LPØ5 MY IOP 4 L
LPØ2 BK CNT Ø(1) H
LPØ5 IOT A v B H
LPØ5 DB LOAD B H
M112 DØ2
LP12 IOT 6644 L
LP13 I/O BUS Ø4 L
M112 CØ3
LPØ2 PC + DONE H
LPØ2 HEADER v DATA H
LPØ5 +1 SC H
M2Ø6 DI5 LPØ5 SHFT CNT Ø
M2Ø6 DI6 LPØ5 SHFT CNT 1
M2Ø6 DI6 LPØ5 SHFT CNT 2
LP12 IOT 6624 L
M2Ø6 CØ4 LPØ5 BUSY
LPØ5 HT (1) H
LP1Ø VFU (1) H
M112 DØ9
M6Ø6 C18
M113 D18
LPØ5 +1 SC H
LPØ2 LP DONE (1) H
LPØ5 IOPS (1) H
-LPØ5 DISABLE SHIFT H
LPØ2 DATA STB-1ØØ H
M115 DØ6
LPØ5 DB SHIFT A H
LPØ5 DB SHIFT B H
LP13 PWR CLR L
LPØ2 DATA STROBE H
-LPØ5 DISABLE SHFT H
LPØ5 IOPS (1) H
M115 C2Ø
LPØ2 HEADER (1) H
LPØ2 BR CNT 1 (1) H
LPØ5 MY IOP 4 H
LPØ5 MODE STROBE H
LPØ5 SHFT CNTR=5 L
LPØ5 SHFT CNT Ø (1) H
LPØ5 SHFT CNT 1 (Ø) H
LPØ5 SHFT CNT 2 (1) H
M115 C1Ø
M111 D1Ø
LPØ5 SHFT CNTR=5 H
LPØ2 IOT A v B L
LPØ2 DATA L
LP11 IOT 6564 L
LPØ5 DB CLR A L
LPØ3 MAINT (Ø) H
LPØ5 BUSY (1) H
-LP15 READY H
LPØ5 DB CLR B L
LP13 I/O BUS Ø1 H
LP12 IOT 6644 H
M2Ø6 C17 LPØ5 ALARM
LP13 I/O BUS 17 H
LPØ5 MODE STROBE H
M2Ø6 CØ5 LPØ5 ALPH
M2Ø6 C17 LPØ5 IOPS
LPØ5 HT (1) L
LP1ØVFU (1) L
M117 CØ9
M112 D13
LPØ5 DISABLE SHIFT L
LPØ5 SHFT CNTR=5 H
LPØ3 PC + CLR STATUS L
LPØ2 PC + DONE L
LPØ5 DONE v ERROR H
LP11 IOT 6544 L
LPØ5 PROG INT RQ L
M2Ø6 CØ4 LPØ5 ENAB PI
LPØ3 API Ø2 RQ (1) H
LP12 IOT 6644 L
LP13 I/O BUS ØØ L
M112 DØ3
LP11 IOT 6561 H
LPØ3 MAINT (1) L
LPØ5 BUSY (1) L
M113 D15
-LPØ3 INTERLOCK H
LP11 IOT 65Ø1 H
LPØ7 HT H
LPØ2 CON STROBE H
M2Ø5 CØ6 LPØ5 HT
LPØ8 TAB STOP L
LPØ2 DATA STB+5Ø L
LP13 PWR CLR L
LPØ2 ILL HT (1) L
LPØ2 LP DONE (1) L
LPØ5 ERROR (1) H
LPØ2 LP DONE (1) H
LPØ2 ILL HT (1) L
LPØ2 LINE OVER (1) L
LPØ5 LP ALARM (1) L
M115 B12
M2Ø5 CØ6 LPØ5 ERROR
LPØ5 SKIP RQ L
LPØ5 DONE v ERROR H
LPØ5 DONE v ERROR L
LPØ3 PC + CLR STATUS L

REVISIONS		
REV.	CHANGE NO.	CHK
A	LP15F-00009	

M. Osman 9-23-71, J. PRATT, John S. Pratt

FIRST USED ON OPTION/MODEL: PDP-15

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

QTY.	DESCRIPTION	PART NO.	ITEM NO.

PARTS LIST

DRN: 3-18-70; CHK'D: 6-30-70; ENG: 30JUN70; PROD. ENG: 30JUN70; PROJ: 6-30-70

NEXT HIGHER ASSY: A-ML-LP15-F

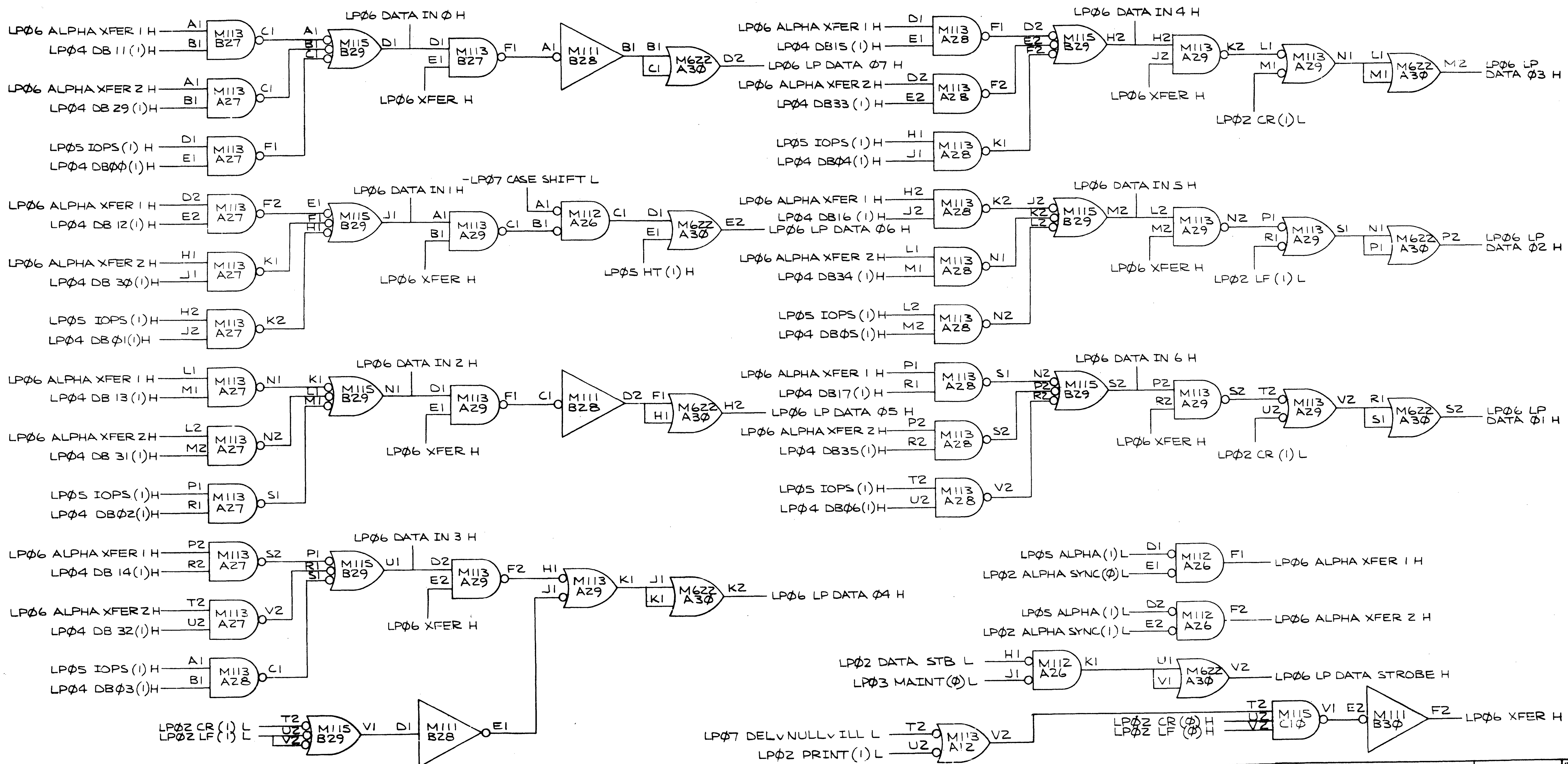
SCALE NONE — SHEET OF 1

digital EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS

TITLE: DB CONTROL (LPØ5)

SIZE D, CODE BS, NUMBER LP15-F-Ø5, REV. A

DEC FORM NO. DRD 100



FIRST USED ON OPTION	MODEL
PDP-15	

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

DRN A. Rosinski DATE 3-19-70
CHK'D DATE 6-30-70
ENG. John Hatt DATE 30 Jun 70
PROJ. ENG. John Hatt DATE 30 Jun 70
PROD. DATE 6-30-70

NEXT HIGHER ASS'Y A-ML-LP15-F

SCALE NONE
SHEET 1 OF 1

digital EQUIPMENT CORPORATION
MAYNARD MASSACHUSETTS

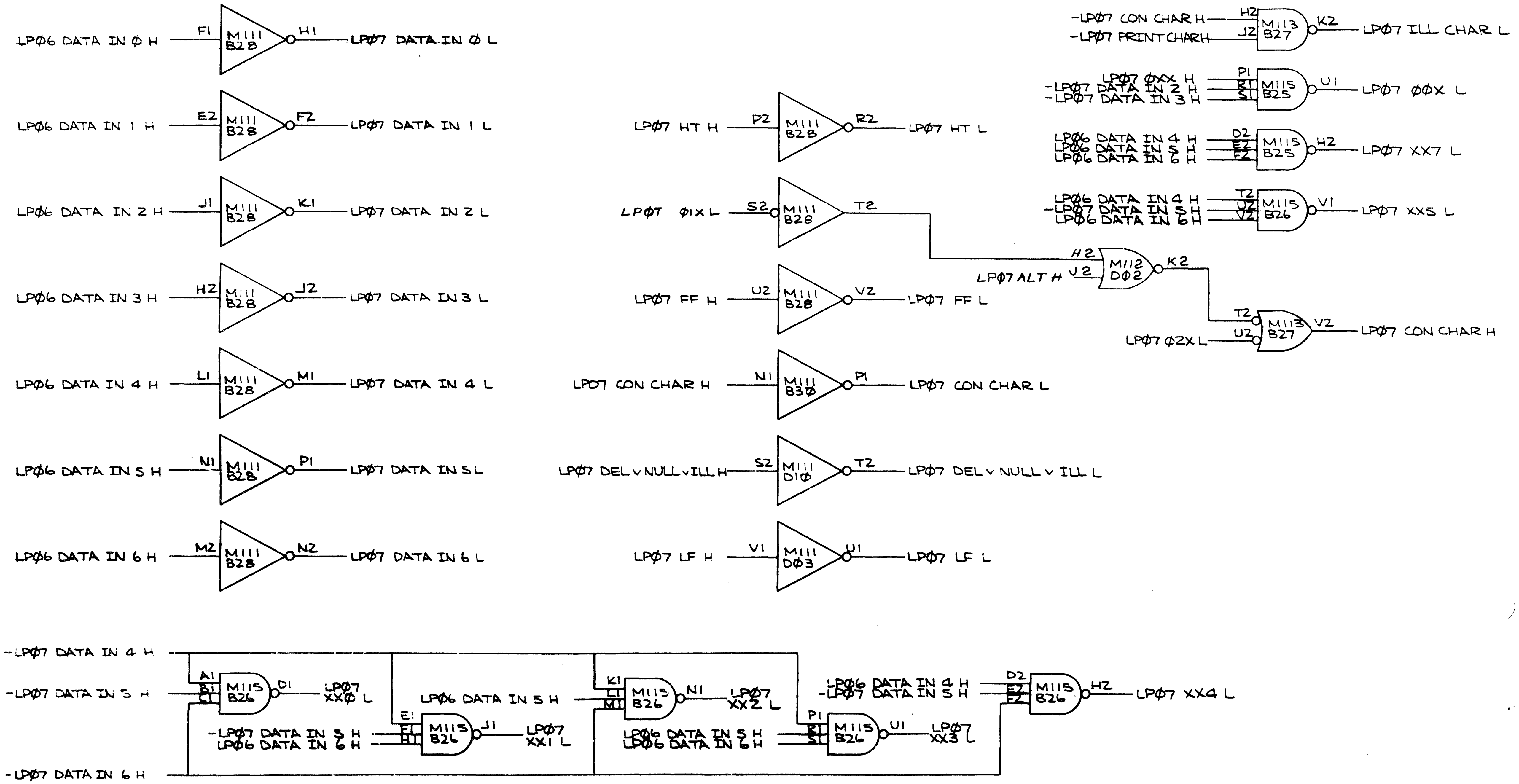
TITLE DB OUT GATING LP DRIVERS (LPØ6)

SIZE D CODE BS NUMBER LP15-F-Ø6 REV

DIST.

REVISIONS: REV. CHANGE NO. CHK

DEC FORM NO DWG 102A



REV.	CHANGE NO.	CHK
A	LP15F-00004	
B	LP15F-00006	

SWANSON
PRATT

FIRST USED ON OPTION/MODEL: PDP-15

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

QTY.	DESCRIPTION	PART NO.	ITEM NO.

PARTS LIST

DRN. DATE 4-23-70
CHK'D DATE 6-30-70
ENG. DATE
PROD. ENG. DATE
PROD. DATE 6-30-70

NEXT HIGHER ASS'Y: A-ML-LP15-F
SCALE: NONE
SHEET 1 OF 2

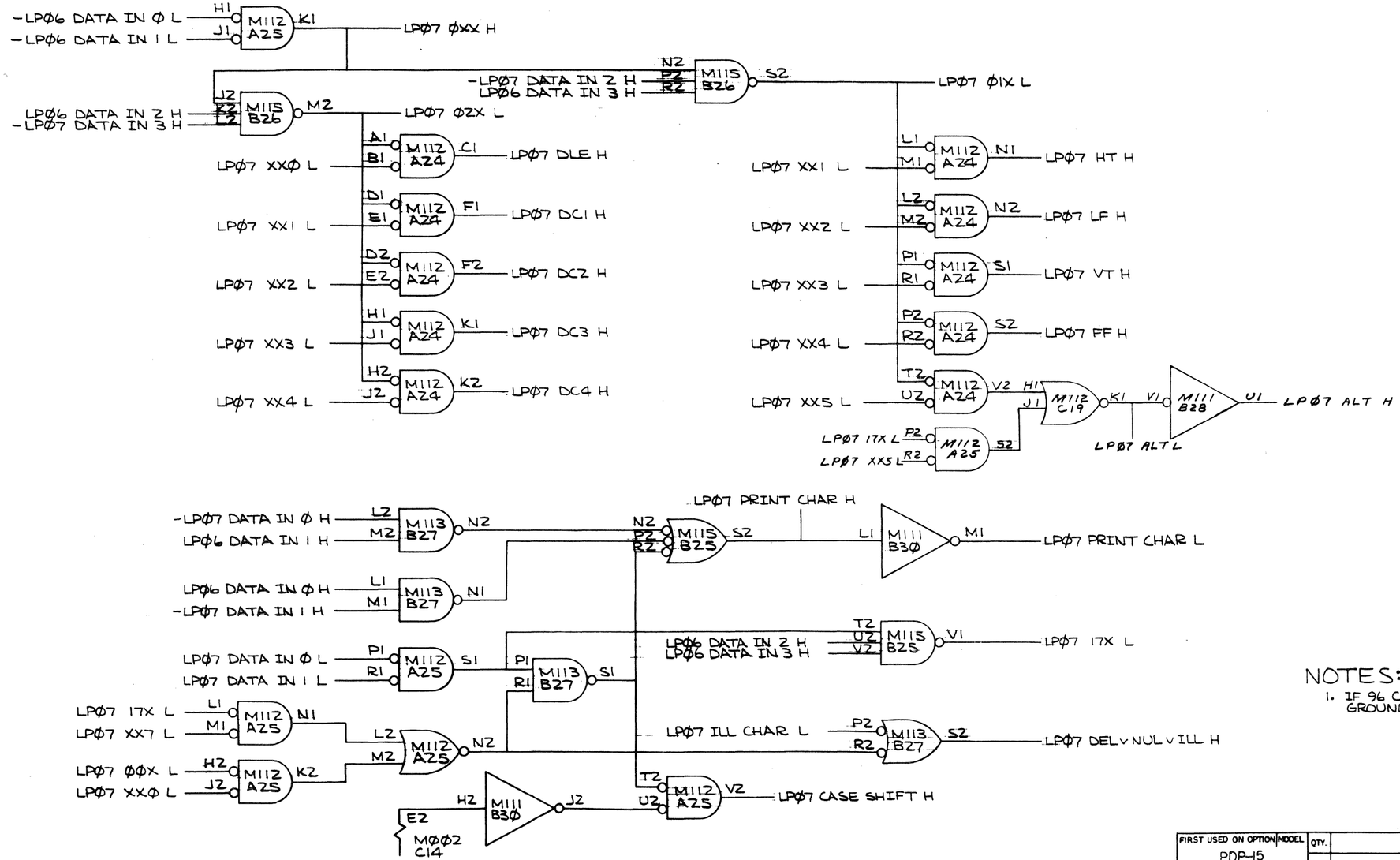
digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE: CHARACTER DECODER (LPØ7)

SIZE: D CODE: BS NUMBER: LP15-F-Ø7 REV. B

D BS LP15-F-Ø7 B

DEC FORM NO. DRD 102A



NOTES:
1. IF 96 CHAR PRINTER, JUMPER GROUND TO C14E2

REVISIONS			
CHK	CHANGE NO.	REV.	
	LP15F-0004	A	

FIRST USED ON OPTION/MODEL	PDP-15
UNLESS OTHERWISE SPECIFIED	
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	

PARTS LIST

QTY.	DESCRIPTION	PART NO.	ITEM NO.

DRN.	A. Raimondi	DATE 4-28-70
CHK'D		DATE 6-30-70
ENGR	Ben Gatt	DATE 6/30/70
MFG ENG.	John Gatt	DATE 6/30/70
QA		DATE 6-30-70

NEXT HIGHER ASS'Y: A-ML-LP15-F

SCALE: NONE

SHEET 2 OF 2

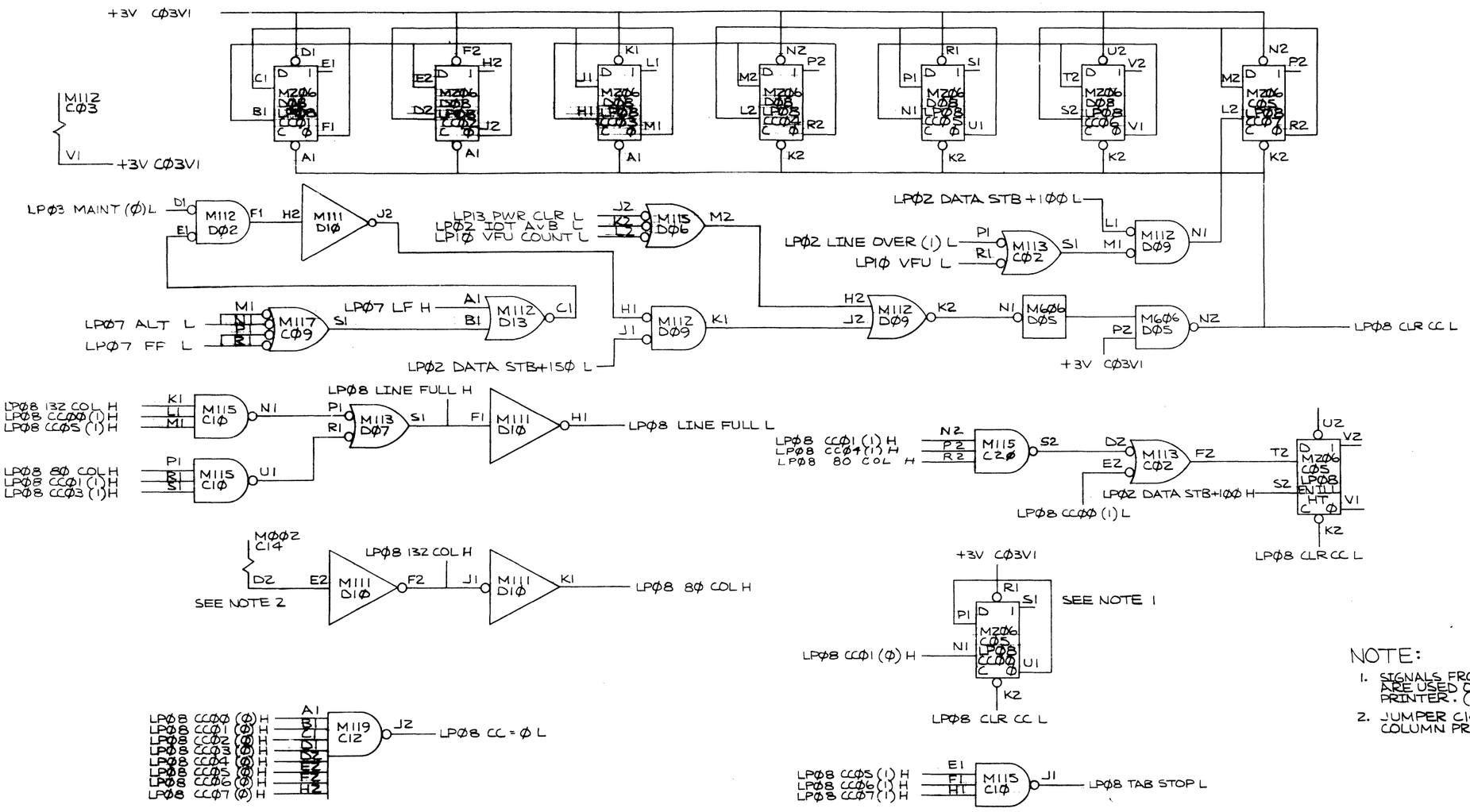
digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE: CHARACTER DECODER (LPØ7)

SIZE	CODE	NUMBER	REV.
D	BS	LP15-F-Ø7	B

DIST.

