3200A POWER SUPPLY

Manual Number: A90-061057-01/-11/-21 TP Number: 06-020 Issue Number: 3, Rev. B

GENERAL DESCRIPTION

The Model 3200A Power Supply module provides power for the Model 3200 and 3400 Series plug-in modules. The Power Supply furnishes unregulated, filtered (+ and - 16 V) direct current to the tray's power distribution buses. Regulation is accomplished within the indivdual plug-in modules.

A single 3200A Power Supply is capable of furnishing sufficient current to operate eight 3200/3400 series modules. When two power supply modules are installed in a two rack unit tray, one serves for an emergency backup. In case of failure, disconnection of the faulty supply is accomplished with diode OR gates mounted on the power supply modules. As soon as power is appied to the backup supply, the defective module will electrically disconnect from the power buses.

Depending on the power transformer supplied with the 3200A Power Supply module, it may be operated from one of several input line voltage levels. Refer to Specifications. Table 1.

SPECIFICATIONS

Table 1 lists the performance specifications for the Model 3200A Power Supply.

TABLE 1 MODEL 3200A POWER SUPPLY SPECIFICATIONS

Characteristics	Performance
Input Voltage (Circuit Board Selectable)	100-125 or 200-250 V AC, 50-60 Hz (-01) 89-111 or 178-222 V AC, 50-60 Hz (-11) 111-139 or 222-278 V AC, 50-60 Hz (-21)
Output	Positive and negative 16V DC at 1 amp, 32 watts, maximum (the troughs of the ripple waveform at the output should not fall below 11.0 V under maximum load with minimum line voltage; and peaks should not exceed 20.0 V under no-load with maximum line voltage in)
Fuses	Two 3-ampere, 3 AG Slow Blow in power transformer secondary. One 1-ampere 3 AG in tray at input to each Power Supply cell.

LINE VOLTAGE SELECTION AND FUSE REPLACEMENT

Units come preset to the voltage ordered. The voltage can be changed (Figure 1) as follows:

√ Pull FUSE PULL lever out and to the left and remove fuse.

√ Remove the VOLTAGE SELECT circuit board from below the FUSE PULL lever and reinsert it firmly in the slot with the **desired voltage up and readable on the left** (only the 120 and 240 positions are functional - they cover the entire specified line voltage range).

√ Push the FUSE PULL lever in and insert a **one ampere 3AGC fuse.**

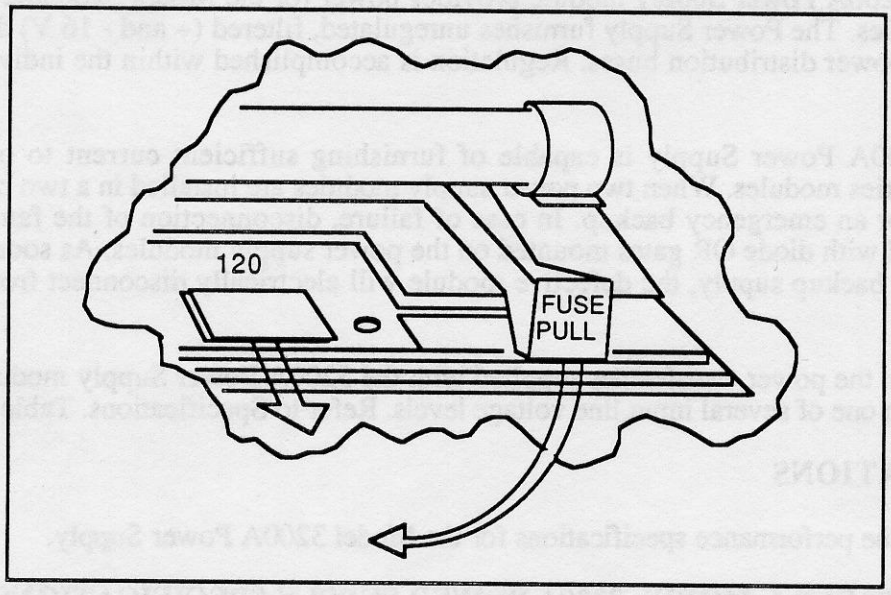


Figure 1. Line Voltage Selection

CIRCUIT DESCRIPTION

The output of split-winding transformer T1 is rectified by diodes D3 and D4 to produce the -16 V output, while diodes D5 and D6 produce the +16 V output. Filtering is provided by C1 and C2. Resistors R6 and R7 isolate the test points from the power rails.

