

**KP8-E power-fail
& auto-restart
engineering drawings**

[illegible]

2. REMOVE JUMPER W2 FOR PDP 8/M & 8/F
3. TO RESTART IN ANOTHER ADDRESS INSTALL ONE JUMPER PER TABLE BELOW:

JUMPER	D0	D1	D2	D4
ADD 4000	X			
ADD 2000		X		
ADD 1000			X	
ADD 0200				X

TO RESTART IN LOCATION Ø NO JUMPER REQUIRED, DO NOT INSTALL MORE THAN ONE JUMPER IN DØ THRU D4.

4. IF THE LINE VOLTAGE IS OTHER THAN 115 OR 230 VAC, MOVE THE LINE VOLTAGE JUMPERS ACCORDING TO THE NOMINAL LINE VOLTAGE WHERE THE COMPUTER IS OPERATING. SEE TABLE BELOW FOR JUMPER POSITIONS.

LINE VOLTAGE	ADD JUMPERS (2 PLACES)	REMOVE JUMPERS (2 PLACES)
115 OR 230 VAC	115/230 & 240	220
220 VAC	220 & 240	115/230
240 VAC	115/230	240 & 220

DO NOT UNDER ANY CIRCUMSTANCES ATTEMPT TO CHANGE OR ADJUST THE POTENTIOMETERS ON THIS BOARD. THESE POTS ARE FACTORY SET AND WILL NOT NEED READJUSTING AT ANY TIME.