DEC FORM NO. DRD 102A



NOTE:

1. SIGNALS FROM FLIP-FLOP LPØ8 CCØØ ARE USED ONLY FOR THE 132 COLUMN PRINTER. (M2Ø6 LOCATION CØ5)
2. JUMPER C14D2 TO GROUND FOR 132 COLUMN PRINTER

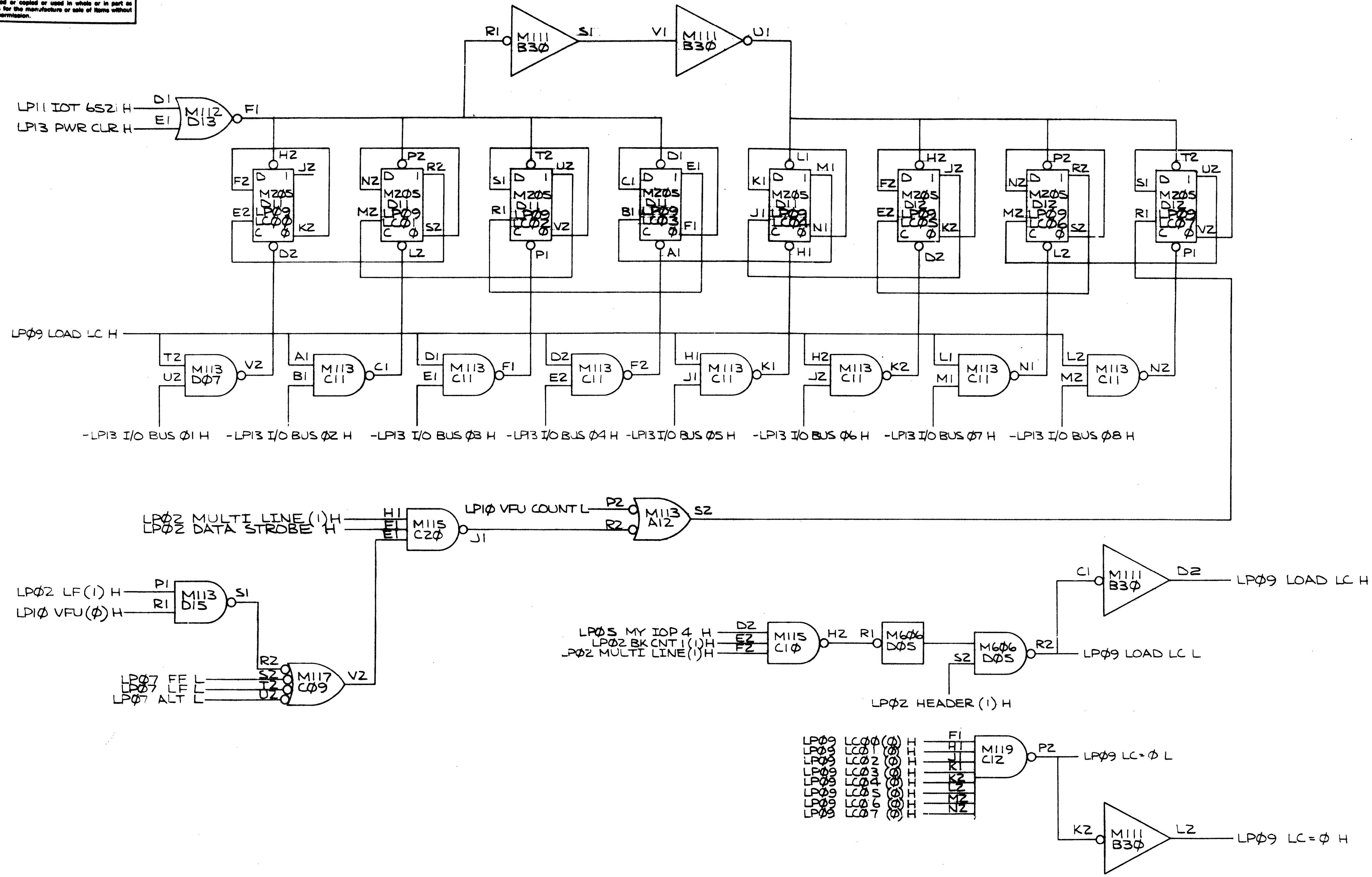
REVISIONS				
CHK	CHANGE NO.	REV.		
FV	LPI5F-00001	A	T. Burke 8-31-77	PRATT
	LPI5F-00005	B		PRATT
	LPI5F-00006	C	M. Burns 2-6-78	PRATT

DEC FORM NO. DRD 102A

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO. / ITEM NO.
PDP-15		PARTS LIST	

UNLESS OTHERWISE SPECIFIED
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. A.R.	DATE 3-23-70	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS
CHK'D	DATE 6-30-70	
ENG.	DATE 30 JAN 70	TITLE: COLUMN COUNTER (LPØ8)
PROJ ENG.	DATE 30 JAN 70	
MFG.	DATE 6-30-70	
NEXT HIGHER ASSY: A-ML-LPI5-F		SIZE D / CODE BS / NUMBER LPI5-F-Ø8 / REV. C
SCALE NONE	SHEET OF	DIST.



REVISIONS		
REV.	CHANGE NO.	CHK
A	LP15-00009	J. PRATT 9-23-71

FIRST USED ON OPTION/MODEL: PDP-15

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

DRN.: A. Raincock — DATE 3-24-70
CHK'D: — DATE 6-70-70
ENG.: John Pratt — DATE 30 JUN 70
PROJ. ENG.: John Pratt — DATE 30 JUN 70
PROD. — DATE 6-30-70

NEXT HIGHER ASS'Y: A-ML-LP15-F

DIGITAL EQUIPMENT CORPORATION, MAYNARD MASSACHUSETTS

TITLE: LINE COUNTER (LP09)

SIZE: D CODE: BS NUMBER: LP15-F-09 REV: A

SCALE: NONE SHEET 1 OF 1

DEC FORM NO DRD 102A

LPIØ DC1 v DC3 L

LPØ7 DC1 H
LPØ7 DC3 H
M112 C03
M111 B3Ø
LPØ7 DC4 H
LPØ7 VT H
M112 A26
LPØ7 DC2 H
M112 A26
M113 C13
LPIØ DLE v DC1 v DC2 v DC3 v DC4 H
LPØ7 DC4 H
M111 D1Ø
LPØ7 VT H
M111 D1Ø
LPIØ VFU L
M111 B3Ø
LPIØ VFU H
M113 C13
LPIØ SET VFU Ø L
M113 C13
LPIØ SET VFU 1 L
M113 C13
LPIØ SET VFU 2 L
M113 C13
LPIØ SET VFU 3 L
M113 C13
LPIØ SET VFU 4 L
LPØ7 DLE H
LPØ7 DC4 H
M112 DØ9
LPIØ DC1 v DC3 L
M113 C13
LPØ7 DC2 H
LPØ7 DC3 H
M112 DØ9
M111 DØ3
M113 C13
LPIØ VFU CNTR=Ø L
LPIØ VFU COUNT L
M112 DØ9
LPI1 IOT 65ØZ H
LPIØ VFU Ø (1) H
M113 C11
LPIØ RD VFU Ø L
LPIØ VFU 1 (1) H
M113 C11
LPIØ RD VFU 1 L
LPIØ VFU 2 (1) H
M113 C11
LPIØ RD VFU 2 L
LPIØ VFU 3 (1) H
M113 D15
LPIØ RD VFU 3 L
LPIØ VFU 4 (1) H
M113 D15
LPIØ RD VFU 4 L
LPI3 PWR CLR L
M112 DØ9
+3V DØ9U1
LPIØ +1 VFU H
LPIØ DLE v DC1 v DC2 v DC3 v DC4 H
LPØ7 VT H
M112 A26
LPØZ DATA STB L
M112 A26
LPØ2 CON STROBE H
LPIØ VFU H
M113 D18
LPØ3 END VFU L
LPØ2 DATA STB + SØ L
M112 C19
LPØZ PC+DONE L
M606 D14
LPIØ VFU COUNT L
M606 D14
+3V DØ9U1
LPIØ VFU CNTR = Ø H
LPIØ VFU Ø (Ø) H
LPIØ VFU 1 (Ø) H
LPIØ VFU 2 (Ø) H
LPIØ VFU 3 (Ø) H
M117 CØ9
M112 DØ9
LPIØ VFU 4 (Ø) L
M111 D1Ø
LPIØ VFU CNTR = Ø L

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PDP-15		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 CORNERS

MATERIAL

FINISH

DRN.		DATE 4-22-70
CHK'D		DATE 6-30-70
ENG.	John Platt	DATE 30 JUN 70
PROJ./ENG.	John Platt	DATE 30 JUN 70
APPD.		DATE 6 30 70

NEXT HIGHER ASS'Y A-ML-LP15-F

SCALE NONE

SHEET OF

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

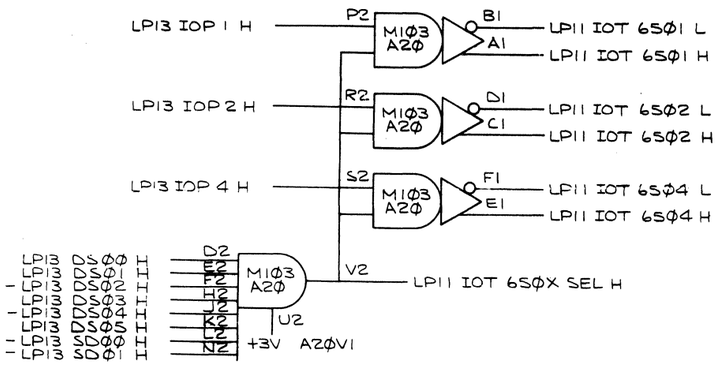
TITLE VFU UNIT (LPIØ)

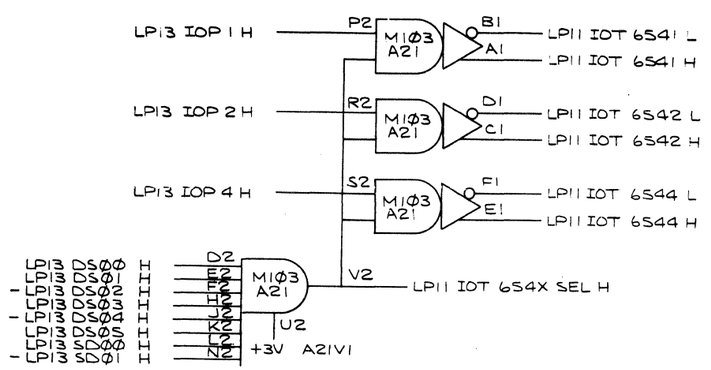
SIZE D CODE BS NUMBER LP15-F-1Ø REV

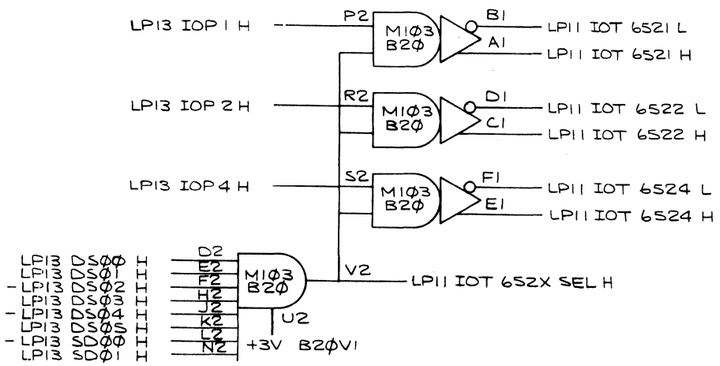
DIST.

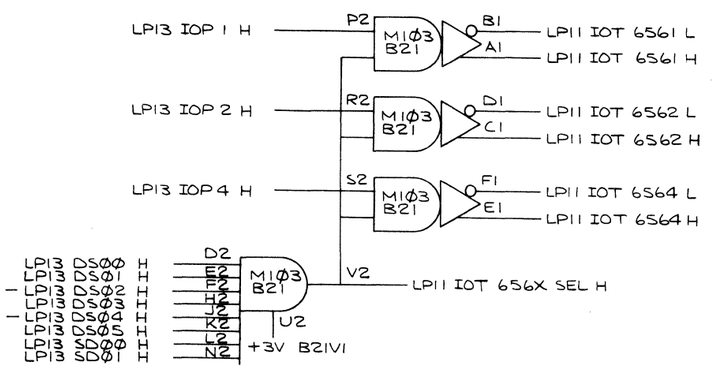
REVISIONS	CHANGE NO	CHK
	1	

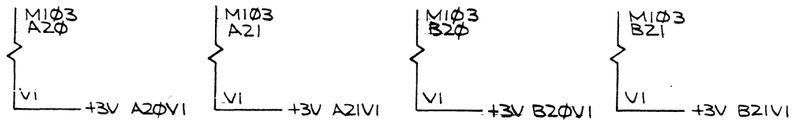
DEC FORM NO. DRD 102A











REVISIONS	REV.	CHANGE NO.	CHK

DEC FORM NO DRD 102A

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PDP-15		PARTS LIST		

UNLESS OTHERWISE SPECIFIED

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. A. Raimondi	DATE 3-13-70	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
CHK'D.	DATE 6-30-70	
ENG. John Gatt	DATE 30JUN70	TITLE IOT DECODER 1 (LPII)
PROJ. ENG. John Gatt	DATE 30JUN70	
MOD.	DATE 7-30-70	

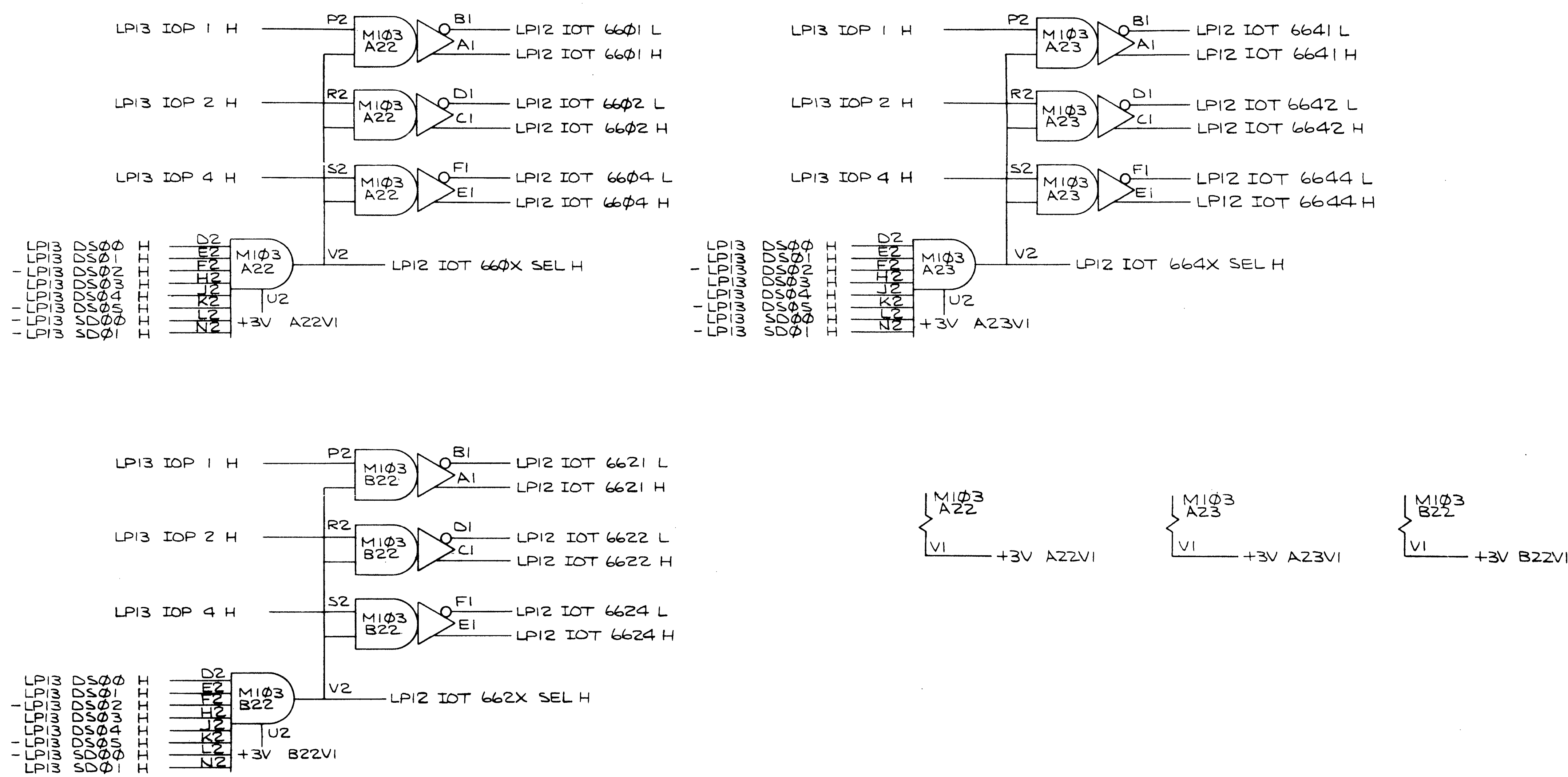
NEXT HIGHER ASS'Y A-ML-LP15-F

SCALE NONE

SHEET 1 OF 1

SIZE	CODE	NUMBER	REV.
D	BS	LP15-F-11	

DIST.