Diodes D9, D10, D11 and D12 form a rectifier bridge which supplies DC to LED DS1; resistors R1, R2, R3 and R4 limit the current to the LED.

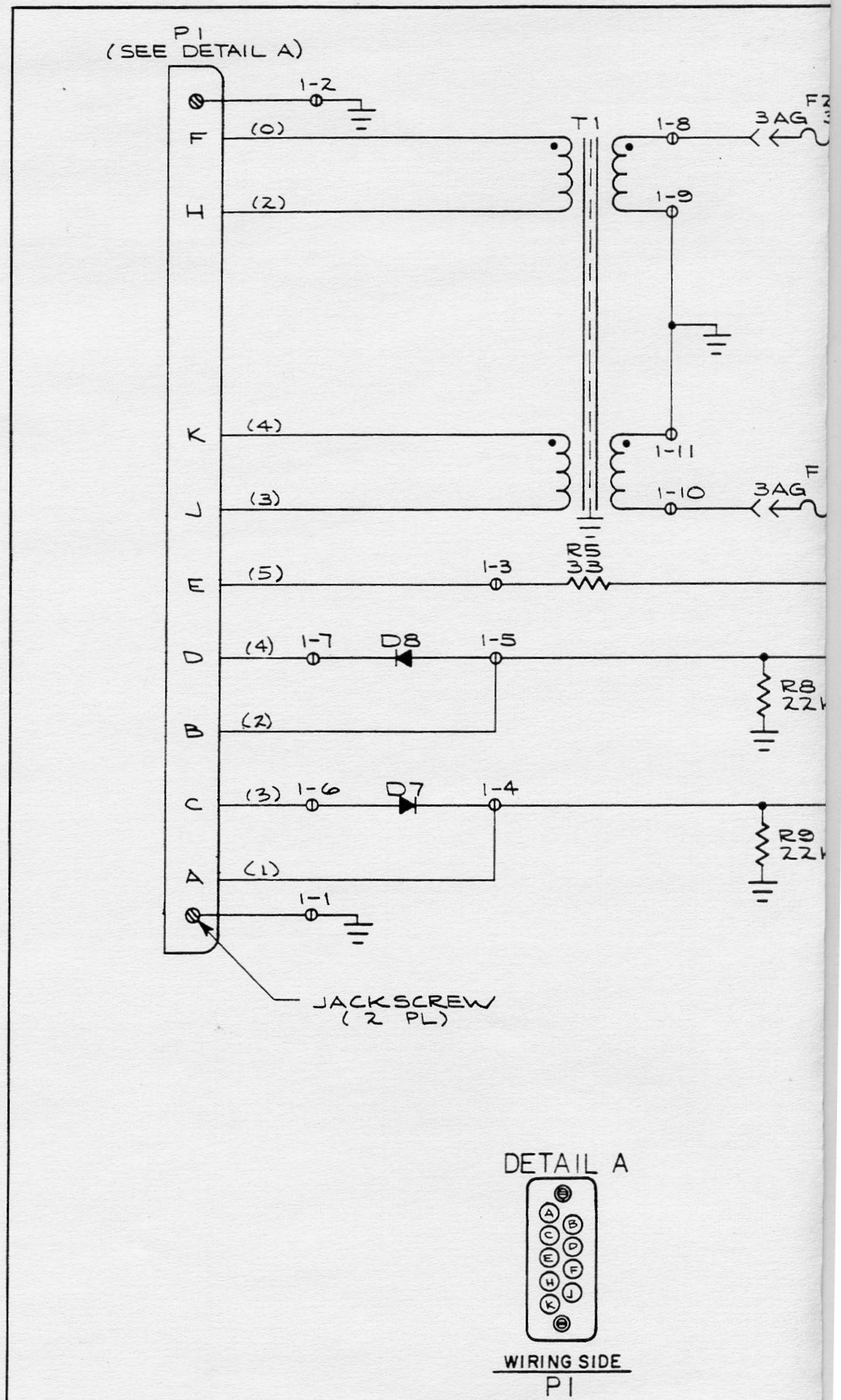
In some Grass Valley Group systems, two 3200A Power Supplies are used. In these systems, the output is taken from pins 3 and 4 of connector P1 rather than from pins 1 and 2. Diodes D7 and D8 are in series with the output and serve to isolate the two supplies. If one of the power supplies fails, these diodes act as switches to disconnect the defective supply from the power bus. The remaining supply then assumes the entire load.