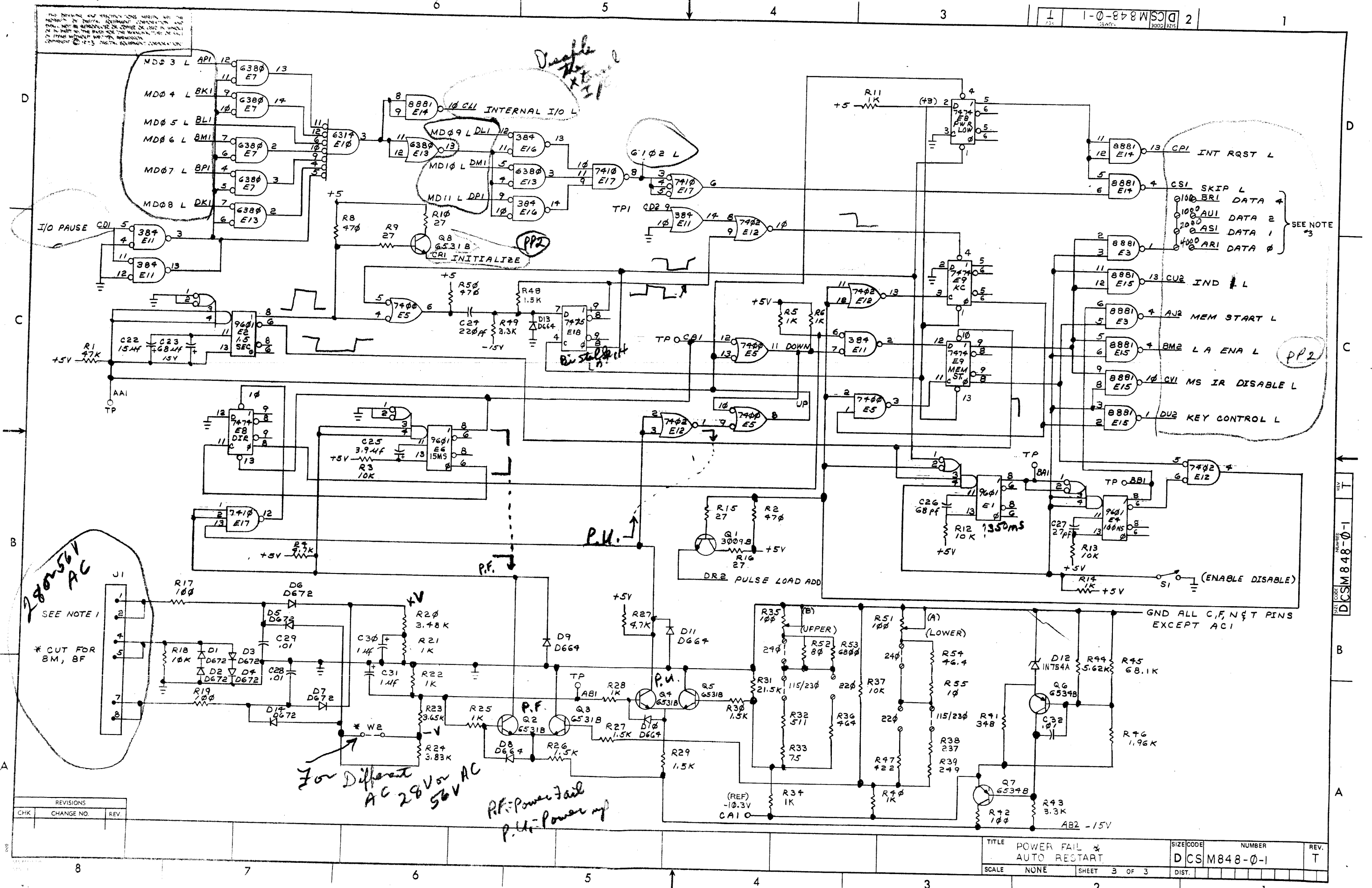
COMPONENT SUBSTITUTION CHART

ORIGINAL PART	1ST SUB	2ND SUB	3RD SUB
IC 6380 19-09971	11380 19-11113	380 19-09985	5380 19-10392
IC 6314 19-09972	314 19-09704	5314 19-10391	
IC 8881 19-09705	97401 19-09973		

5. R52 MAY BE EITHER A 80 OHM 1/8W 1% OR AN 80.6 OHM 1/8W 1% METAL FILM RESISTOR

2	E8,E9	I.C. DEC 7474	1905547	55
1	E5	I.C. DEC 7400	1905575	56
1	E17	I.C. DEC 7410	1905576	57
1	E12	I.C. DEC 7402	1909004	58
1	E18	I.C. DEC 7475	1909060	59
4	E1,E2,E4,E6	I.C. DEC 9601	1903373	60
2	E11,E16	I.C. DEC 384	1909486	61
3	E3,E14,E15	I.C. DEC 8881	1909705	62
2	E7,E13	I.C. DEC 6380	1909971	63
1	E10	I.C. DEC 6314	1909972	64
REF		POWER CABLE	D-1A-700712B-0-0	65
2		KEEP NUT #4-40 SST	9006557	66
2		SCR PHL HD PAN #4-40 x 5/16 LG	9006010-1	67
2		WASHER FLAT #4 NYLON	9006706	68
2,2		SPLIT LUGS	9006735	69
8		EYELETS	9006750	70
4		HANDLE FLIP CHIP MAGENTA	9008337-06	71
A/R		WIRE #22 AWG BAS	9107560-01	72

QTY	REF	DESIGNATION	DESCRIPTION	PART NO.	ITEM NO.
		TITLE	POWER FAIL & AUTO RESTART	SIZE CODE D CS	NUMBER M848-0-1
		SCALE	NONE	SHEET	2 OF 3
				DIST.	



280V AC
SEE NOTE 1
* CUT FOR BM, BF

For Different AC 280V or 56V AC
P.F. = Power Fail
P.U. = Power up

SEE NOTE 3

- 0100 BRI DATA 4
- 1000 AUI DATA 2
- 2000 CASI DATA 1
- 4000 ARI DATA 0

PP2

DCSM848-0-1

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DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