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FIRST USED ON OPTION/MODEL: PDP-15

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

DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS

TITLE: IOT DECODER 2 (LPI2)

NEXT HIGHER ASSY: A-ML-LPI5-F

SCALE: NONE

SIZE: D CODE: BS NUMBER: LPI5-F-12

LPI5 I/O BUS ØØ L → D2 M5IØ BØ8 → C1 LPI3 I/O BUS ØØ L; D1 LPI3 I/O BUS ØØ H
LPI5 I/O BUS Ø8 L → D2 M5IØ AØ9 → C1 LPI3 I/O BUS Ø8 L; D1 LPI3 I/O BUS Ø8 H
LPI5 I/O BUS 16 L → D2 M5IØ BØ9 → C1 LPI3 I/O BUS 16 L; D1 LPI3 I/O BUS 16 H
LPI6 DSØØ H → H2 M5IØ AIØ → H1 LPI3 DSØØ L; F1 LPI3 DSØØ H

LPI5 I/O BUS Ø1 L → H2 M5IØ BØ8 → F1 LPI3 I/O BUS Ø1 L; H1 LPI3 I/O BUS Ø1 H
LPI5 I/O BUS Ø9 L → H2 M5IØ AØ9 → F1 LPI3 I/O BUS Ø9 L; H1 LPI3 I/O BUS Ø9 H
LPI5 I/O BUS 17 L → H2 M5IØ BØ9 → F1 LPI3 I/O BUS 17 L; H1 LPI3 I/O BUS 17 H
LPI6 DSØ1 H → K2 M5IØ AIØ → K1 LPI3 DSØ1 L; J1 LPI3 DSØ1 H

LPI5 I/O BUS Ø2 L → K2 M5IØ BØ8 → J1 LPI3 I/O BUS Ø2 L; K1 LPI3 I/O BUS Ø2 H
LPI5 I/O BUS 1Ø L → K2 M5IØ AØ9 → J1 LPI3 I/O BUS 1Ø L; K1 LPI3 I/O BUS 1Ø H
LPI6 I/O SYNC H → K2 M5IØ BØ9 → K1 LPI3 I/O SYNC L; J1 LPI3 I/O SYNC H
LPI6 DSØ2 H → M2 M5IØ AIØ → M1 LPI3 DSØ2 L; L1 LPI3 DSØ2 H

LPI5 I/O BUS Ø3 L → M2 M5IØ BØ8 → L1 LPI3 I/O BUS Ø3 L; M1 LPI3 I/O BUS Ø3 H
LPI5 I/O BUS 11 L → M2 M5IØ AØ9 → L1 LPI3 I/O BUS 11 L; M1 LPI3 I/O BUS 11 H
LPI6 PWR CLR H → M2 M5IØ BØ9 → M1 LPI3 PWR CLR L; L1 LPI3 PWR CLR H
LPI6 DSØ3 H → P2 M5IØ AIØ → P1 LPI3 DSØ3 L; N1 LPI3 DSØ3 H

LPI5 I/O BUS Ø4 L → P2 M5IØ BØ8 → N1 LPI3 I/O BUS Ø4 L; P1 LPI3 I/O BUS Ø4 H
LPI5 I/O BUS 12 L → P2 M5IØ AØ9 → N1 LPI3 I/O BUS 12 L; P1 LPI3 I/O BUS 12 H
LPI6 DCH GR H → P2 M5IØ BØ9 → P1 LPI3 DCH GRANT L; N1 LPI3 DCH GRANT H
LPI6 DSØ4 H → R2 M5IØ AIØ → T2 LPI3 DSØ4 L; U2 LPI3 DSØ4 H

LPI5 I/O BUS Ø5 L → R2 M5IØ BØ8 → U2 LPI3 I/O BUS Ø5 L; T2 LPI3 I/O BUS Ø5 H
LPI5 I/O BUS 13 L → R2 M5IØ AØ9 → U2 LPI3 I/O BUS 13 L; T2 LPI3 I/O BUS 13 H
LPI6 RD STAT H → R2 M5IØ BØ9 → T2 LPI3 RD STATUS L; U2 LPI3 RD STATUS H
LPI6 DSØ5 H → S2 M5IØ AIØ → S1 LPI3 DSØ5 L; R1 LPI3 DSØ5 H

LPI5 I/O BUS Ø6 L → S2 M5IØ BØ8 → R1 LPI3 I/O BUS Ø6 L; S1 LPI3 I/O BUS Ø6 H
LPI5 I/O BUS 14 L → S2 M5IØ AØ9 → R1 LPI3 I/O BUS 14 L; S1 LPI3 I/O BUS 14 H
LPI6 IOP 1 H → S2 M5IØ BØ9 → S1 LPI3 IOP 1 L; R1 LPI3 IOP 1 H
LPI6 SDØØ H → U1 M5IØ AIØ → V2 LPI3 SDØØ L; V1 LPI3 SDØØ H

LPI5 I/O BUS Ø7 L → U1 M5IØ BØ8 → V1 LPI3 I/O BUS Ø7 L; V2 LPI3 I/O BUS Ø7 H
LPI5 I/O BUS 15 L → U1 M5IØ AØ9 → V1 LPI3 I/O BUS 15 L; V2 LPI3 I/O BUS 15 H
LPI6 IOP 2 H → U1 M5IØ BØ9 → V2 LPI3 IOP 2 L; V1 LPI3 IOP 2 H
LPI6 SDØ1 H → D2 M5IØ BIØ → D1 LPI3 SDØ1 L; C1 LPI3 SDØ1 H

LPI6 API Ø2 GR L → H2 M5IØ BIØ → H1 LPI3 API Ø2 GR L; F1 LPI3 API Ø2 GR H
LPI6 IOP 4 H → D2 M5IØ AIØ → D1 LPI3 IOP 4 L; C1 LPI3 IOP 4 H

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PDP-15		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 CORNERS

MATERIAL —

FINISH —

DRN. A. Raimondo DATE 3-12-70
CHK'D [illegible] DATE [illegible]
ENG. John Gatt DATE 3/20/70
PROJ. ENG. John Gatt DATE 3/20/70
PROD. [illegible] DATE 6 30 70

NEXT HIGHER ASSY A-ML-LPI5-F

SCALE NONE
SHEET 1 OF 1

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

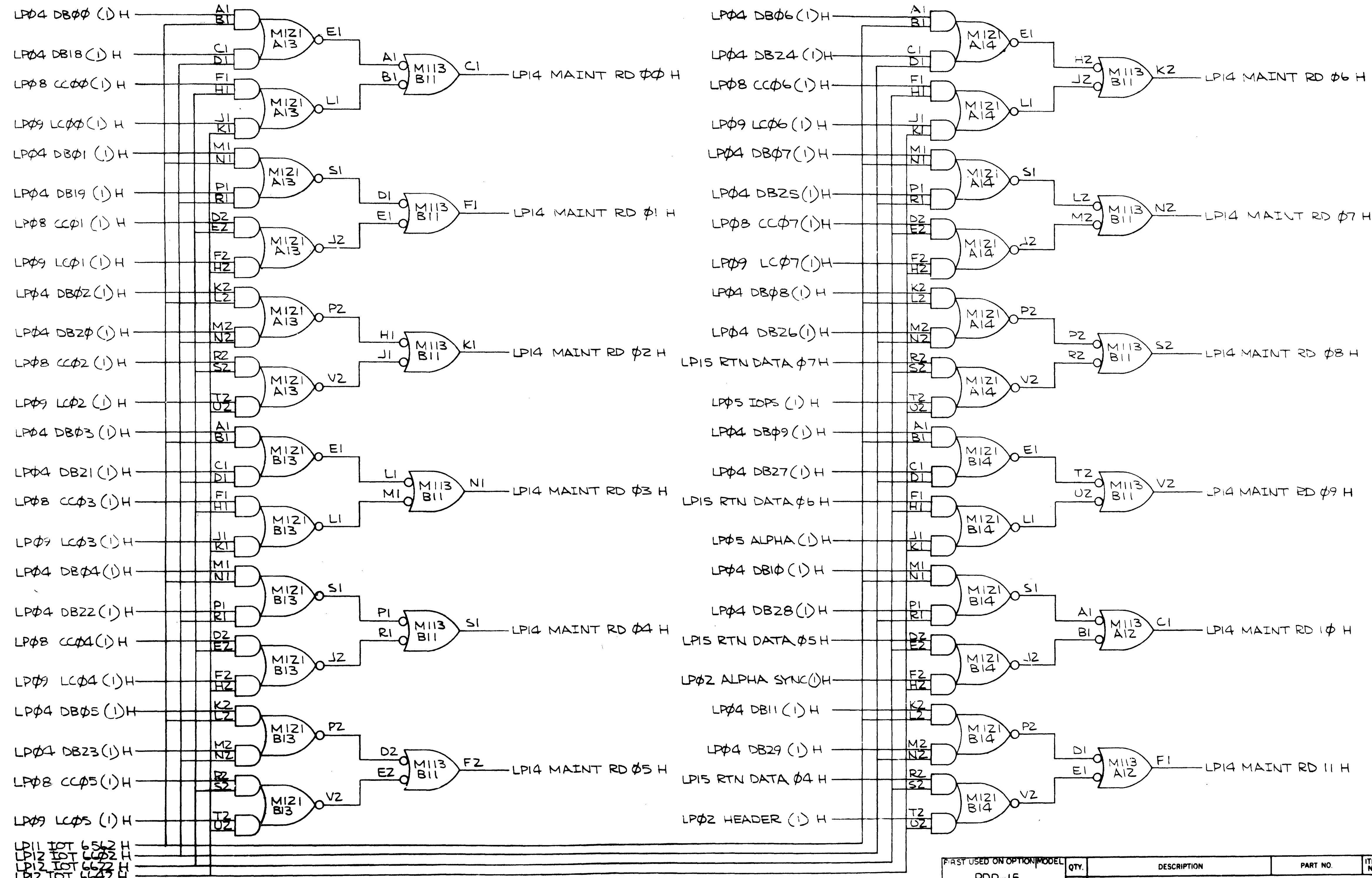
TITLE I/O BUS RECEIVERS (LPI3)

SIZE D CODE BS NUMBER LPI5-F-13 REV.

DIST.

REVISIONS | REV. | CHANGE NO. | CHK

DEC FORM NO DRD 102A


LP04 DB00 (1) H
LP04 DB18 (1) H
LP08 CC00 (1) H
LP09 LC00 (1) H
LP04 DB01 (1) H
LP04 DB19 (1) H
LP08 CC01 (1) H
LP09 LC01 (1) H
LP04 DB02 (1) H
LP04 DB20 (1) H
LP08 CC02 (1) H
LP09 LC02 (1) H
LP04 DB03 (1) H
LP04 DB21 (1) H
LP08 CC03 (1) H
LP09 LC03 (1) H
LP04 DB04 (1) H
LP04 DB22 (1) H
LP08 CC04 (1) H
LP09 LC04 (1) H
LP04 DB05 (1) H
LP04 DB23 (1) H
LP08 CC05 (1) H
LP09 LC05 (1) H
LP11 IOT 6562 H
LP12 IOT 6602 H
LP12 IOT 6622 H
LP12 IOT 6642 H
M121 A13
M121 B13
M113 B11
LP14 MAINT RD 00 H
LP14 MAINT RD 01 H
LP14 MAINT RD 02 H
LP14 MAINT RD 03 H
LP14 MAINT RD 04 H
LP14 MAINT RD 05 H
LP04 DB06 (1) H
LP04 DB24 (1) H
LP08 CC06 (1) H
LP09 LC06 (1) H
LP04 DB07 (1) H
LP04 DB25 (1) H
LP08 CC07 (1) H
LP09 LC07 (1) H
LP04 DB08 (1) H
LP04 DB26 (1) H
LP15 RTN DATA 07 H
LP05 IOPS (1) H
LP04 DB09 (1) H
LP04 DB27 (1) H
LP15 RTN DATA 06 H
LP05 ALPHA (1) H
LP04 DB10 (1) H
LP04 DB28 (1) H
LP15 RTN DATA 05 H
LP02 ALPHA SYNC (1) H
LP04 DB11 (1) H
LP04 DB29 (1) H
LP15 RTN DATA 04 H
LP02 HEADER (1) H
M121 A14
M121 B14
M113 A12
LP14 MAINT RD 06 H
LP14 MAINT RD 07 H
LP14 MAINT RD 08 H
LP14 MAINT RD 09 H
LP14 MAINT RD 10 H
LP14 MAINT RD 11 H

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PDP-15		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 CORNERS

DRN DATE 4-17-70
CHK'D DATE 6-30-70
ENG. DATE 30 JUN 70
PROJ. ENG. DATE 30 Jun 70
PROD DATE 6-30-70

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

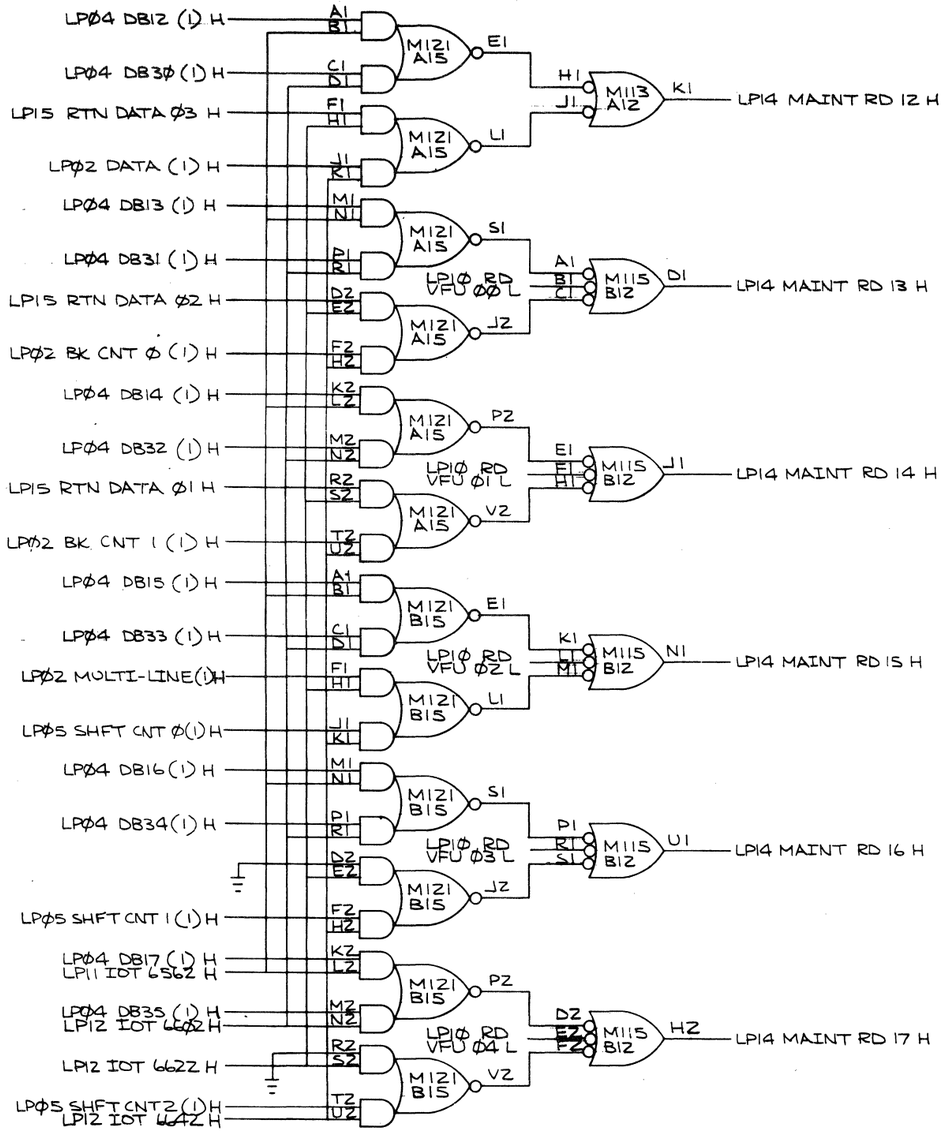
TITLE MAINTENANCE READ (LP14)

NEXT HIGHER ASS'Y A-ML-LP15-F

SIZE D CODE BS NUMBER LP15 F 14 REV.

SCALE NONE SHEET 1 OF 2

D BS LP15-F-14



REVISIONS	REV.	CHANGE NO.	CHK
ECO FORMS NO. SHP 300 A			

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PDP-15		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 CORNERS

MATERIAL

FINISH

DRN	R. Rinaldo	DATE 4-6-70
CHK'D	[illegible]	DATE 6-22-70
ENG	John Scott	DATE 6-30-70
PROJ. ENG.	Glen Platt	DATE 6-30-70
PROG	[illegible]	DATE 6-30-70

NEXT HIGHER ASS'Y: A-ML-LP15-F

SCALE NONE

SHEET 2 OF 2

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE: MAINTENANCE READ (LP14)

SIZE D | CODE BS | NUMBER LP15-F-14 | REV

DIST.

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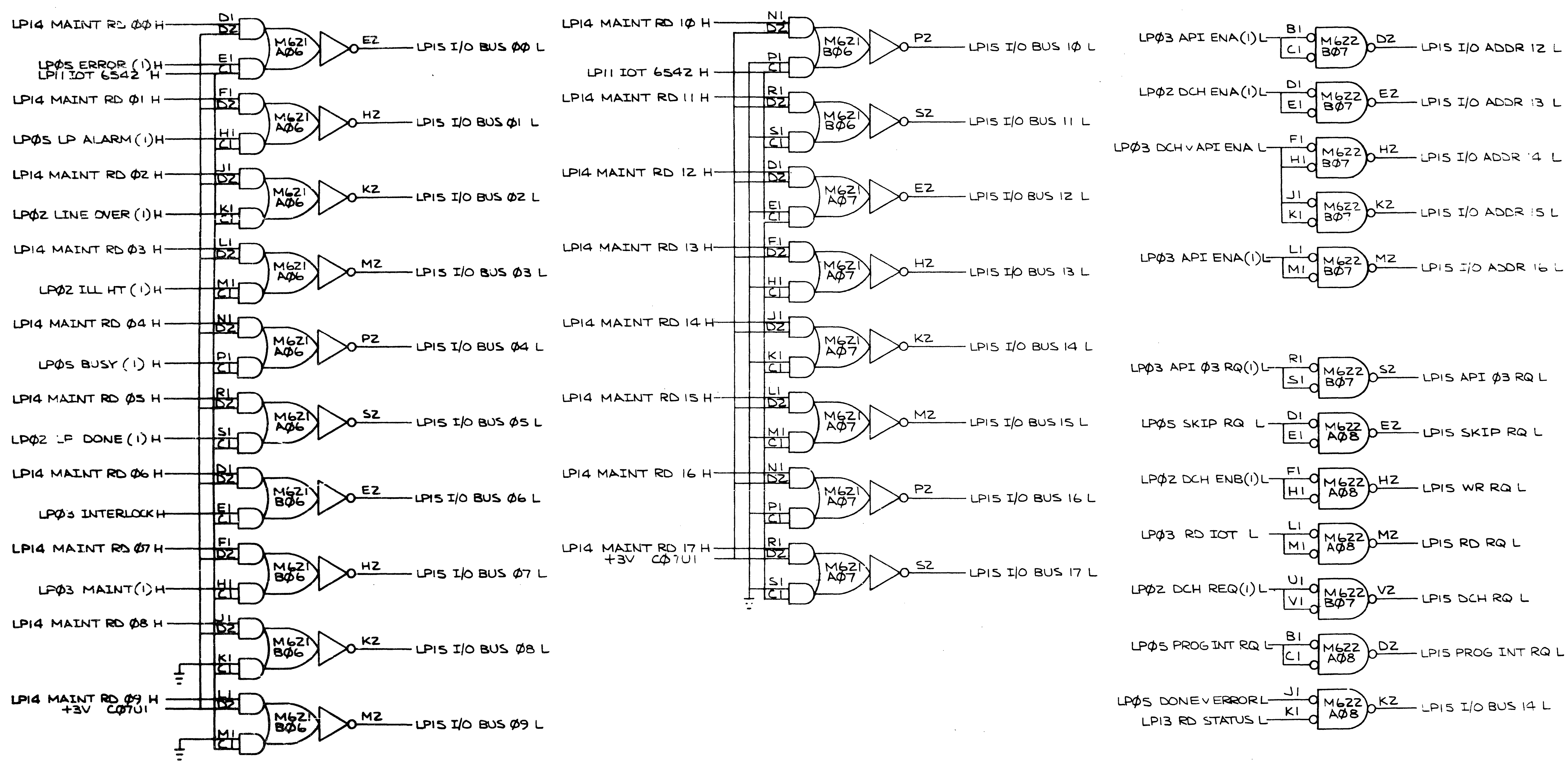

LP14 MAINT RD ØØ H
LPØ5 ERROR (1) H
LP11 IOT 6542 H
LP15 I/O BUS ØØ L
LP14 MAINT RD Ø1 H
LPØ5 LP ALARM (1) H
LP15 I/O BUS Ø1 L
LP14 MAINT RD Ø2 H
LPØ2 LINE OVER (1) H
LP15 I/O BUS Ø2 L
LP14 MAINT RD Ø3 H
LPØ2 ILL HT (1) H
LP15 I/O BUS Ø3 L
LP14 MAINT RD Ø4 H
LPØ5 BUSY (1) H
LP15 I/O BUS Ø4 L
LP14 MAINT RD Ø5 H
LPØ2 LP DONE (1) H
LP15 I/O BUS Ø5 L
LP14 MAINT RD Ø6 H
LPØ3 INTERLOCK H
LP15 I/O BUS Ø6 L
LP14 MAINT RD Ø7 H
LPØ3 MAINT (1) H
LP15 I/O BUS Ø7 L
LP14 MAINT RD Ø8 H
LP15 I/O BUS Ø8 L
LP14 MAINT RD Ø9 H
+3V CØ7U1
LP15 I/O BUS Ø9 L
LP14 MAINT RD 1Ø H
LP11 IOT 6542 H
LP15 I/O BUS 1Ø L
LP14 MAINT RD 11 H
LP15 I/O BUS 11 L
LP14 MAINT RD 12 H
LP15 I/O BUS 12 L
LP14 MAINT RD 13 H
LP15 I/O BUS 13 L
LP14 MAINT RD 14 H
LP15 I/O BUS 14 L
LP14 MAINT RD 15 H
LP15 I/O BUS 15 L
LP14 MAINT RD 16 H
LP15 I/O BUS 16 L
LP14 MAINT RD 17 H
+3V CØ7U1
LP15 I/O BUS 17 L
M621 AØ6
M621 BØ6
M621 AØ7
LPØ3 API ENA (1) L
LP15 I/O ADDR 12 L
LPØ2 DCH ENA (1) L
LP15 I/O ADDR 13 L
LPØ3 DCH v API ENA L
LP15 I/O ADDR 14 L
LP15 I/O ADDR 15 L
LPØ3 API ENA (1) L
LP15 I/O ADDR 16 L
LPØ3 API Ø3 RQ (1) L
LP15 API Ø3 RQ L
LPØ5 SKIP RQ L
LP15 SKIP RQ L
LPØ2 DCH ENB (1) L
LP15 WR RQ L
LPØ3 RD IOT L
LP15 RD RQ L
LPØ2 DCH REQ (1) L
LP15 DCH RQ L
LPØ5 PROG INT RQ L
LP15 PROG INT RQ L
LPØ5 DONE v ERROR L
LP13 RD STATUS L
LP15 I/O BUS 14 L
M622 BØ7
M622 AØ8

FIRST USED ON OPTION	MODEL
PDP-15	

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. A. Raimondi DATE 4-8-70
CHK'D. DATE 6-30-70
DATE
ENG. John Pratt
PROD. DATE 6-24-70

NEXT HIGHER ASS'Y A-ML-LP15-F
SCALE NONE
SHEET 1 OF 2

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE
LP RECEIVERS I/O BUS DRIVERS (LP15)

SIZE D CODE BS NUMBER LP15-F-15 REV.