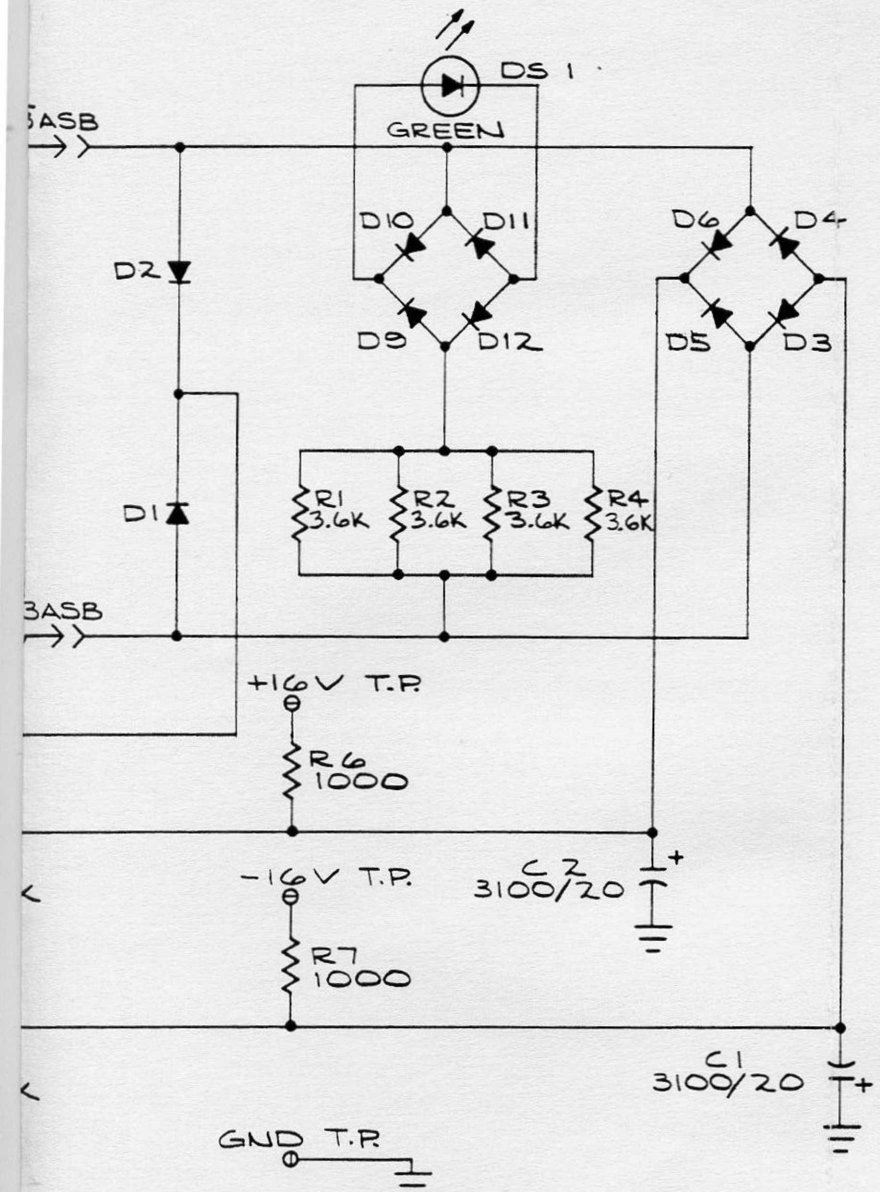
R E P L A C E M E N T P A R T S L I S T

POWER SUPPLY MODULE,3200
ASSEMBLY NUMBER: 061057-01, -11, -21 ISSUE: H ECN: J252

ITM NO	REFERENCE DESIGNATOR	GVG PART NUMBER	DESCRIPTION MFG CODE/PART NUMBER	QTY
003	C1,2	CB1040-00	CAP,ALUM 3100UF -10%+75% 20WV GVG/A70-CB1040-00 A1	2
006	D1,2,9,10,11,12	SB2001-00	DIODE,RECT 1N4002 100V@1A DO-41 GI/1N4002-00	6
007	D3,4,5,6	SB2009-00	DIODE,RECT MR500 50V@3A 267-01 GVG/A70-SB2009-00 A1	4
008	D7,8	SB2011-00	DIODE,RECT IR80SQ030 30V@5A 60 GVG/A70-SB2011-00 A1	2
024		FB4021-00	FUSE,3 AG SLO BLO 3 AMP GVG/A70-FB4021-00 A1	2
025		FB4031-00	FUSE,CLIP 3 AG PCB MTG GVG/A70-FB4031-00 A1	4
028	DS1	SB1021-00	DIODE,LED LL1950G GRN GVG/A70-SB1021-00 A1	1
029		SB1022-00	DIODE,LED LL80305 MTG CLIP GVG/A70-SB1022-00 A1	1
030		006354-00	MTG BRKT FOR LED	1
033	R5	RB2330-00	RES,33 OHM 2% 1/4W MTL FLM COR/C07 33R 2%	1
034	R6,7	RB2102-00	RES,1K OHM 2% 1/4W MTL FLM GVG/A70-RB2102-00 A1	2
035	R1,2,3,4	RB2362-00	RES,3.6K OHM 2% 1/4W MTL FLM COR/C07 3.6K 2%	4
037	R8,9	RB2223-00	RES,22K OHM 2% 1/4W MTL FLM COR/C07 22K 2%	2
040		TB6037-00	XFMR,PWR 117V 48-62HZ 13.87V CTM/10679	1
041		TB6037-10	XFMR, PWR 104V 48-62HZ 13.87V GVG/C70-TB6037-10 C2(VERSION -11)	1
042		TB6037-20	XFMR, PWR 104V 48-62HZ 13.87V GVG/C70-TB6037-20 C2(VERSION -21)	1
046		003623-00	CONN BRACKET 9 PIN	1
048		CC2010-00	CARD EJCTR,RTNR NYL WHT SAE/6101 WHITE	2
051		CF0251-00	CONN,PL 9POS MRAC PNL MNT GVG/A70-CF0251-00 A1052	1
		CF0292-00	CONN,PIN CNT 20 AWG 100 SER GVG/A70-CF0292-00 A1	9