ENGINEERING SPECIFICATION

DATE 7/9/71

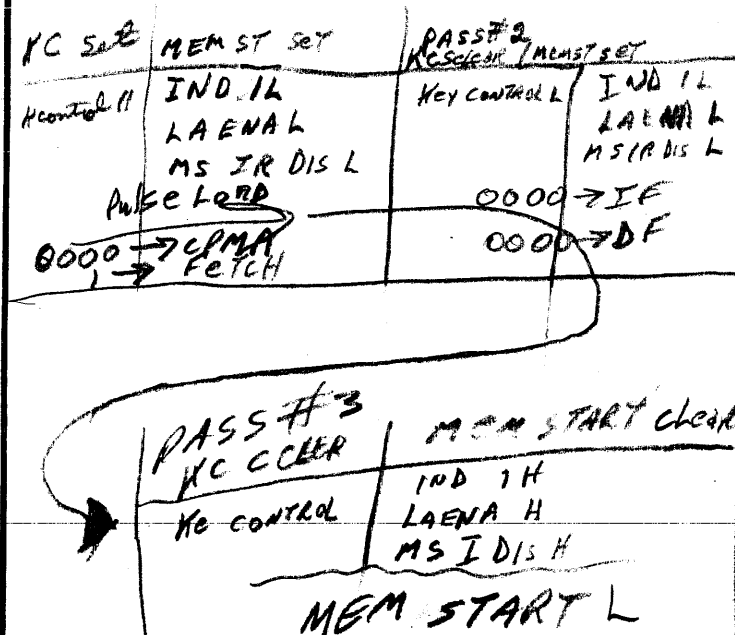
TITLE POWER FAIL AND AUTO-RESTART, KP8/E

REVISIONS

REV	DESCRIPTION	CHG NO	ORIG	DATE	APPD BY	DATE
A	REVISED & RETYPED	00001	L.NARHI	7-16-1	L.N.	

PWR DOWN
PWR LOW
INT RQST
JMS → IR
0000 → CPMA
EXECUTE → M.S.

103/5150



ENG	Larry Narhi	APPD	R.K. ALLEN	SIZE	CODE	NUMBER	REV
				A	SP	KP8-E-1	A

DEC FORM NO.
DRA 107

SHEET 1 OF 3

ENGINEERING SPECIFICATION

TITLE

POWER FAIL AND AUTO-RESTART, KP8/E

1. Overall Description

Power fail and auto-restart is an option to the PDP8/E computer which, when properly programmed, prevents the loss of the contents of the active registers in the computer in the event of an AC power failure. When AC power is restored, this option restarts the computer at memory location 0.

2. General Specifications

2.1 The KP8-E option consists of one 8½" Quad module, M848, which plugs directly into the PDP8/E Omnibus and also must be connected to the 28V AC source in the PDP8/E power supply.

2.2 Jumpers on the board allow the user to select power line thresholds where the computer shuts down or restarts.

Line	120V AC Upper/Lower	230V AC Upper/Lower	Install Jumpers
High	105/95	190/170	A & D
Normal	90/80	175/155	B & E
Low	80/70	160/140	C & F

The upper threshold restarts the computer while the lower threshold sets the Power Low flag which generates an Interrupt Request.

2.3 Operating Temperature : 0°C to 55°C
Relative Humidity : 10 to 90%, non-condensing

2.4 Power Required:

+5.0V	-	700 MA
-15.0V	-	15 MA
28V AC	-	7 MA

DEC FORM NO 16-1022

SHEET 2 OF 3

ENGINEERING SPECIFICATION

digital

CONTINUATION SHEET

TITLE

POWER FAIL AND AUTO-RESTART, KP8-E

3. Programming

3.1 IOT Definition

<u>Mnemonic</u>	<u>Octal Code</u>	<u>Function</u>
SPL	6102	Skip if Power Low Flag = 1

- 3.2 In the interrupt service routine the SPL IOT should be first in the skip chain to keep programming time to a minimum.
- 3.3 When the Power Low flag is set, indicating an AC power failure has taken place, the programmer has one (1) millisecond of programming time available before the power supply levels fall below operating levels.
- 3.4 The enable/disable switch when in the down position, prevents the computer from restarting when power returns.

SIZE	CODE	NUMBER	REV
A	SP	KP8-E-1	A