QTY. | DESCRIPTION | PART NO. | ITEM NO.
PARTS LIST

DEC FORM NO. DRD 102A

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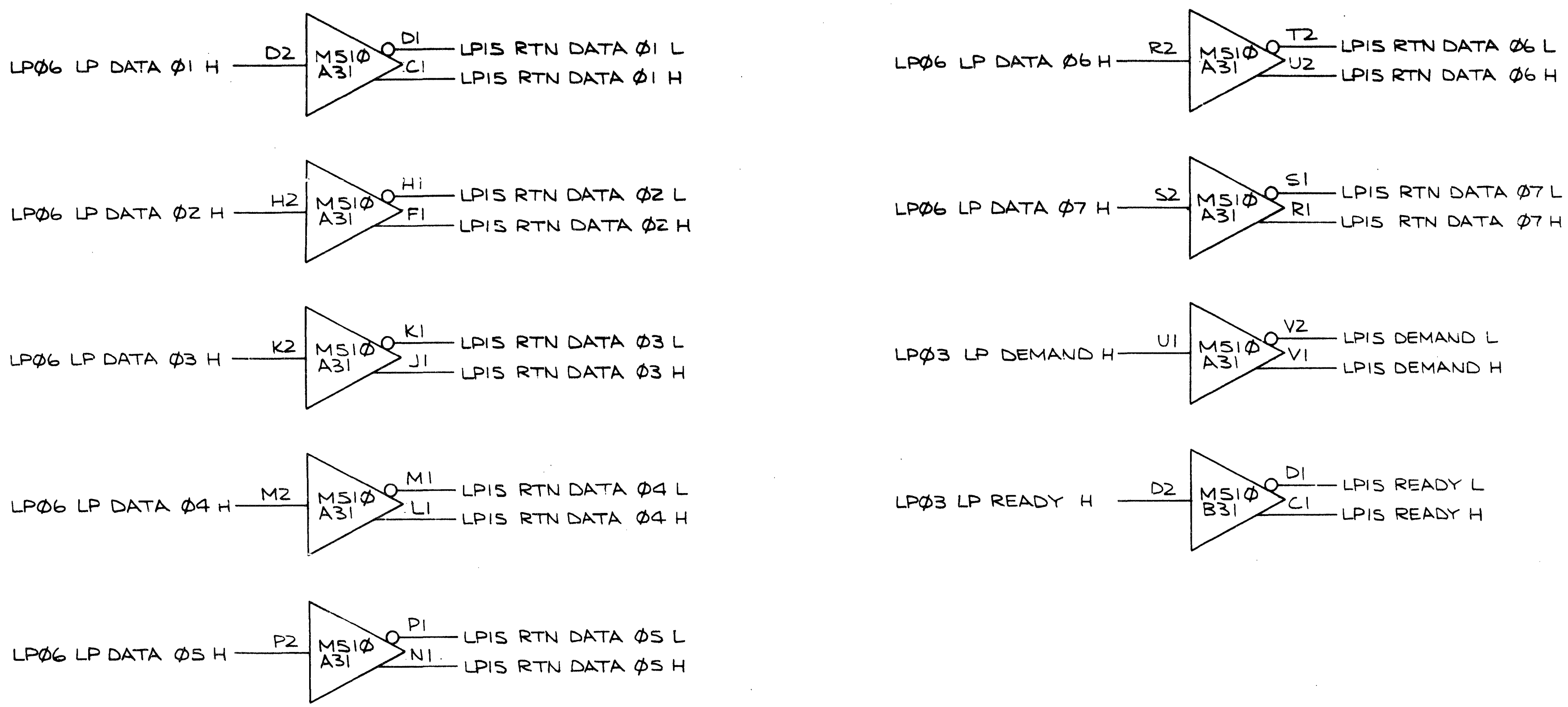


FIRST USED ON OPTION / MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PDP-15		PARTS LIST		

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

DRN. A. Raimondo — DATE 4-8-70
CHK'D. — DATE 6-30-70
ENG. — DATE
PROJ. ENG. — DATE
PROD. — DATE

NEXT HIGHER ASS'Y: A-ML-LP15-F

MATERIAL / FINISH

digital EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS

TITLE: LP RECEIVERS I/O BUS DRIVERS (LP15)

SIZE D — CODE BS — NUMBER LP15-F-15 — REV.

SCALE NONE — SHEET 2 OF 2

D BS LP15-F-15

DEC FORM NO. DRD 102A

1/2 BCØ9B CABLE
LOCATION ABØ2

M912
AØ2

A1	LP15 I/O BUS ØØ L
B1	LP15 I/O BUS Ø1 L
C1	LP15 I/O BUS Ø2 L
D1	LP15 I/O BUS Ø3 L
E1	LP15 I/O BUS Ø4 L
F1	LP15 I/O BUS Ø5 L
H1	LP15 I/O BUS Ø6 L
J1	LP15 I/O BUS Ø7 L
K1	LP15 I/O BUS Ø8 L
L1	
M1	
N1	
P1	
R1	
S1	
T1	
U1	
V1	
A2	
B2	
C2	
D2	LP15 I/O BUS Ø9 L
E2	LP15 I/O BUS 1Ø L
F2	LP15 I/O BUS 11 L
H2	LP15 I/O BUS 12 L
J2	LP15 I/O BUS 13 L
K2	LP15 I/O BUS 14 L
L2	LP15 I/O BUS 15 L
M2	LP15 I/O BUS 16 L
N2	LP15 I/O BUS 17 L
P2	
R2	
S2	
T2	
U2	
V2	

M912
BØ2

A1	LP16 I/O RUN H
B1	LP16 DATA OFLO H
C1	LP16 I/O OFLO H
D1	
E1	
F1	LP16 I/O ADDR Ø3 L
H1	LP16 I/O ADDR Ø4 L
J1	
K1	LP16 I/O ADDR Ø5 L
L1	LP16 I/O ADDR Ø6 L
M1	
N1	LP16 I/O ADDR Ø7 L
P1	LP16 I/O ADDR Ø8 L
R1	
S1	
T1	
U1	
V1	
A2	
B2	
C2	
D2	LP16 I/O ADDR Ø9 L
E2	LP16 I/O ADDR 1Ø L
F2	LP16 I/O ADDR 11 L
H2	LP15 I/O ADDR 12 L
J2	LP15 I/O ADDR 13 L
K2	LP15 I/O ADDR 14 L
L2	LP15 I/O ADDR 15 L
M2	LP15 I/O ADDR 16 L
N2	LP15 I/O ADDR 17 L
P2	
R2	
S2	
T2	
U2	
V2	

1/2 BCØ9B CABLE
LOCATION ABØ3

M912
AØ3

A1	LP16 I/O SYNC H
B1	LP16 IOP 1 H
C1	LP16 IOP 2 H
D1	
E1	LP16 IOP 4 H
F1	LP15 SKIP RQ L
H1	
J1	LP15 PROG INT RQ L
K1	LP15 RD RQ L
L1	
M1	LP16 RD STATUS H
N1	LP16 I/O PWR CLR H
P1	
R1	
S1	
T1	
U1	
V1	
A2	
B2	
C2	
D2	LP16 DSØ H
E2	LP16 DS1 H
F2	LP16 DS2 H
H2	LP16 DS3 H
J2	LP16 DS4 H
K2	LP16 DS5 H
L2	
M2	LP16 SIN CY BK RQ L
N2	LP16 SDØ H
P2	
R2	LP16 SD1 H
S2	
T2	
U2	
V2	

M912
BØ3

A1	LP15 WR RQ L
B1	LP16 INC MB L
C1	LP16 +1→CA INH L
D1	
E1	LP16 API Ø RQ L
F1	LP16 API Ø GR H
H1	
J1	LP16 API Ø EN H
K1	LP16 API 1 RQ L
L1	
M1	LP16 API 1 GR H
N1	LP16 API 1 EN H
P1	
R1	
S1	
T1	
U1	
V1	
A2	
B2	
C2	
D2	LP16 API 2 RQ L
E2	LP16 API 2 GR H
F2	LP16 API 2 EN H
H2	LP15 API 3 RQ L
J2	LP16 API 3 GR H
K2	LP16 API 3 EN IN H
L2	
M2	LP15 DCH RQ L
N2	LP16 DCH GR H
P2	
R2	LP16 DCH EN IN H
S2	
T2	
U2	
V2	

REVISIONS		
REV	CHANGE NO	CHK
C		

FIRST USED ON OPTION/MODEL: PDP-15	QTY.	DESCRIPTION	PART NO. / ITEM NO.
	PARTS LIST		

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

MATERIAL —

FINISH —

DRN	A. Raimondo	DATE 4-3-70
CHK'D		DATE 6-30-70
ENG	Dave Batt	DATE 30 JAN 70
PROJ ENG	Batt	DATE 30 JAN 70
MFG		DATE
NEXT HIGHER ASS'Y	A-ML-LP15-F	
SCALE	NONE	
SHEET	OF	

digital EQUIPMENT CORPORATION
MAYNARD MASSACHUSETTS

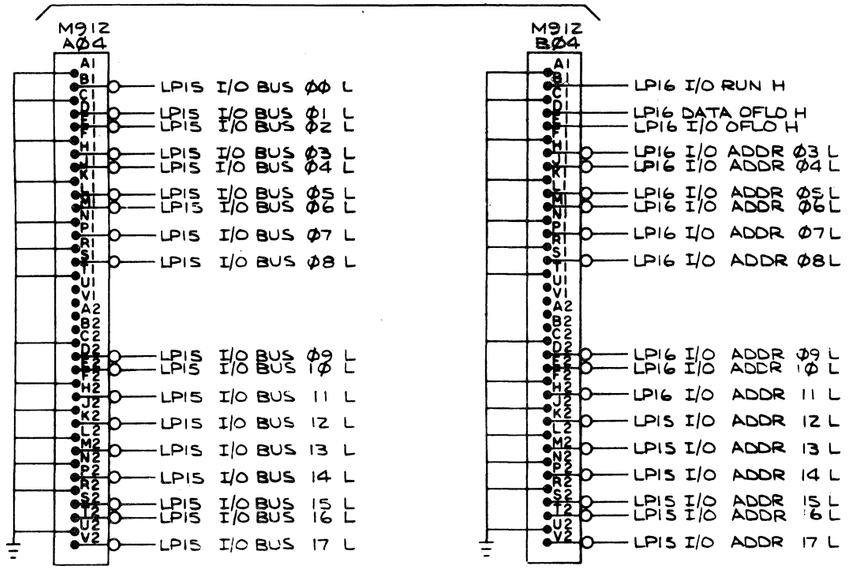
TITLE: I/O BUS CABLES IN

SIZE D | CODE IC | NUMBER LP15-F-16 | REV | DIST

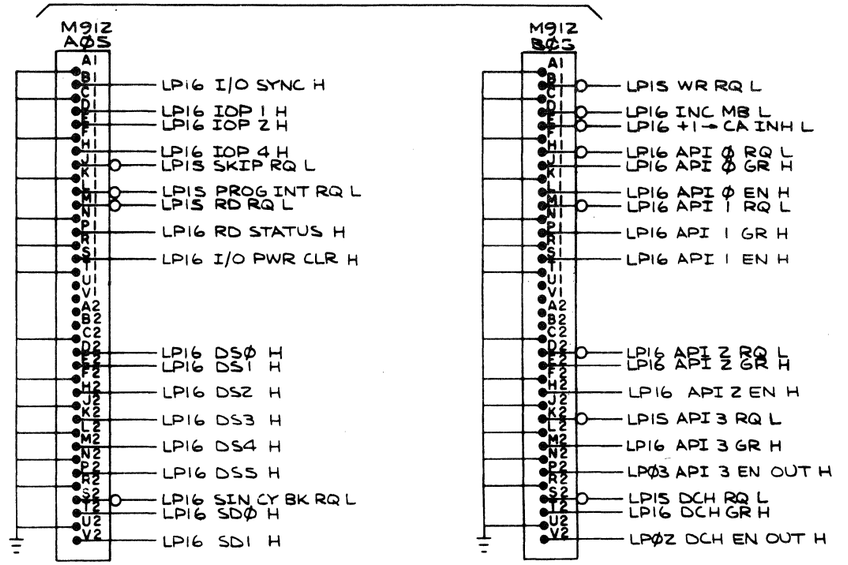
DEC FORM NO. DRD 102A

SIZE D | CODE IC | NUMBER LP15-F-16 | REV

1/2 BCØ9B CABLE
LOCATION ABØ4



1/2 BCØ9B CABLE
LOCATION ABØ5



FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PDP-15		PARTS LIST		

UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30'
FINAL SURFACE QUALITY 7
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL —

FINISH —

DRAWN		11-5-70
ENGR		12-16-76
CHKD		
CHKD		
MFG		
NEXT HIGHER ASS'Y	A-ML-LPI5-F	
SCALE	NONE	
SHEET	1 OF 1	

EQUIPMENT CORPORATION
MAYNARD MASSACHUSETTS

TITLE
I/O BUS
CABLES OUT

DRAWING NO. D IC LPI5-F-17
REV.
SHEET

REVISIONS
REV. | DESCRIPTION | DATE | APPROVED
A | CHANGED BUS NO. | 11-5-70 |

DIC LPI5-F-17
REV.

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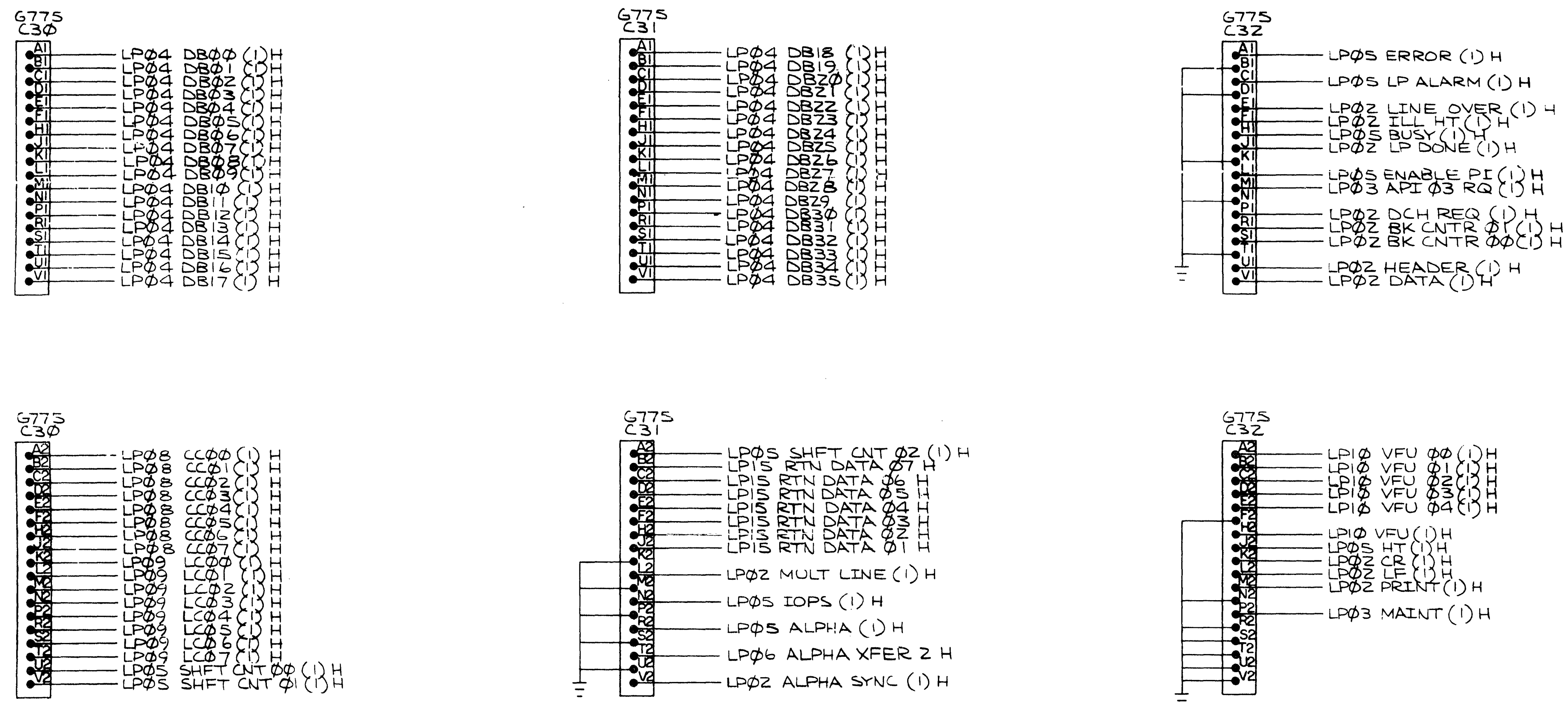


FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PDP-15		PARTS LIST		

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

MATERIAL —
FINISH —

DRN. A. Raimondo DATE 4-2-70
CHKD DATE 4-30-70
ENG. John Gatt DATE 30 JUN 70
PROJ. ENG. John Gatt DATE 30 JUN 70
PROD. DATE 10-30-70

NEXT HIGHER ASS'Y A-ML-LP15-F
SCALE NONE
SHEET 1 OF 1

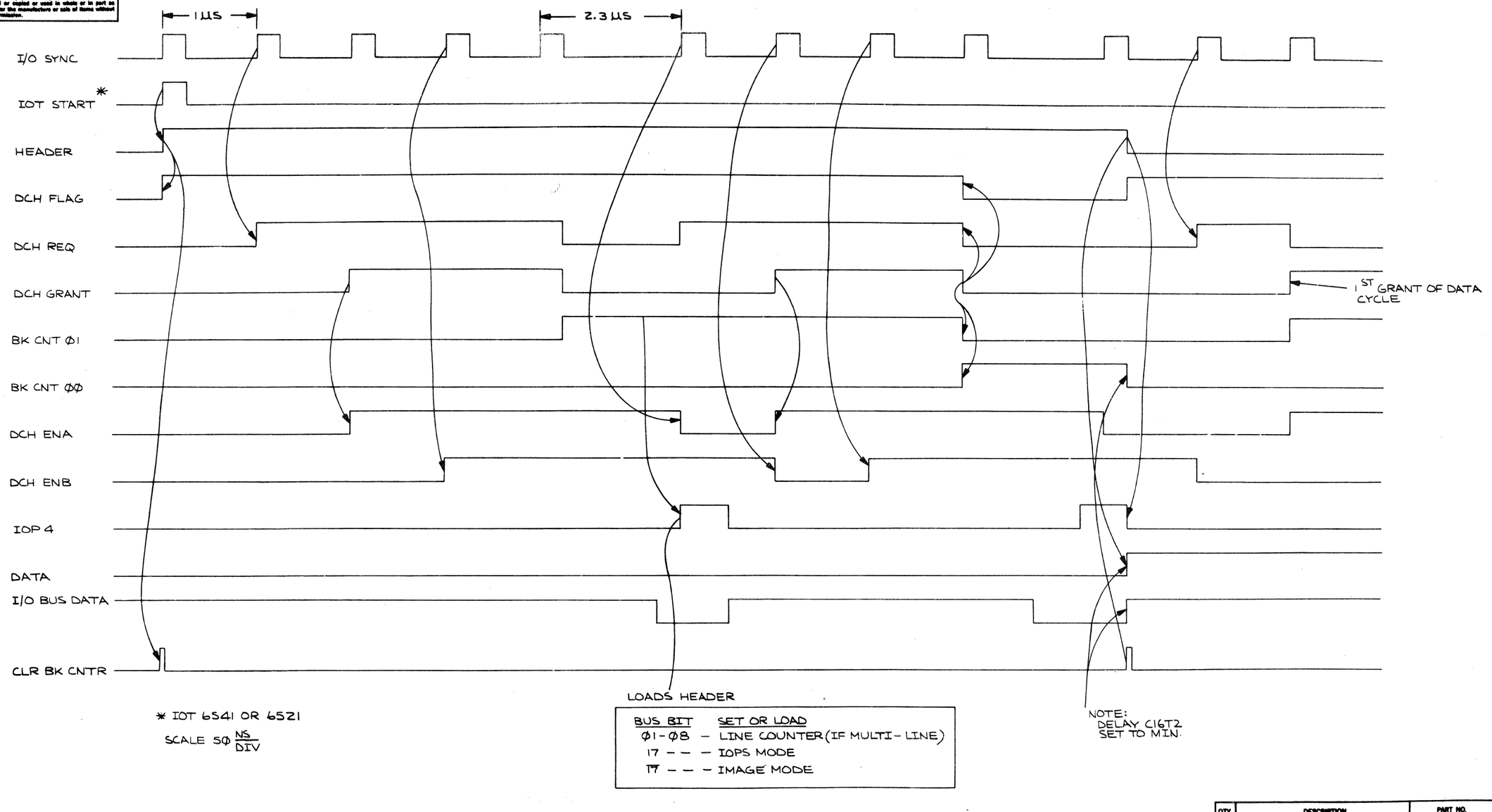
digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE INDICATOR CABLES

SIZE D CODE IC NUMBER LP15-F-18 REV.