053		CF0285-01	CONN,GUIDE MALE FIXED GVG/A70-CF0285-01 A1	2

REVISIONS				
SYM	ECO	DESCRIPTION	BY/DATE	APPD
C1	9661	ISSUE UPDATE	RRR 7-19-84	[illegible]
D1	9779	ISSUE UPDATE	DJB 8AUG84	[illegible]
E1	9856	ISSUE UPDATE	DJP 9 Oct 84	[illegible]
F1	9892	PC BOARD CHANGED FROM -01-03	NCW FEB 1986	
H1	9941	CHANGED POLARITY ON C1 SCHEMATIC ONLY	PVL 5-2-85	[illegible]





NOTES:

1. DIODES 1 & 2 ARE IN4002
2. DIODES 3 - 6 ARE MR500
3. DIODES 7 & 8 ARE IN5824/MBR 340M
4. DS 1 IS AN SB1021-00.
5. P1 IS A MALE WINCHESTER PLUG-TYPE MRAC 9P-G.
6. • TRANSFORMER DOTS INDICATE WIRING STARTS, NOT POLARITY.
7. ⊖ DENOTES BIFURCATED TURRETS ON PC BOARD.
8. UNLESS OTHERWISE SPECIFIED:

   ALL RESISTORS ARE 1/4 W, 5%
   ALL CAPACITORS ARE IN MICROFARADS
   DIODES: (SEE NOTES 1-3)
9. NUMBER(S) IN PARAENTHESIS INDICATE WIRE COLOR CODE.

TABLE 1

DASH NO.	USE XFMR GVG.#	INPUT VOLT. RANGE MIN.-NOM.-MAX.	T.P. VOLT. (NO LOAD) MIN.-NOM.-MAX.
-01	TB6037-00	100 - 117 - 125	16.2 - 19.1 - 20.5
-11	TB6037-10	89 - 104 - 111	16.2 - 19.1 - 20.5
-21	TB6037-20	110 - 130 - 139	16.2 - 19.1 - 20.5

MODULAR PRODUCTS

GRASS VALLEY GROUP
GRASS VALLEY CALIFORNIA — A TEKTRONIX COMPANY

DRAWN: DR — DATE: 29 JAN 80	SCHEMATIC DIAGRAM POWER SUPPLY MODEL 3200 A
ENGINEER: LS — DATE: 29 JAN 80	
CHECKED: JK — DATE: 19 FEB 80	
APPROVED — DATE	
RELEASED: JM — DATE: 29 JAN 80	SIZE: C — DRAWING NO.: 10-061057-SEE TABLE 1 — REV: H1
	SCALE: NONE — SHEET 1 OF 1

USED ON	NEXT ASSY
APPLICATION	

SIZE C DWG NO. 10-061057-SEE TABLE 1 SH 1 REV H1