REVISIONS: REV. | CHANGE NO. | CHK

DEC FORM NO. DRD 102A



* IOT 6541 OR 6521

SCALE 5Ø NS/DIV

BUS BIT	SET OR LOAD
Ø1-Ø8	– LINE COUNTER (IF MULTI-LINE)
17 – –	– IOPS MODE
17 – –	– IMAGE MODE

NOTE:
DELAY C16T2
SET TO MIN.

QTY.	DESCRIPTION	PART NO.	ITEM NO.

PARTS LIST

FIRST USED ON OPTION/MODEL: PDP-15

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.	A.B. Sc	DATE 3-27-70
CHK'D.	A.B. Sc	DATE 7-2-70
ENG.	Dan Platt	DATE 12 JUL 70
PROJ. ENG.	Dan Platt	DATE 6 JUL 70
PROG. MGR.	Ted Dandy	DATE 7-6-70

NEXT HIGHER ASSY: A-ML-LP15-F

SCALE: NONE

SHEET OF

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE: DCH TIMING HEADER CYCLE

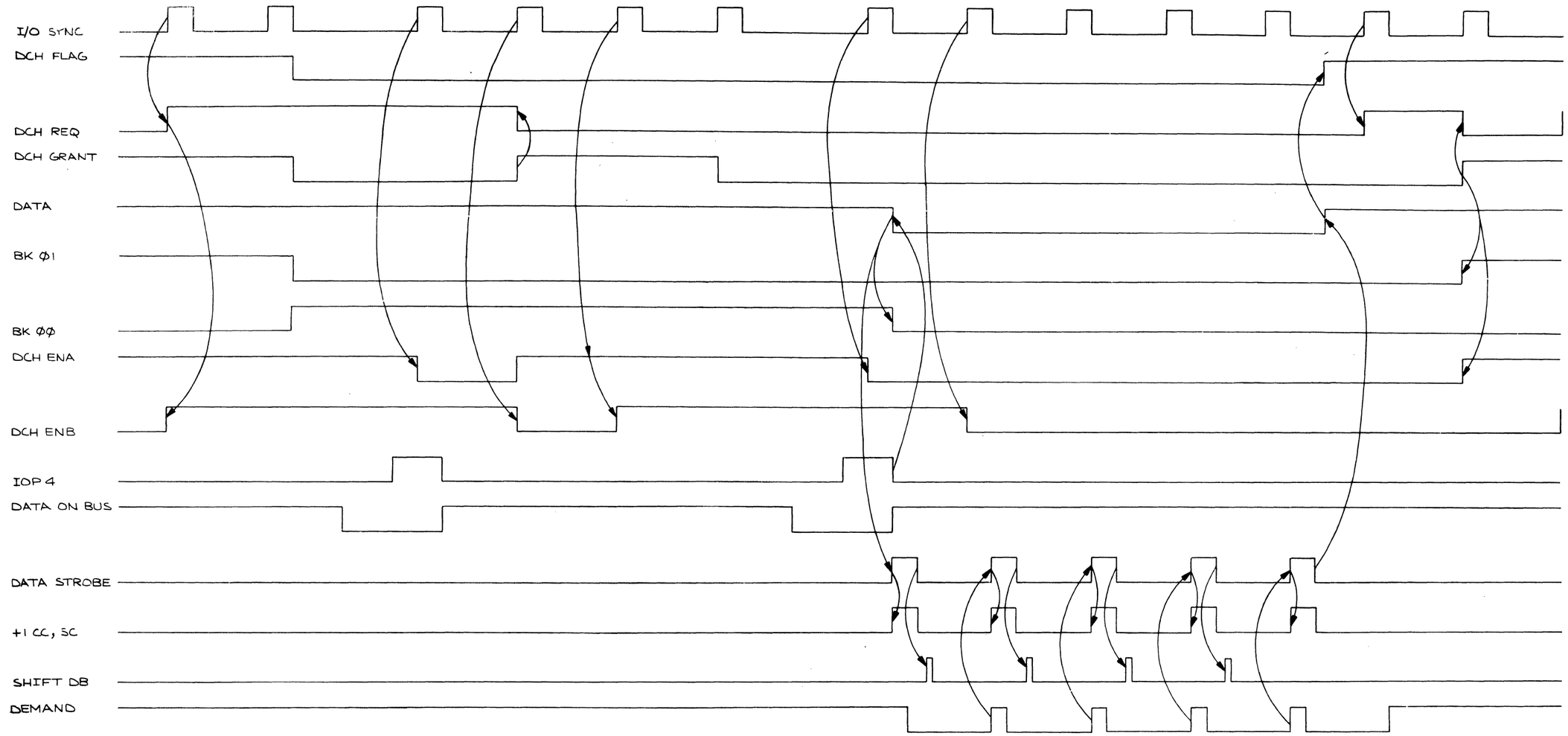
SIZE D | CODE TD | NUMBER LP15-F-21 | REV.

DIST.

REVISIONS

REV.	CHANGE NO.	CHK

DEC FORM NO. DRD 100



SCALE 50 $\frac{NS}{DIV}$

QTY.	DESCRIPTION	PART NO.	ITEM NO.

PARTS LIST

FIRST USED ON OPTION/MODEL: PDP-15

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. A. Raimondi	DATE 3-27-70	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS
CHK'D. A. Raimondi	DATE 7-2-70	
ENG. John Hall	DATE 6/VL 70	
PROJ. ENG. John Hall	DATE 6/VL 70	
PROJ. T. Buckley	DATE 7-6-70	

NEXT HIGHER ASSY: A-ML-LP15-F

SCALE NONE

SHEET OF

TITLE: DATA CYCLE CHARACTER XFER

SIZE D | CODE ITD | NUMBER LP15-F-22 | REV.

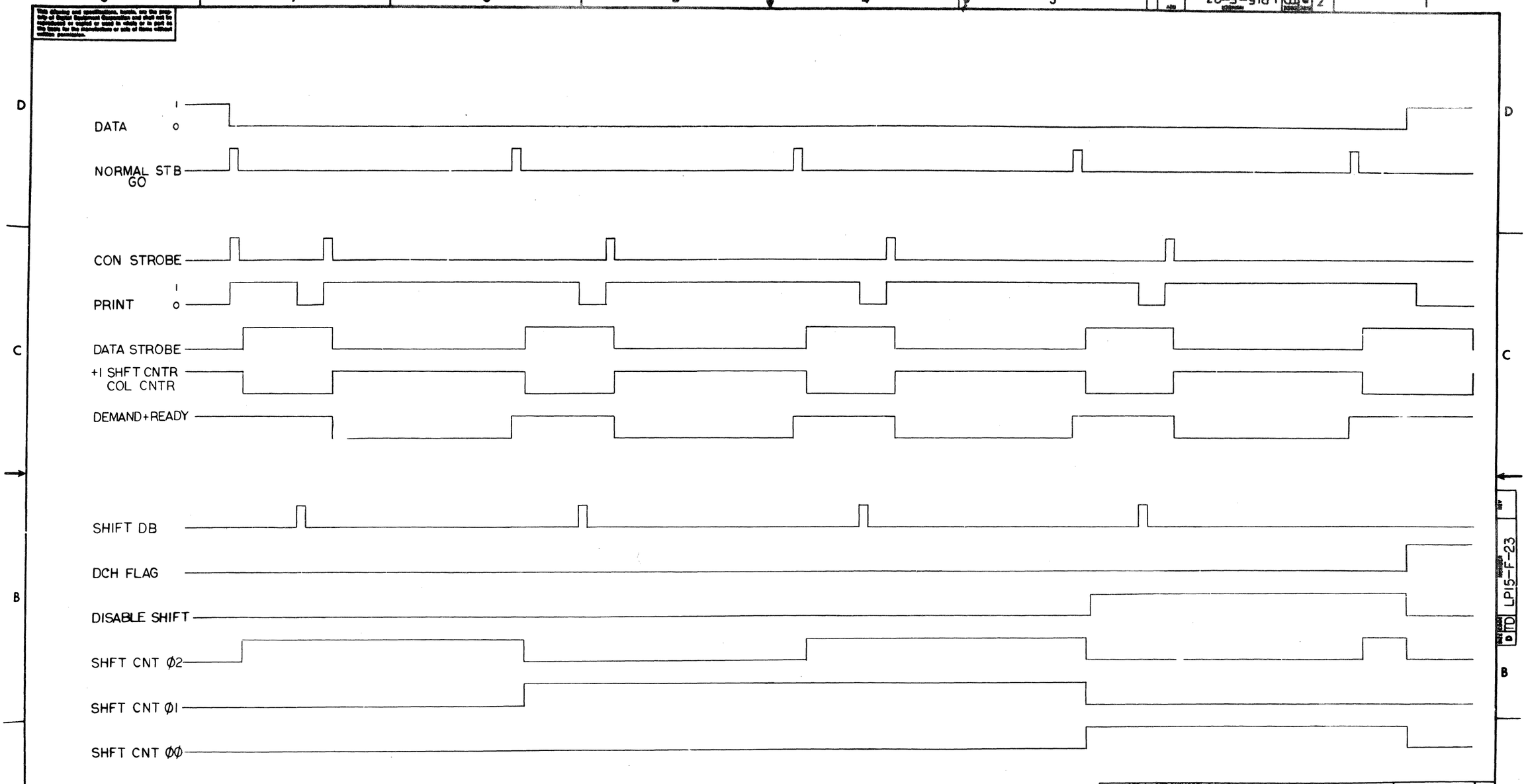
DIST.

REVISIONS

REV.	CHANGE NO.	CHK.

DEC FORM NO. DRD 109

SIZE D | CODE ITD | NUMBER LP15-F-22 | REV.

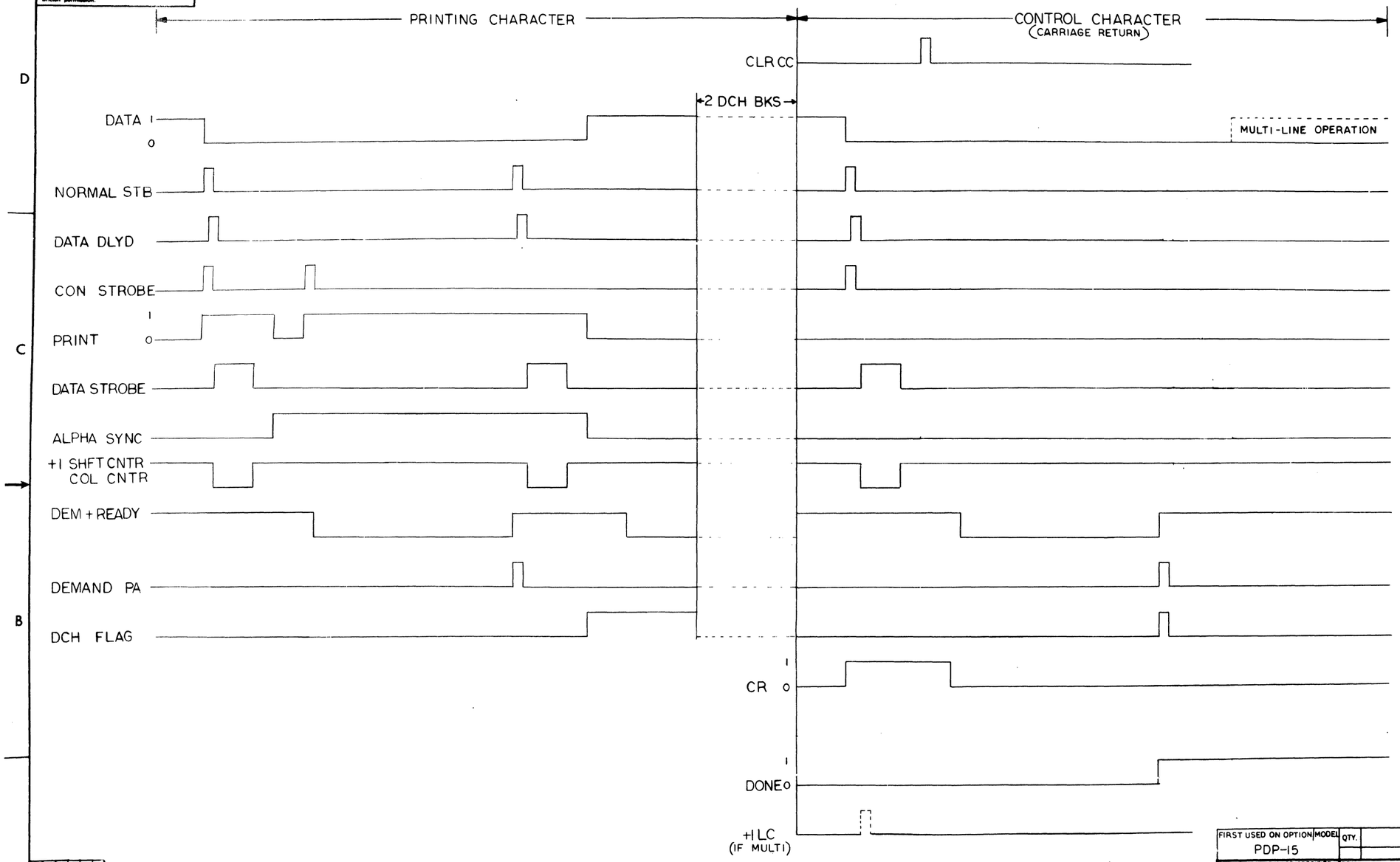


FIRST USED ON OPTION/MODEL: PDP-15	QTY.	DESCRIPTION	PART NO. / ITEM NO.
UNLESS OTHERWISE SPECIFIED: DIMENSION IN INCHES; TOLERANCES: DECIMALS ± .005, FRACTIONS ± 1/64, ANGLES ± 0°30'; FINAL SURFACE QUALITY √; REMOVE BURRS AND BREAK SHARP CORNERS	PARTS LIST		
MATERIAL:	DRN. A. Raimondi 4-22-70	digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS	
FINISH:	DES'D. John Yatt 6 JUL 70	TITLE: INTERNAL TIMING IOPS MODE	
NEXT HIGHER ASSY: A-ML-LP15-F	ENG. John Yatt 6 JUL 70		
SCALE: NONE	PROJ. ENG. John Yatt 6 JUL 70	SIZE/CODE: D TD	NUMBER: LP15-F-23
SHEET 1 OF 1	PROJ. Cindy 7-6-70	DIST.	REV.

REVISIONS: REV. | CHANGE NO. | CHK.

DEC FORM NO. 3000 100A

LP15-F-23 REV D TD



REVISIONS			
CHK	CHANGE NO.	REV.	
DRD	LP15F-00004	A	Brian Gibson 11/17/70
			J. SWANSON 11/31/70

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO. / ITEM NO.
PDP-15		PARTS LIST	

UNLESS OTHERWISE SPECIFIED
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	A. Bonardo	DATE 4-22-70
CHK'D	A. Bonardo	DATE 7-2-70
ENG	John Pratt	DATE 6 JUL 70
PROJ. ENG.	John Pratt	DATE 6 JUL 70
PROD	Ray Bundy	DATE 7-6-70

NEXT HIGHER ASSY
A-ML-LP15-F

SCALE NONE
SHEET 1 OF 1

digital EQUIPMENT CORPORATION
MAYNARD MASSACHUSETTS

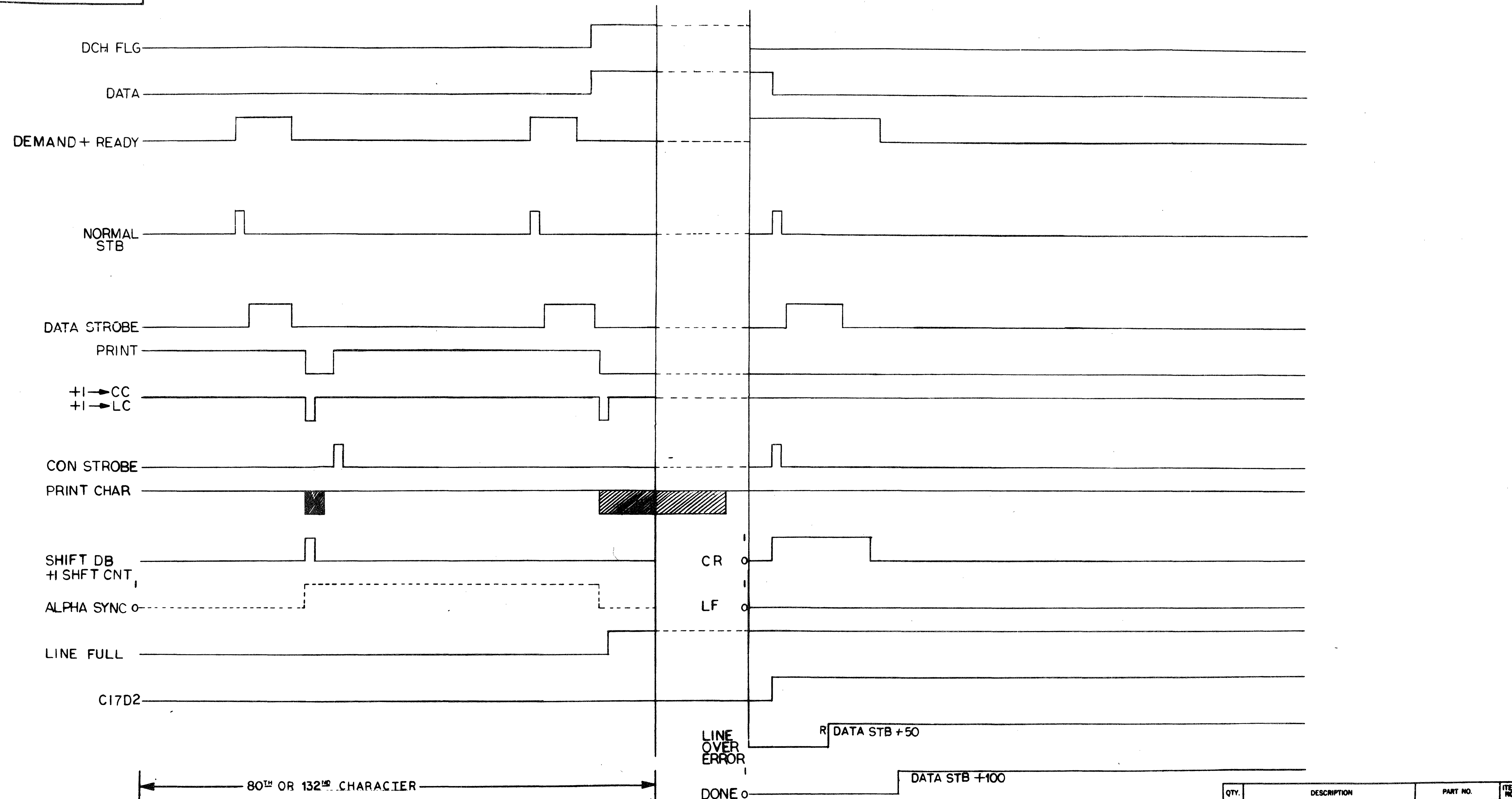
TITLE
INTERNAL TIMING
ALPHA MODE

SIZE	CODE	NUMBER	REV.
D	TD	LP15-F-24	A

DIST.

DEC FORM NO
DRO 102A

LP15-F-24 A



FIRST USED ON OPTION/MODEL: PDP-15

UNLESS OTHERWISE SPECIFIED DIMENSION IN INCHES TOLERANCES

DRN. 4-22-70 · CHK'D. 7-2-70 · 7-6-70

NEXT HIGHER ASS'Y: A-ML-LP15-F

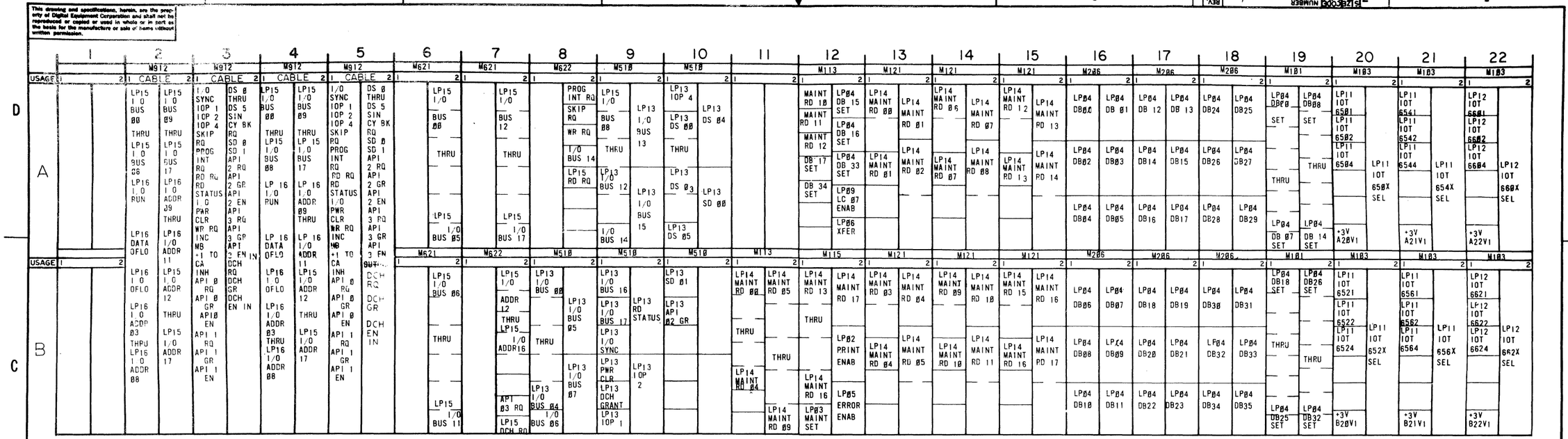
SCALE: NONE

DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS

TITLE: LINE OVER TIMING

SIZE D · CODE TD · NUMBER LP15-F-25 · REV. A

REVISIONS: REV. A · CHANGE NO. LP15F-00006



NOTES:

1. * - CONTROL IS SHIPPED WITH A M911 IN SLOT B32. FOR PRINTER REMOVE M911 AND INSERT LINE PRINTER CABLE (DWG NO. 700606). FOR MAINTENANCE TEST WITHOUT PRINTER, UNPLUG CABLE AND INSERT M911 IN SLOT B32. SEE ENG SPECS SECT

REVISIONS				
CHK	CHANGE NO.	REV.		
FV	LP15F-00001	A	T. Quattlebaum	8-4-70
FV	LP15F-00003	B	T. Quattlebaum	8-31-70
FV	LP15F-00005	D	E. Nielsen	12-29-71
DJ	LP15F-00006	E	M. Gerson	9-5-72

FIRST USED ON OPTION/MODEL: PDP-15

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	A. Bolduc	DATE 5-28-70
CHK'D	T. Quattlebaum	DATE 6-30-70
ENG.	John Platt	DATE 30 JUN 70
PROJ. ENG.	John Platt	DATE 30 JUN 70
MGR.		DATE

NEXT HIGHER ASSY: A-ML-LP15-F

SCALE: NONE

SHEET 1 OF 2

digital EQUIPMENT CORPORATION MAYNARD MASSACHUSETTS

TITLE: MODULE UTILIZATION

SIZE	CODE	NUMBER	REV.
D	MU	LP15-F-20	E

DIST.

DEC FORM NO. DRD 112

Row C, slots 1–22

Slot	Module	Pin 1 side	Pin 2 side
1			
2	M113	END VFU; HEADER v DATA; LPØ8 CCØ7; +3V CØ2U1; +3V CØ2V1	LPØ8 EN ILL HT; LPØ2 DATA SET; LPØ2 LINE OVER SET; LPØ2 DATA STRB; PC + CLR MAINT
3	M112	CON STROBE; DC1 v DC3; +1 BK CNTR; +3V CØ3U1; +3V CØ3V1	LPØ3 CLR BK CNTR; LPØ2 DATA SET; LPØ5 BUSY SET; LPØ2 PC + DONE; LPØ2 LINE OVER
4	M2Ø6	LPØ2 BK CNTØ; LPØ5 ENAB PI	LPØ2 BK CNT1; LPØ5 BUSY; LPØ2 DATA
5	M2Ø6	LPØ2 LF; LPØ5 ALPHA; LPØ8 CCØØ	LPØ2 CR; LPØ8 CCØ7; LPØ8 EN ILL HT
6	M2Ø5	LPØ5 HT; LPØ5 ERROR	LPØ2 ALPHA SYNC; LPØ2 DCH FLG; LPØ2 PRINT
7	M112	LPØ3 SET DONE; LPØ3 CONT; HT CLR; +3V CØ7U1; +3V CØ7V1	LPØ3 SET DONE; LPØ5 MY IOP 4; LPØ5 DB LOAD A; LPØ5 HT CLR; LPØ5 SHIFT CNT CLR
8	M627	LPØ5 DB LOAD A; LPØ5 DB LOAD B; LPØ5 DB SHIFT A	LPØ5 DB SHIFT B; LPØ5 DB CLR A; LPØ5 DB CLR B
9	M117	LPØ5 DISABLE SHIFT; LPØ2 DATA STB; LPØ8 CLR CC; +3V DØ9U1	LP1Ø VFU CNTR =Ø; LPØ3 SET DONE & CONT; LPØ9 LCØ7 ENABLE
10	M115	LPØ5 SHFT CNTR = 5; LPØ8 TAB STOP; LPØ8 LINE FULL; LPØ6 XFER	LPØ9 LOAD LC; LPØ2 EN SET DATA; LPØ2 DATA STROBE
11	M113	LPØ9 LCØ1 CLR; LPØ9 LCØ2 CLR; LPØ9 LCØ4 CLR; LPØ9 LCØ6 CLR; LP1Ø RD VFU Ø	LPØ9 LCØ3 CLR; LPØ9 LCØ5 CLR; LPØ9 LCØ7 CLR; LP1Ø RD VFU 1; LP1Ø RD VFU 2
12	M119		LPØ8 CC=Ø; LPØ9 LC=Ø; LPØ3 RD IOT
13	M113	DLE v DC1 → DC4 SET VFU 4; LP1Ø SET VFU 2; LP1Ø SET VFU 1	LP1Ø SET VFU 3; LP1Ø SET VFU 2; LP1Ø SET VFU Ø
14	MØØ2		D2; E2; F2
15	M2Ø6	LP1Ø VFUØ; LP1Ø VFU2	LP1Ø VFU 1; LP1Ø VFU3; LP1Ø VFU4
16	M3Ø2		LPØ3 MAINT CYCLE; LPØ3 DATA DLYD
17	M2Ø6	LPØ2 ILL HT; LPØ5 LP ALARM; LP1Ø VFU	LPØ2 LINE OVER; LPØ5 IOPS
18	M6Ø6		LPØ2 DCH GRANT; LPØ2 CR SET; LPØ2 DATA STB; LPØ3 MAINT CYCLE; LPØ5 +1 SC; LPØ2 IOT AvB
19	M112	LINE OVER ENAB; LPØ3 API; LPØ7 ALT; +3V C19U1; +3V C19V1	EN SET DATA; LP1Ø VFU ENAB
20	M115	CONT & SET DONE; LPØ9 LCØ7 ENAB; LPØ2 ILL HT SET; LPØ3 ERROR SET DONE	LPØ5 +1 SC; LPØ5 LP ALARM SET; LPØ6 EN ILL HT
21			
22			

Row D, slots 1–22

Slot	Module	Pin 1 side	Pin 2 side
1			
2	M112	CR SET; CLR CC; CR SET; LPØ2 CLR; LPØ5 BUSY SET	LPØ2 IOT AvB; LPØ7 CON CHAR; LPØ2 CLR PRINT; LPØ2 CR SET; LPØ2 DEMAND + RDY
3	M111	+1 BK CNTR; CON STROBE; LPØ2 DONE; DATA STB+5Ø; DATA STB+25Ø; PC+CLR STATUS; INTER-LOCK; LPØ7 LF	MY IOP 4; DS + 1ØØ; DATA STB+1ØØ; PC+CLR MAINT; SET VFU 4; LPØ3 RD IOT; IOT AvB; MODE STROBE
4	M311	DATA STB TIME	DATA STROBE DELAY
5	M6Ø6		LPØ2 HEADER; LPØ2 DATA; LPØ2 DATA TO Ø; LPØ2 DONE; LPØ8 CLR CC; LPØ9 LOAD LC
6	M115	DB CLR A&B; LPØ2 DATA SET; LPØ3 CONT; LPØ5 MODE STROBE	LPØ5 DB SHIFT A&B; LPØ8 CLR CC; LPØ5 PROG INT RQ
7	M113	PC + CLR STATUS; LPØ5 DB LOAD A; LPØ5 SKIP RQ; LPØ5 SKIP RQ; LPØ8 LINE FULL	LPØ5 DB LOAD B; LPØ5 SKIP RQ; LPØ3 ERROR SET DONE; LPØ9 LCØØ CLR
8	M2Ø6	LPØ8 CCØ1; LPØ8 CCØ3; LPØ8 CCØ5	LPØ8 CCØ2; LPØ8 CCØ4; LPØ8 CCØ6
9	M112	SC + 1; ERROR SET; LPØ8 CLR CC; LPØ8 CCØ7 ENAB; DLE v DC 4; +3V DØ9U1	LPØ5 ERROR SET; LPØ8 CLR CC; LP1Ø VFU CNTR =Ø; LP1Ø DC2 OR DC4; LP1Ø SET VFU
10	M111	PC + DONE; LPØ5 DONE v ERROR; LINE FULL; LPØ8 8Ø COL; DATA STB +15Ø; SET VFU 1; LINE OVER; DCHFLG SET	SHFT CNTR=5; 132 COL; CLR CC; VFU CNTR=Ø; SET VFU Ø; DEL v NULL v ILL
11	M2Ø5	LPØ9 LCØ3; LPØ9 LCØ4	LPØ9 LCØØ; THRU; LPØ9 LCØ2
12	M2Ø5	LPØ2 HEADER; LPØ3 MAINT	LPØ9 LCØ5; THRU; LPØ9 LCØ7
13	M112	LPØ8 CLR CC; LC SET; CON STROBE; LPØ2 DONE FORCE; LPØ5 DISABLE SHIFT; +3V D13U1	LPØ3 CR LF; LPØ2 CON DONE SET; LPØ3 SET DONE; LPØ2 PRINT ENAB
14	M6Ø6		LPØ3 ERROR SET; DONE; IOP 4→Ø; LPØ3 GO; LPØ2 MAINT STROBE; VFU COUNT
15	M113	RD VFU 3; RD VFU 4; ALPHA SYNC; LF SET; LCØ7 ENABLE	LPØ3 INTER-LOCK; LPØ5 ERROR ENAB; LPØ2 DATA STROBE; LPØ2 DATA SET; LPØ8 CLR CC
16	M2Ø6	LPØ5 SHIFT CNT Ø; LPØ5 SHIFT CNT 2; LPØ2 MULTI LINE	LPØ5 SHIFT CNT 1; LPØ2 CON DONE; LPØ2 LP DONE
17	M311	LPØ2 DATA STB +35Ø	
18	M113	DATA STROBE; MAINT CYCLE; HT CLR; CR SET; LF ENAB	LPØ3 GO; LPØ3 SET DONE; LPØ3 GO; LPØ5 +1 SC; LP1Ø VFU SET
19			
20			
21			
22			

Row C, slots 23–44

Slot	Module	Pin 1 side	Pin 2 side
23–29			
30	G775 CABLE	LPØ4 DB ØØ THRU LPØ4 DB17	LPØ8 CCØØ THRU LPØ8 CCØ7; LPØ9 LCØØ THRU LPØ9 LCØ7; SHIFT CNT Ø; SHIFT CNT 1
31	G775 CABLE	LPØ4 DB 18 THRU LPØ4 DB35	SHFT CNT Ø2; RTN DATA7 THRU RTN DATA 1; MULT LINE; IOPS; ALPHA; ALPHA XFER; ALPHA SYNC
32	G775 CABLE	ERROR; LP ALARM; LINE OVER; ILL HT; BUSY; LPDONE ENABLE; PI API Ø3 RQ; DCH REQ; BK CNTR Ø1; BK CNTR ØØ; HEADER DATA	VFU ØØ THRU VFU Ø4; VFU HT; CR; LF; PRINT; MAINT
33–44			

Row D, slots 23–44

(no entries)

FIRST USED ON OPTION/MODEL	PDP-15
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.	A. Ramsdell (signature); DATE 5-8-70
CHK'D.	(signature); DATE 6-10-70
ENG.	John Pratt; DATE 30 JUN 70
PROJ. ENG.	John Pratt; DATE 30 JUN 70
PROD.	DATE
NEXT HIGHER ASSY	A-ML-LP15-F
SCALE	NONE
SHEET	2 OF 2

digital EQUIPMENT CORPORATION, MAYNARD MASSACHUSETTS

TITLE: MODULE UTILIZATION

SIZE D, CODE MU, NUMBER LP15-F-2Ø, REV. E

DIST.

DEC FORM NO. DRD 112

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

MADE BY A. RAIMONDI	CHECKED A. RAIMONDI	SECTION
DATE 6-30-70	DATE 6-30-70	1
ENG DATE John Pratt 6 JUL 70	PROD DATE E Bugnoli 7-6-70	ISSUED SECT. 1

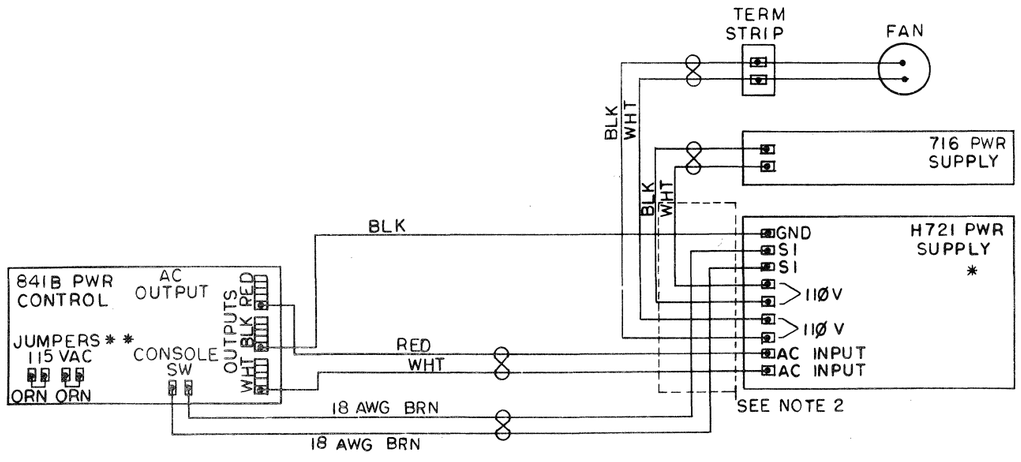
ITEM NO.	DWG NO./PART NO.	DESCRIPTION	QUANTITY/VARIATION LP15-F
	M002	15 LOADS	1
	M101	BUS DATA INTERFACE	2
	M103	DEVICE SELECTOR	7
	M104	I/O BUS MULTIPLEXER	2
	M111	INVERTER	4
	M112	NOR GATE	9
	M113	10-2 INPUT NAND GATES	12
	M115	8-3 INPUT NAND GATES	7
	M117	6-4 INPUT NAND GATES	1
	M119	3-8 INPUT NAND GATES	1
	M121	X OR GATES	6
	M205	5 "D" FLIP-FLOPS	3
	M206	SIX FLIP-FLOPS	12
	M302	ONE SHOT DELAY	1
	M311	TAP DELAY	2
	M510	I/O BUS RECEIVER	7
	M606	PULSE GENERATOR	3
	M621	DATA BUS DRIVER	3
	M622	BUS DRIVER	3
	M627	POWER AMPLIFIER MODULE	1

TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV.	ECO NO.
MODULE UTILIZATION	D-MU-LP15-F-20	A	PL	LP15-F-20	E	LP15F-00006
	SHEET 1 OF 1	DIST.				

DEC FORM NO.
DRA 110

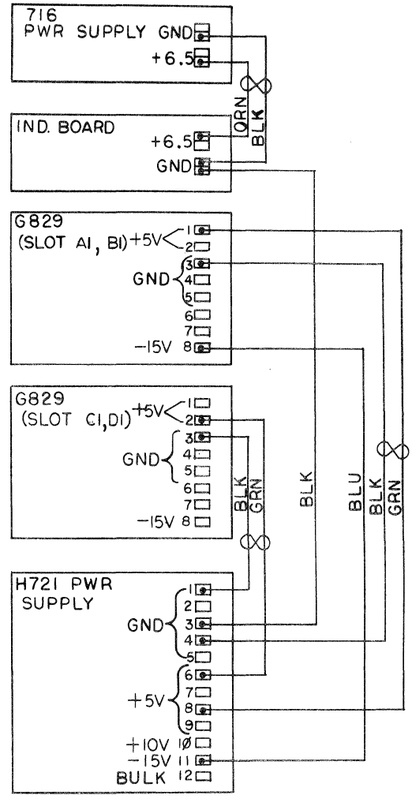
X

NOTES:
ALL WIRE IS 14 AWG UNLESS OTHERWISE NOTED
* H721 PWR SUPPLY IS CAPABLE OF OPERATING 110 OR 220 VOLTS 50 OR 60 HZ. NECESSARY WIRING CHANGES ARE NOTED INSIDE SUPPLY
* * REMOVE JUMPERS FOR 220V OPERATION



AC POWER WIRING

NOTES
1 ALL WIRE IS #14 AWG
2 SERVICE LOOP



DC POWER WIRING

QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST			

REVISIONS	REV
CHANGE NO.	A
CHK	LP15F-00006
	M. Stern 2-5-71
	PRATT
	John Platt 2-16-71

FIRST USED ON OPTION/MODEL: LP15-F

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

DRN: [redacted] DATE 3/13/70
CHK: [redacted] DATE 4-30-70
ENG: John Platt DATE 30 JUN 70
PROJ. ENG: John Platt DATE 30 JUN 70
SPVR: [redacted] DATE 1-31-70
NEXT HIGHER ASSY: D-UA-LP15-F-0
SCALE: NONE
SHEET: OF

digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS

TITLE: AC/DC PWR WIRING

SIZE: D | CODE: IC | NUMBER: LP15-F-19 | REV: A
DIST:

DEC FORM NO. DRD 100

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

ENGINEERING SPECIFICATION DATE 6/17/70

TITLE LP15F Engineering Specifications

REVISIONS

REV	DESCRIPTION	CHG NO	ORIG	DATE	APPD BY	DATE
A	—	LP15F 00004	SWANSON	11-20-70		11/31/70
B	-	LP15F 00006	PRATT	2-5-71	John Pratt	2/12/71

ENG	APRD	SIZE	CODE	NUMBER	REV
John Pratt	John Pratt	A	SP	LP15-F-27	B

DEC FORM NO. DRA 107

PART A

CONTENTS

	SIZE	CODE	NUMBER	REV
John L. Pratt	A	SP	LP15-F-27	B

DEC FORM NO DRA 108A

5. SHIPPING INSTRUCTIONS

5.1 Shipping List
5.2 Crating Instructions

1. SYSTEM DEFINITION

1.1 Mounting Panels

The LP15F requires 2-H911 mounting panels bussed per print D-WA-LP15-F.

1.2 Cables

One BCØ9B I/O bus cable is required for the control to operate with the PDP-15. One BCØ9C I/O bus cable will be necessary for operation with the PDP-9.

The length of the BCØ9B cable is determined from the system configuration drawing; D-AR-PDP-15-Ø-2. Also, a 70-66Ø6 Data Products interface cable is required to connect the interface to the printer.

1.3 Modules

1.3.1 The following is a list of modules for the LP15F (positive version):

2 - G829	6 - M121
1 - MØØ2	3 - M2Ø5
2 - M1Ø1	12 - M2Ø6
7 - M1Ø3	1 - M3Ø2
2 - M1Ø4	2 - M311
4 - M111	7 - M51Ø
9 - M112	3 - M6Ø6
12 - M113	3 - M621
7 - M115	3 - M622
1 - M117	1 - M627
1 - M119	1 - M9Ø2
	1 - M911

1.3.2 The following is a list of modules for the LP15F (negative version):

2 - G829	3 - M2Ø5
1 - MØØ2	12 - M2Ø6
2 - M1Ø1	1 - M3Ø2
7 - M1Ø3	2 - M311
4 - M111	5 - M5ØØ
9 - M112	2 - M51Ø
12 - M113	3 - M631
7 - M115	1 - M622
1 - M117	1 - M627
1 - M119	2 - M632
2 - M194	1 - M9Ø2
6 - M121	1 - M911

1.4 Power Supplies

The LP15F will require one H721 power supply utilizing the +5 volt output only for the positive version and both the +5 and -15VDC outputs for the negative version.

The LP15F will also require a H716 indicator power supply.

1.5 Indicator Panels

The LP15F uses a indicator panel assembly. DEC part number D-AD-7ØØ6331-1Ø-0.

1.6 Vendor Supplied Equipment

One data products #231Ø line printer, [illegible] part number, 30-9766.

1.7 Purchase Specifications for Special Parts

The purchase specification for the data products #231Ø line printers 3Ø-Ø977Ø.

2. CONFIGURATION RULES

2.1 Options

Not applicable.

2.2 Cabling Length Limitations

The BCØ9B I/O bus cable length is determined by the system configuration. Refer to D-AR-PDP-15-0-2. The maximum length is seventy-five feet from the processor.

2.3 Power Supplies and Controls

Refer to section 1.4 for the listing of supplies.

The LP15F will require one 841-B power control.

The physical placement of these items will conform to the H963 M cabinet documentation. Print number D-UA-H963-M-0.

3. CHECKOUT SPECIFICATIONS

3.1 Off Line Procedure

The off line checkout procedure consists of running the LP15F with the diagnostic program, but without the printer. The program is divided into two portions : Control and Print test. The control is shipped with an M911 pull-up card in slot B32 to run diagnostic without printer leave the M911 in B32. Answer the dialogue of the maintenance control test.

3.2 On Line Procedure

The on line checkout procedure consists of running the control with the line printer. Both portions of the diagnostic will be run. (Control and Print tests.)

3.3 Margins

Not applicable.

3.4 Life Tests

Not applicable.

4. ACCEPTANCE TEST PROCEDURE

4.1 Programs

The programs used with the LP15F are:

1. LP15F Diagnostic
2. Systems Handler LP15F
3. System Exerciser

4.2 Duration of Tests

The control test of the diagnostic shall be run for fifteen minutes. The print test shall make one good pass.

4.3 Definition of Failure

An error encountered in either the control or print tests is a failure.

4.4 Checklist

1 - LP15F Control
1 - H963M cabinet (not necessary if field add on and already has H963M.
1 - Indicator panel assembly - 7Ø-6331-1Ø-Ø
1 - BCØ9B I/O bus cable (positive version)
1 - BCØ9C I/O bus cable (negative version)
1 - 7Ø-66Ø6 Interface Cable
1 - Box Line Printer Paper
1 - Data Products printer ribbon
1 - LP15F Diagnostic and Listing
1 - Data Products #2310 Printer Manual

5. SHIPPING INSTRUCTIONS

5.1 Shipping List

1 - Software Kit
1 - Data Products #2310 Manual
1 - LP15F Interface
1 - I/O bus cable (see par. 4.4)
1 - H963M cabinet (see par. 4.4)
1 - Indicator panel assembly- 70-6331-10-0
1 - Set Prints - A-ML-LP15-F-0
1 - 70-6606 Interface cable, 25'.
1 - Box Paper
1 - Data Products #2310 Line Printer
1 - Data Products Printer Ribbon

5.2 Crating Instructions

The LP15F logic panel and indicator assembly (if sent alone) shall be shipped in separate corrugated cardboard cartons. Prior to placement in shipping carton, the logic and indicator panel will be wrapped in bubble packing and cartons are partially filled with foam spaghetti. The boxes are firmly packed and sealed.

The I/O bus cable and the printer cable are shipped with foam gloves on the connectors.

PART B

CONTENTS

5.1 Programs to be run
5.2 Duration of Test
5.3 Definition of Test Failure
5.4 Checklist

6.

6.1
6.2 Programming
6.3 Detailed Description

6.3.1 Operating Modes

6.3.1.1 IOPS ASCII Mode
6.3.1.2 Image Alpha Mode
6.3.1.3 Multi-Line
6.3.1.4 Single Line

6.3.2 Control Character Operations

6.3.2.1 HT (Horizontal Tab)
6.3.2.2. CR (Carriage Return)
6.3.2.3 LF (Line Feed)
6.3.2.4 FF (Form Feed)
6.3.2.5 DLE, DCØ-DC4 (Device Control)
6.3.2.6 VT (Vertical Tab)
6.3.2.7 ALT Mode

6.3.3 Block Diagram Description

6.3.3.1 Data Buffer
6.3.3.2 Data Buffer Output Gating
6.3.3.3 DCH Control
6.3.3.4 DCH Break Counter
6.3.3.5 Character Decoding Logic
6.3.3.6 I/O Bus Receivers and Drivers
6.3.3.7 Character Generator
6.3.3.8 Column Counter
6.3.3.9 Shift Counter (Character Shifting)
6.3.3.10 Output Gates to L.P. Drivers
6.3.3.11 Line Printer Drivers and Receivers
6.3.3.12 Vertical Format Unit

6.3.3.13 Line Counter
6.3.3.14 Maintenance Control

1. Static
2. Error
3. Dynamic

6.3.3.15 API Facility
6.3.3.16 Read Status (IORS)
6.3.3.17 Program Interrupt
6.3.3.18 Skip Request
6.3.3.19 Miscellaneous IOTS
6.3.3.20 Case Shift

6.3.3.20.1 80/132 Column-64/96 Character
6.3.3.20.2 Errors

6.3.4 Tables

6.3.4.1 LP15F IOTS
6.3.4.2 Vertical Format Character Coding
6.3.4.3 Channel Assignments

6.3.4.3.1 Data Channel
6.3.4.3.2 API

1. GENERAL DESCRIPTION

1.1 Nature and Purpose of Equipment

The LP15F line printer interface is to be used with the data products #2310 line printer.

1.2 General Operating Characteristics

The interface utilizes the data channel on a cycle stealing basis to retrieve characters from core memory for output on the printer.

The control handles data in either IOPS ASCII or IMAGE ALPHA modes, performing all the unpacking and shifting heretofore done by software methods.

When the characters have been processed, they are transferred to the printer at maximum speed.

2. SYSTEM SPECIFICATION

2.1 Physical Specifications

Height = 10½"
Width = 6½"
Length = 19"
Weight = 40 pounds
Floor loading 300 pounds (with H963M)
Cabinet clearances = 10½ x 19 x 10"

2.2 Environmental Specifications

Temperature range - 10-50°C
Humidity - 20-95% relative
Power Dissipation

Watts	50
BTU/HR	170

2.3 Power Requirements

AC	Voltage	120 ± 10%
	Current	5A
	Surge	30A
	Nominal	5A
DC	Positive Interface	
	Voltage	+5
	Current	+5V @ 4.85A
	Negative Interface	
	Voltage	+5, -15
	Current	+5 @ 1.55
		-1 60 MA

2.4 Performance Specification

Speed 500KHz interface to printer
Capacities - N/A
Duty Cycle - 100%

3. INSTALLATION INSTRUCTIONS

3.1 Uncrating

Open shipping cartons carefully and remove logic indicator panel assembly and cables. Unwrap bubble packing.

3.2 Parts List

1 - LP15F Logic
1 - Indicator Panel Assembly
1 - BCØ9B I/O Bus Cable
1 - 70-66Ø6 Printer Cable

3.3 Assembly (with existing H963M)

Mount logic assembly and indicator panel per print D-UA-H963-M-Ø.

3.4 Cabling

The I/O bus cable in will connect to slots AB 2,3. and the cable out to AB 4, 5.

The printer cable will plug into slot C32 in LP15F logic: the M9Ø4 end. The Winchester connector will be inserted in receptacle J1 on the printer, Consult #2310 Printer Manual for location DFJ1.

3.5 Preliminary (Power Off Checks)

Insure proper positioning of G829 power connectors.

Check fuses on G829 power connectors and replace with buss type 5A SB.

3.6 Application of Power

Recheck G829 connector card fuses. Check power to indicator panel.

3.7 Proliminary (Power On) Checks

Not applicable.

4. OPERATION INSTRUCTIONS

4.1 Controls

4.1.1 Printer Controls

There are six (6) controls on the printer:

Top of Form	Print Inhibit
Paper Feed	Master Clear
On Line/Off Line	Power On

To initialize the printer and place it on line, follow the following procedure:

1. Open pedestal door and check paper supply and loading.
2. Press the master clear spring-return toggle switch.
3. Close printer pedestal door.
4. Wait for the ready indicator to light.
5. Push On Line/Off Line spring-Return toggle switch to On Line.
6. Printer is On Line.

4.2 Indicators

Date Buffer ØØ - 35: Indicates contents of the 36-bit data register.

Column Count ØØ - Ø7: Indicates contents of the 8-bit up counter used to count the characters sent to printer.

Line Counter: Displays the contents of an 8-bit decrementing counter used to count the line in process in multi-line mode.

Shift Counter: Indicates the contents of a 3-bit up counter which increments during shifts in IOPS mode.

Output Buffer: A 7-bit display of the character enroute to the printer.

Mode :

MULTI - indicates multi-line mode active

IOPS - indicates IOPS mode active

IMAGE - indicates image mode active

IMAGE 1 - lights during the first transfer in image mode.

IMAGE 2 - lights during the second transfer in image mode

ERROR - indicates and OR condition exists between LP ALARM, line overflow, illegal horizontal tab or interlock.

LP ALARM - indicates the printer is off line

LINE OFLO - lights when more than 80 printable characters have been transferred to the printer without a control character.

ILL HT - lights when an HT is received by the control with the columb 72.

BUSY - indicates the line printer and control are in use.

DONE - lights when 30th control and printer have completed an operation.

PIE - indicates the priority interrupt system is enabled.

API REQ - indicates that an API flag on level Ø3 is requesting service due to an error or done condition.

DCH REQ - lights when the control is requesting data via the data channel

BK 1 - lights during 1st word transfer

HDR - lights during header word pair transfer

DATA - lights during data breaks for text

VFU ØØ-Ø4 - displays contents of a 5-bit up counter used during VFU operations

VFU - indicates a VFU character is being processed.

HT - indicates a horizontal tab is being processed

CR - indicates a carriage return is being sent to the printer

LF - indicates a line feed has been forced by the control

PRINT- indicates a print character is being processed.

MAINT- indicates maintenance mode operation

4.3 Operating Sequence

Not applicable.

5. ACCEPTANCE TEST PROCEDURE (CUSTOMER)

5.1 Programs to be run

The LP15F diagnostic. MAINDEC -15-D2EB-D(D)

5.2 Duration of Test

The LP15 diagnostic shall be allowed to run fifteen minutes in the control test and through one pass of the print test.

5.3 Definition of Test Failure

Any error encountered during diagnostic program test.

5.4 Checklist

1 - LP15F Logic
1 - Indicator Panel - 7Ø-6331-1Ø-Ø
1 - BCØ9B or BCØ9C I/O bus cable
1 - Line Printer Cable 7Ø-66Ø6
1 - Set Prints - A-ML-LP15-F-Ø
1 - Data Products #231Ø Printer
1 - Data Products #231Ø Manual
1 - Software Kit
1 - Box Paper
1 - Data Products Printer Ribbon
1-DIAGNOSTIC PROGRAM -MAINDEC -15 -D2EB-D(D)

6.2 Programming

The LP15F diagnostic checks the control's registers by transferring data to the control in the maintenance mode and then reading it back for checking. The diagnostic also checks the program interrupt and the data channel facilities.

In the print test portion, the program transfers many useful print patterns to the control for output on the printer. These patterns are designed to offer visible checks of the printers mechanics. The printer is mechanically adjusted prior to shipment. However, if a discrepancy is noted, it will be necessary to have a qualified technician make the appropriate adjustments to the printer.

6.3 Detailed Description

6.3.1 Operating Modes

The control has two modes of operation: IOPS ASCII, and IMAGE ALPHA. All monitor controlled data is stored in the format of a header word and a text. The header word consists of two consecutive locations containing the mode of output data flow. The following locations, (the text), contain the data in the form described by the header word.

The text is terminated on the receipt of a carriage return (CR), ALT MODE (ALT), or a character which requires the movement of paper in the vertical direction; namely: VT, LF, FF, DC1, DC2, DC3, DC4, and DLE.

The controller operating in the single line mode will look for any of these characters to end the line (print) and set the done flag. In the multi-line mode, the same conditions apply, however, the line counter is used to end the cycle.

The control, operating in the software monitor mode, requests two consecutive data channel breaks to retrieve the header word. It then sets the appropriate mode flops and requests the data. In the multi-line mode, bits 1 - 8 of the first header word are loaded into the line counter. The controller handles the data in either of the following modes:

6.3.1.1 IOPS ASCII Mode

In the IOPS ASCII mode, the characters are extracted from memory by the data channel 3-cycle output transfer. The interface requests two consecutive data breaks from the I/O and loads the first 18-bits of data into its data buffer register bits ØØ-17. The second data break transfers another 18-bits into the data buffer bits 18-34. Bit 17 is unused in the second word. The control will then sample the first character to determine if it is a control character or printable character. If a printable or illegal character is found, it is shipped to the printer, and the next character is shifted through the data buffer, and the same operation will repeat itself until the buffer is empty or a control character is encountered. Once the five characters have been sent on to the printer memory, the control requests another pair of data breaks to retrieve another five characters. This operation takes place four times, (providing all characters are printable). Illegal characters cause the printer to insert a space code. After five characters have been transferred to the printer, two more data breaks are initiated to obtain five more characters. Four of those operations are performed until twenty characters have been sent to the

printer. After the control has received twenty characters, and transferred them to the printer, the printer will initiate a print cycle which will print the twenty characters. The demand line will become true again, requesting twenty more characters. A total of four of these twenty character transfers will be made terminating when the printer receives the last twenty. It will then print those twenty and space the paper, according to the control character issued.

The transfer rate between the interface and the line printer is 500KHZ.

The transfer rate between the control and the computer is variable from 12.65KHZ to 111KHZ. See Section 7.3 for adjustment procedure.

6.3.1.2 Image Alpha Mode

This mode of operation differs from the other in that only one character is stored in an 18-bit word, (bits 11-17). The loading sequence is identical, but two data breaks are required to load just two characters as opposed to five. The control ships these characters to the printer without a shift operation.

If the data buffer bits 11-17 contain a printable character, the output gating gates bits 11-17 to the printer, For the second character, the data buffer bits 29-35 are scanned and if printable are gated to the printer.

6.3.1.3 Multi-Line

Multiple line operation is initiated by issuing IOT 6521. In this operation,

a number of lines from 1 to 256 may be printed in one operation. This is accomplished by loading a line count of 8 bits into the line counter. During the first header word transfer, the software monitor may place a count in the header word and issue the multi-line IOT for processing. The line counter is decremented by one each time a terminator is issued during a line of print. The multi-line mode operation is terminated when a control character is encountered in the last line of print.

6.3.1.4 Single Line

In the single line mode, only one line may be printed. The operation is complete on receipt of the first control character.

In this mode, the operator need only issue IOT 6541, no line count manipulation is required.

6.3.2 Control Character Operations

The control is constantly scanning the incoming characters for control characters. When a control character is received, it is handled by the methods listed in the following sections: 6.3.2.1 through 6.3.2.7.

6.3.2.1 HT (Horizontal Tab)

If a HT code is sent to the control, it initiates a cycle which sends the space code to the printer repeatedly until the column counter is equal to a tab stop, (i.e., 9, 17, $25_{(10)}$). If

the following character is printable, it will go into the next column. Therefore, if the character sequence is "A, (HT), B", where "A" might go into column 7, the "B" will go into column 9. However, if the "A" was placed in column 8, the "B" would go into column 17. The interface always sends at least one space. After the horizontal tab operation, the character transmission returns to the normal mode. With the 80 column 231Ø printer, an HT sent with a column count equal to or greater than 72 constitutes an error condition. When an error condition arises, the "ILL HT" flag sets and forces an error. Likewise, if a 241Ø printer is being used, an error is generated for a column count greater than 128.

Note: Whenever the error flop sets the control issues a carriage return TO THE PRINTER.

6.3.2.2 CR (Carriage Return)

The control uses a CR code to terminate one line of print. This is accomplished by passing the CR onto the printer, Action will be identical to ALT MODE. NO VERTICAL SPACE. When operating in the multi-line mode, the CR signals the control to zero the column counter and +1 the line counter.

If operating in the single line mode, the CR command will zero the column counter and set the done flag.

6.3.2.3 LF (Line Feed)

This cycle is handled by issuing a paper feed to the printer, which will

space one line (vertically), accordingly. The LF command will zero the column counter in both modes and +1 the line counter in the multi-line mode only.

6.3.2.4 FF (Form Feed)

The printer recognizes the FF code, so the control will pass it on. Printer action will print any characters in its buffer and slew paper to "top of form." The line counter will be incremented by one in the multi-line mode and the column counter zeroed in either mode.

6.3.2.5 DLE, DCØ-DC4 (Device Control)

The DLE and DCØ-4 commands all utilize the VFU unit in the control.

The characters are coded as follows:

DLE = 30 vertical spaces
DC1 = 2 vertical spaces
DC2 = 3 vertical spaces
DC3 = 1 vertical space
DC4 = 10 vertical spaces

If one of the above commands are received by the control, the respective vertical space code is loaded in the VFU counter. A line feed code is repeatedly sent to the printer until the VFU register goes to zero.

Any of the VFU commands increment the line counter by one, and zero the column counter.

When operating in the single line mode, the done flag is set on completion of the VFU sequence.

6.3.2.6 VT (Vertical Tab)

On receipt of a VT command, the control will utilize the VFU unit contained in the interface. A VT is handled by forcing -20_{10} to the VFU counter and initiates a cycle which sends the LF code to the printer repeatedly until the VFU counter increments and overflows

6.3.2.7 ALT Mode

The ALT mode control character is used for overprint operations. The control in this case issues a carriage return to the printer without a line feed. The column counter goes to zero, and terminates the line. (Single line operation.) The alt mode character is identical to the CR character.

6.3.3 Block Diagram Description

6.3.3.1 Data Buffer

The data buffer consists of a 36-bit*, seven wide, parallel shift register. In the IOPS ASCII mode, the DB will contain five 7-bit characters, four of which can be shifted individually into DBØ-6 until the five characters have been sent to the printer.

On the load cycle, DBØ-17 is loaded from the I/O bus ØØ-17 on the first data break. Data buffer bits 18-34 are loaded on the second data break with the I/O bus bits ØØ-17.

The data buffer can also be cleared, loaded, and read by maintenance IOTS.

*One extra bit is needed for Image Alpha (Bit 35).

6.3.3.2 Data Buffer Output Gating

When operating in the IOPS ASCII mode, the data buffer will contain five characters. The first 7-bit character will be contained in DBØ-6, the other four characters will be shifted into DBØ-6 for processing. In IMAGE ALPHA mode, the data buffer only contains two characters. They are located in DB11-17, and 29-35.*

The output gating looks at DBØ-6 in IOPS ASCII mode for five characters. The gating looks at DB11-17 and 28-35 alternately in the IMAGE mode. There is no shifting during IMAGE mode.

6.3.3.3 DCH Control

The DCH control affects the cycle stealing operation of the interface by initially taking two consecutive data breaks to load the header word and then groups of two breaks to get five characters each time into the data buffer (IOPS ASCII), and two characters each time for IMAGE. Using the three cycle break feature of the PDP-15, and operating in the IOPS mode, the interface can obtain five characters in two consecutive output transfers totalling 13 usec, providing the data break delay is set to the minimum.

6.3.3.4 DCH Break Counter

A two bit counter used to count the number of data breaks initiated by the DCH Control.

*One extra bit is needed for Image Alpha (Bit 35).

6.3.3.5 Character Decoding Logic

As a character is inserted in the data buffer, the character decoder immediately decides whether it is printing, non-printing (control), or illegal character. The character decoder looks for the following characters: HT, VT, DLE, DC1-4, FF, CR, LF, ALT MODE, and all printing characters.

6.3.3.6 I/O Bus Receivers and Drivers

The front end of the interface contains the necessary high impedance bus receivers and drivers to communicate with the I/O.

Signals received are: I/O bus ØØ-17, , DCH GRANT, PWR CLR, I/O SYNC, DSØ-5, SDØ-1; IOP1, 2, and 4, API 3 GRANT, , and 6 printer data lines used for diagnostic and maintenance.

The drivers consist of: DCH RQ, RD RQ, WR RQ, API Ø3 RQ, and I/O ADDR 12-17.

6.3.3.7 Character Generator

This logic is necessary to force the space and paper feed codes during a horizontal or vertical tab operation,* respectively.

6.3.3.8 Column Counter

The column counter is an 8-bit up counter which is incremented by one each time a printable character is sent to the printer. When the 241Ø printer (132 column) is employed, the column counter increments to 132.

*Tab signifying VFU commands.

Likewise, for the 231Ø 8Ø column printer, the max count is $80_{(10)}$.

The column counter is used for calculating the line over error, the horizontal tab, and illegal horizontal tab operations. During the HT operation, the three least significant bits of the printer are monitored for calculating the tab stops. The illegal horizontal tab flag is set when a user tries to tab beyond 72, or 128 with the 8Ø or 132 column printers respectively.

6.3.3.9 Shift Counter (Character Shifting)

In the 5/7 ASCII mode, the data is packed with five characters/35-bits. After the five characters have been loaded into the data buffer, the shift counter controls the character shift operation, moving them through the five parallel buffers until they move into DBØ-6 for output.

6.3.3.10 Output Gates to L. P. Drivers

Between the data buffer output gating logic and the line printer drivers, a set of "OR" gates are inserted to receive outputs from either the DB output gating or the special character generator.

6.3.3.11 Line Printer Drivers and Receivers

These dri[illegible] control the printer directly [illegible]nverting T2L logic levels to the logi[illegible] levels necessary to drive the printer hardware. The receivers will be necessary for the demand and ready conditions issued by the printer.

The drivers will consist of open collector type bus drivers with logic assertion levels of Ø and+2.5 volts.

The receivers will merely buffer the incoming signals.

6.3.3.12 Vertical Format Unit

The interface contains a unit which will electrically substitute the mechanical VFU in the printer. It is composed of a 5-bit counter that is loaded on receipt of a vertical format command with the respective number of vertical lines requested. A list of vertical format characters and their coding will be found just before Section 7 (Tables).

6.3.3.13 Line Counter

An 8-bit decrementing counter is employed to count the number of [illegible] lines in the multi-line mode.
Note all control characters equal 1 line.

6.3.3.14 Maintenance Control

A large portion of the control has been allocated for diagnostic and maintenance checkout. For explanation purposes, let us divide the section into three parts. Namely: Static, Error, and Dynamic.

1. Static

The nature of this section is basically clear, load, and read.

Using assigned IOTS and I/O bus bits, the major registers and control functions can be set or cleared and read back for checking. These

registers are: Data Buffer Ø-35, Line Counter Ø-2, Data Break Counter Ø-1, VFU Counter Ø-4.

Control Functions are: Data, Header, Alpha, Alpha Sync, IOPS, Multi-line, and Maintenance.

2. Error

This section is used for checking the error flags in the control. Checking is accomplished by setting an individual error flag and then checking the main error flag by the priority interrupt and API facility. These flags are: Interlock, Done, ILL HT, Line Over, Off Line, Maintenance, and Error.

3. Dynamic

This section of the control allows the diagnostic programmer to exercise the interface in a manner which closely resembles actual "on line" printer operation, without a line printer. See diagnostic write up for insertion of M911 term. card. This is accomplished by loading a test print cycle in core memory and issuing the set maintenance IOT. This IOT simulates the data strobe line of the interface and single steps the data through the control. After issuing the IOT, the program can check the major registers and control functions with IOT reads and also look at the data lines to the printer to see if the character was actually sent.

With this test, a very extensive check can be made of the internal operation of the interface. A list of all IOTS and corresponding I/O bus bits will be found in section 7.

6.3.3.15 API Facility

The interface has an API Ø3 device flag whose address is 56. This flag will set with a done or error condition.

Using an IOT 6542, a check can be made to ascertain which flag caused the error

6.3.3.16 Read Status (IORS)

A read status IOT will check the done or error flag, and read it back on I/O bus bit 14.

6.3.3.17 Program Interrupt

The control has a program interrupt facility which can be enabled by IOT 6544 and disabled by IOT 6561. When enabled, the PI request will be made when the done or error flag is present. It is in sync with the API RQ.

6.3.3.18 Skip Request

The done or error flag may be skip tested with IOT 65Ø1. If either the done or error flag is set and IOT 65Ø1 is issued, the skip request line to the processor will become active.

6.3.3.19 Miscellaneous IOTS

A list of all other IOTS for the control is located in Table 1 and 2.

6.3.3.20 Case Shift

When 64 character printers are operated in a system that uses 96 character coding, the interface will substitute the respective upper case character. For a lower case character, when operating with a 96 channel printer and 96 character coding, the interface will simply pass the character on to the printer. The interface is shipped pre-wired for use with a 64 character line printer. To change configuration, consult 6.3.3.20.1.

6.3.3.20.1. 80/132 Column -64/96 Character

The control has been designed for either the 80 column data products 2310, or the 132 column data products 2410 line printers. The control is shipped prewired for the 80 column 2310 printer.

For 96 character, place a jumper between pins C14E2-C14C2.

For 132 column operation, place a jumper between pins C14D2-C14T1.

6.3.3.20.2 Errors

The error flop will set on any of the following conditions: Illegal horizontal tab; Line Over; LP Alarm; and Interlock.

A line printer alarm error

will be generated when:

1. The line printer power is off.
2. The printer drum gate is open.
3. An out of paper condition exists.
4. An overtemperature condition exists in the paper drive motor.

6.3.4 Tables

6.3.4.1 Insert LP15F IOTS (TABLE 1)

6.3.4.2 Vertical Format Character Coding

FF-Form Feed -Top of form

LF-Line Feed -Single space with automatic top of form after 60 impressions

DC1-Device Control 1-Double Space with automatic top of form after every 30 impressions

DC2-Device Control 2-Triple Space with automatic top of form after every 20 impressions.

DC3-Device Control 3-1 space with automatic top of form after every 60 impressions.

DC4-Device Control 4-10 lines

VT-Vertical Tab- 20 lines

DLE -30 lines

6.3.4.3 Channel Assignments

6.3.4.3.1 Data Channel

Word Count 34
Current Address 35

6.3.4.3.2 API

Level 3
Channel 56

6.4 Module Description

G829	Power Connector
M002	+3V Supply
M101	Bus Data Interface
M103	Device Selector
M104	I/O Bus Multi-Plexer
M111	16-Inverters
M112	10-NOR Gates
M113	10-2 Input NAND Gates
M115	8-3 Input NAND Gates
M117	6-4 Input NAND Gates
M119	3-8 Input NAND Gates
M121	6-AND/NOR
M205	5-D Type Flip Flops
M206	6-D Type Flip Flops
M302	Multi-Vibrator
M311	Delay Line
M500	Negative Receiver
M510	Positive Receiver
M606	Pulse Generator
M621	Positive Driver
M622	Positive Driver
M627	NAND Power Amplifier
M632	Negative Driver
M902 -	100 Terminators
M631 -	Negative Driver
M911 -	Positive Pullups(Used for"offline" check out.

7. MAINTENANCE

7.1 Equipment Required

Data Products #2310 Printer Manual

7.2 Preventative Maintenance

Consult #2310 Printer Manual Section

5.1

7.3 Adjustments

The control has two delays which can be adjusted. Delay 1 adjusts the cycle frequency of the maintenance control, adjustable from 133 KHz to 2 MC. Delay 2 adjusts the frequency of data channel requests, reducing the load on the processor. It can be varied from 12.65 KHz to 111 KHz. These delays will be found in C16. Nominal settings of these delays are 3.5 usec.
Use Test 55 in diagnostic program to adj. delays.
C16F2 - Delay 1 - (Maintenance) Top Pot
C16T2 - Delay 2 - (Data Channel) Bottom Pot

7.4 Special Troubleshooting Techniques

7.4.1 For Operator

The control is designed to print and space paper whenever an error is detected. Thus, allowing the operator to observe what was printed just before the error.

7.4.2 For Technician

1. Follow Flow Chart to find where control is failing.
2. Note indicator display
3. Use Maintenance Mode as much as possible.
4. Use Timing Diagrams

7.5 Recommended Spares

of modules listed in section 1.3.

. DRAWINGS

*Indiates negative version

8.0 DRAWINGS

D-BS-LP15-F-Ø2	CONTROL 1
D-BS-LP15-F-Ø3	CONTROL 2
D-BS-LP15-F-Ø4	DATA BUFFERS
D-BS-LP15-F-Ø5	DB CONTROL
D-BS-LP15-F-Ø6	DB OUTPUT GATING, LP DRIVERS
D-BS-LP15-F-Ø7	CHARACTER DECODER
D-BS-LP15-F-Ø8	COLUMN COUNTER
D-BS-LP15-F-Ø9	LINE COUNTER
D-BS-LP15-F-1Ø	VFU UNIT
D-BS-LP15-F-11	IOT DECODE 1
D-BS-LP15-F-12	IOT DECODE 2
D-BS-LP15-F-13	I/O BUS RECEIVERS
D-BS-LP15-F-14	MAINTENANCE READ
D-BS-LP15-F-15	LP RECEIVERS I/O BUS DRIVERS
D-IC-LP15-F-16	I/O BUS CABLES IN
D-IC-LP15-F-17	I/O BUS CABLES OUT
D-IC-LP15-F-18	INDICATOR CABLES
D-IC-LP15-F-19	AC/DC PWR WIRING
D-MU-LP15-F-2Ø	MODULE UTILIZATION
D-TD-LP15-F-21	DCH TIMING HEADER CYCLE
D-TD-LP15-F-22	DATA CYCLE CHARACTER XFER
D-TD-LP15-F-23	INTERNAL TIMING IOPS MODE
D-TD-LP15-F-24	INTERNAL TIMING ALPHA MODE
D-TD-LP15-F-25	LINE OVER TIMING
D-FD-LP15-F-26	FLOW CHART
K-WL-LP15-F-[illegible]	WIRELI

LP15F IOTS - TABLE 1

I/O BUS BIT	READ MAINTENANCE IOTS					
	IOT 65Ø2	IOT 6542	IOT 6562	IOT 66Ø2	IOT 6622	IOT 6642
ØØ		Error	DBØØ	DB18	CCØØ	LCØØ
Ø1		LP Alarm	DBØ1	DB19	CCØ1	LCØ1
Ø2		Line Over	DBØ2	DB2Ø	CCØ2	LCØ2
Ø3		ILL HT	DBØ3	DB21	CCØ3	LCØ3
Ø4		BUSY	DBØ4	DB22	CCØ4	LCØ4
Ø5		Done	DBØ5	DB23	CCØ5	LCØ5
Ø6		Interlock	DBØ6	DB24	CCØ6	LCØ6
Ø7		Maintenance	DBØ7	DB25	CCØ7	LCØ7
Ø8			DBØ8	DB26	LP DATA Ø7	IOPS
Ø9			DBØ9	DB27	LP DATA Ø6	ALPHA
1Ø			DB1Ø	DB28	LP DATA Ø5	ALPHA SYNC
11			DB11	DB29	LP DATA Ø4	HEADER
12			DB12	DB3Ø	LP DATA Ø3	DATA
13	VFU ØØ		DB13	DB31	LP DATA Ø2	BK CNT Ø
14	VFU Ø1		DB14	DB32	LP DATA Ø1	BK CNT 1
15	VFU Ø2		DB15	DB33	Multi-Line	SHFT CNT Ø
16	VFU Ø3		DB16	DB34		SHFT CNT 1
17	VFU Ø4		DB17	DB35		SHFT CNT 2

IOTS 65Ø2, 6542, 6562,66Ø2, 6622 and 6642 read the above tables data into the AC on corresponding Bus Bits.

LP15F IOTS - TABLE 1 (cont.)

I/O BUS BIT		LOAD IOTS	
	IOT 66Ø4	IOT 6624	IOT 6644
ØØ	DBØØ	DB18	ERROR
Ø1	DBØ1	DB19	LP ALARM
Ø2	DBØ2	DB2Ø	LINE OVER
Ø3	DBØ3	DB21	ILL HT
Ø4	DBØ4	DB22	BUSY
Ø5	DBØ5	DB23	DONE
Ø6	DBØ6	DB24	
Ø7	DBØ7	DB25	MAINT
Ø8	DBØ8	DB26	
Ø9	DBØ9	DB27	
1Ø	DB1Ø	DB28	
11	DB11	DB29	
12	DB12	DB3Ø	
13	DB13	DB31	
14	DB14	DB32	
15	DB15	DB33	
16	DB16	DB34	
17	DB17	DB35	

IOTS 66Ø4, 6624 and 6644 load the above Tabled Flops with the corresponding I/O Bus Bits.

IOT CODE	USE	ACTION TAKEN
IOT 6541	Print 1 line	Initializes the control, sets header, doesn't set multi-line
IOT 65Ø4	Clear VFU	Clears the five bit VFU register in the control
IOT 6521	Print Multi-Line	Initializes the control; sets header; sets multi-line
IOT 65Ø1	Skip if Done v Error	Causes a skip request if done or error is set
IOT 6544	Enable Interrupt System	Sets the enable interrupt flop
IOT 6561	Disable Interrupt System	Clears the enable interrupt
IOT 6564	Clear data buf ØØ-35	Clears DB ØØ-35
IOT 66Ø1	Clear Maintenance	Clears the maintenance flop only
IOT 6621	Clear Done Flag	Clears Done Flag
IOT 6641	Clear status and error flag	Clears status and error flag
IOT 6524	Set Maintenance Control	Generates a pseudo data strobe [illegible].

LP15F IOTS - TABLE 2

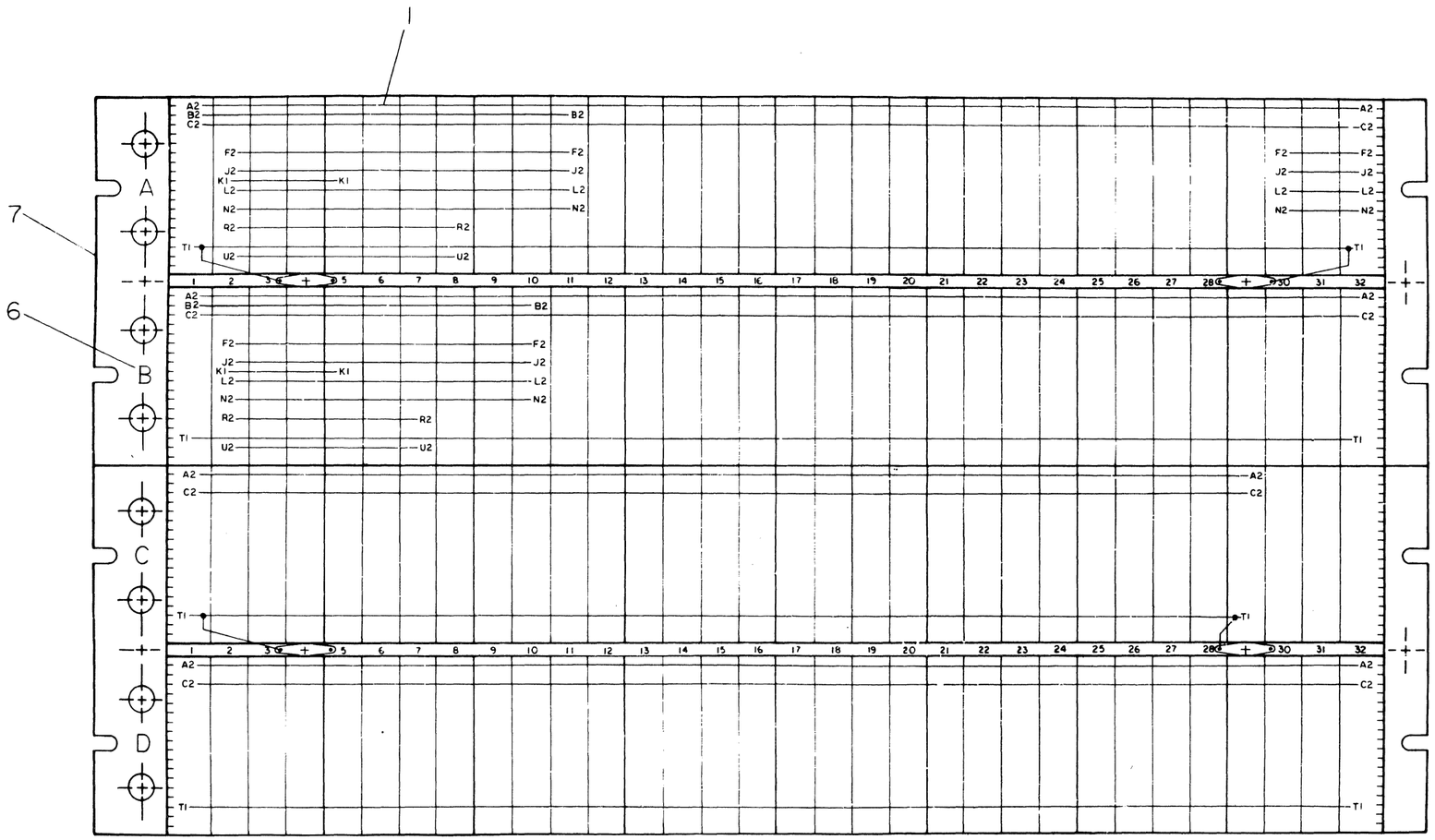
DRWG NO	REVLTR
K-WL-LP15-F-28	K

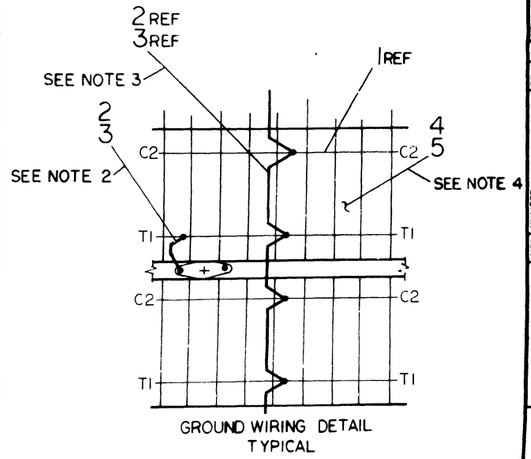
REVISIONS

REV LTR	ECO NO	DATE	ENG
A	LP15F-00001	8-4-70	
B	LP15F-00002	8-18-70	
C	LP15F-00003	8-31-70	
D	LP15F-00004	11-17-70	
E	LP15F-00005	12-22-70	
F	LP15F-00006	2-5-71	
H	LP15F-00007	5-4-71	
J	LP15F-00008	6-3-71	
K	LP15-00009	9-23-71	

DRAWN A. Raimondi	DATE 4-7-70	digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS	TITLE WIRE LIST
CHECKED	DATE 6/3/70		FOR TAPE* FILE*
ENG John Platt	DATE 30 JUN 70		
PROJ. ENG John Platt	DATE 30 JUN 70	ASSY NO D-AD-7006794-0-0	SIZE K / CODE WL / DWG. NO. LP15-F-28 / REV LTR K
PROD	DATE	SCALE NONE / SHEET 1 OF 1	DIST.

NOTES:
1. CONNECTIONS ON ITEM NUMBER 1 & 2 TO BE LOCATED AND SOLDERED AT MINIMUM PRACTICAL HEIGHT ABOVE BLOCKS.
2. ALL CONNECTOR BLOCKS TO BE GROUNDED TO GROUND LUGS AS SHOWN, 4 PLACES
3. JUMPER GROUND BUSSING AS SHOWN, 8 PLACES.
4. USE YELLOW WIRE (ITEM #4) FOR MACHINE WRAPPED AND BLUE WIRE (ITEM #5) FOR HAND WRAPPED WIRING.





GROUND WIRING DETAIL
TYPICAL

REVISIONS		
REV.	CHANGE NO.	CHK
1		

FIRST USED ON OPTION/MODEL	QTY.	DESCRIPTION	PART NO.	ITEM NO.
PDP-15		PARTS LIST		

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED
DIMENSION IN INCHES
TOLERANCES
DECIMALS ± .005 FRACTIONS ± 1/64 ANGLES ± 0°30'
FINAL SURFACE QUALITY 125
REMOVE BURRS AND BREAK SHARP CORNERS

MATERIAL

FINISH

DRN.	A. Raimondo	DATE 3-7-70
CHK'D		DATE 6-22-74
ENG.	John Platt	DATE 6-22-74
MFG. ENG.	Platt	DATE 6-22-74
QUAL.		DATE

NEXT HIGHER ASSY
D-UA-LP15-F-0

SCALE NONE
SHEET 1 OF 1

digital EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

TITLE
WIRED ASS'Y
(LP15-F)

SIZE CODE: D | NUMBER: AD7006794-0-0 | REV.

DIST.

SIZE D | NUMBER 7006794-0-0 | REV.

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

MADE BY A. RAIMONDI	CHECKED AL PFYFFER	SECTION
DATE 4/7/70	DATE 4/23/70	1
ENG DATE John Platt 30 JUN 70	PROD DATE H Greene 6-30-70	ISSUED SECT. 1

ITEM NO.	DWG NO./ PART NO.	DESCRIPTION	QUANTITY/VARIATION LP15-F
1	1205541	BUS STRIP	A/R
2	9107560-01	22 AWG BUS WIRE	A/R
3	9107265-09	#22 TUBING, TEFLON, WHITE	A/R
4	9105740-44	30 AWG SOLID TEF INS. WIRE, YELLOW	A/R
5	9105740-56	30 AWG SOLID TEF INS. WIRE, BLUE	A/R
6	A-DC-7406371-0-0	LOGIC FRAME DECALS	A/R
7	D-AD-5404491-0-0	H911 MTG PANEL	2
REF	K-WL-LP15-F-2?	WIRE LIST	

TITLE	ASSY NO.	SIZE	CODE	NUMBER	REV.	ECO NO.
WIRED ASSY (LP15-F)	D-AD-7006794-0-0	A	PL	7006794-0-0		
	SHEET 1 OF 1	DIST.				

DEC FORM NO.
DRA 110