

INSTRUCTION MANUAL

REGULATED POWER SUPPLIES

LOT-W-5152-A, LOT-X-5152-A

SPECIFICATIONS AND FEATURES

DC OUTPUT — Voltage regulated for line and load. For voltage and current ratings see table I below.

TABLE I

MODEL	VOLTAGE RANGE	MAXIMUM CURRENT (AMPS) AT AMBIENT TEMPERATURE		
		40°C	50°C	60°C
LOT-W-5152-A	5±5%	6.0	4.5	3.0
	±12 to ±15	1.0	0.750	0.400
LOT-X-5152-A	5 ±5%	3.0	2.2	1.4
	±12 to ±15	0.500	0.375	0.200

Current range must be chosen to suit the appropriate maximum ambient temperature. Current ratings apply for entire voltage range.

REGULATED VOLTAGE OUTPUT (each output)

Regulation (line)	0.15% for input variations from 105-125, 125-105, 210-250, or 250-210 volts AC.
Regulation (load)	0.15% for load variations from no load to full load or full load to no load.
Ripple and Noise	1.5mV rms, 5mV peak to peak.
Temperature Coefficient	0.03%/°C
Remote Programming (5V output only)	
External Resistor	Nominal 200 ohms/volt output. Use a low temperature coefficient resistor to assure most stable operation.
Programming Voltage	One-to-one voltage change. The programming supply must have a reverse current capability of 6 ma. min.
Remote Sensing	Provision is made for remote sensing to minimize the effect of power output lead resistance on DC regulation. Sensing leads should be a twisted pair to minimize AC pickup. A 2.5 mf, elect., capacitor may be required between output terminals and sense terminals to reduce noise pickup.

OVERSHOOT — No overshoot under conditions of power turn-on, turn-off, or power failure.

AC INPUT — 105-125 or 210-250 volts AC at 47-440 Hz. Standard LOT-W and LOT-X power supplies are factory wired for 105-125 volt input, but are available factory wired for 210-250 volt input. See Figure 1 and schematic diagram for rewiring of AC input. Input power*: 175 Watts (LOT-W) 90 watts (LOT-X). Power factor*: 0.8. Ratings apply for 57-63 Hz input. For 47-53 Hz input derate current 10% for each ambient temperature given in table I. For 63-440 Hz input consult factory.
*With output loaded to full current rating and input voltage 125 volts AC, 60 Hz.

TRACKING (±12 to ±15V output only) — Absolute difference between negative and positive outputs within 2%; 0.2% change for all conditions of line, load, and temperature.

OVERLOAD PROTECTION — Automatic electronic current limiting circuit, limits output current to a safe value, protecting load and power supply when overloads and direct shorts occur.

INPUT AND OUTPUT CONNECTIONS — See outline drawing for location.

AC input	Terminals on transformer
Ground	Terminal on transformer
DC output	Turret terminal on printed circuit board
Sensing	Turret terminal on printed circuit board
Overvoltage Protector	Quick disconnect terminal on printed circuit board with mating connector attached.

OPERATING AMBIENT TEMPERATURE RANGE AND DUTY CYCLE — Continuous duty from 0°C to +60°C ambient with corresponding load current ratings for all modes of operation.

STORAGE TEMPERATURE — -20°C to +85°C

DC OUTPUT CONTROL — Screwdriver voltage adjust controls permit adjustment of DC output voltages. One control simultaneously adjusts the dual (±12 to ±15V) outputs. A separate control is provided for the single, 5V output. See outline drawing for location of controls.

GUARANTEE — 60 day guarantee from date of shipment . . . materials and labor.

PHYSICAL DATA

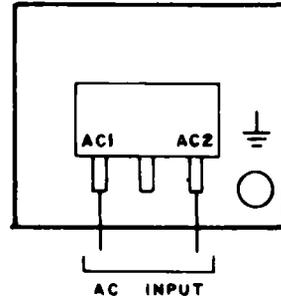
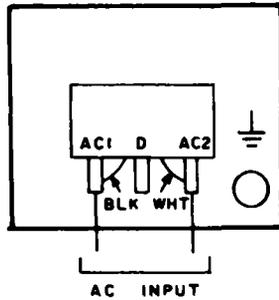
Size	LOT-W: 9" x 4-7/8" x 2-3/4"; LOT-X: 7" x 4-7/8" x 2-3/4"
Weight	LOT-W: 7-3/4 lbs. net, 8-1/4 lbs. shipping; LOT-X: 5-1/2 lbs. net, 6 lbs. shipping.
Finish	Gray, FED. STD. 595 No. 26081

MOUNTING — Three surfaces, each with clearance mounting holes, can be utilized for mounting this unit. Air circulation is required when unit is mounted in confined areas. Refer to Outline Drawing for mounting details.

"J" OPTION — Standard LOT-W and LOT-X power supplies can be obtained for 90-110 VAC, 47-440 Hz input. For 47-53 Hz input derate current 10% for each ambient temperature given in table I. For 63-440 Hz input consult factory.

ACCESSORIES

Overvoltage protector L-12-OV series Overvoltage Protectors are available.



* AC INPUT CONNECTION SHOWN IS FOR 105-125VAC
FOR 210-250V INPUT, DISCONNECT BLK & WHT TRANSFORMER
LEADS FROM TERMS AC1 & AC2 AND RECONNECT BOTH LEADS
TO TERM D

Figure 1. AC Input Connection.

Figure 2. AC Input Connection, "J" Option.

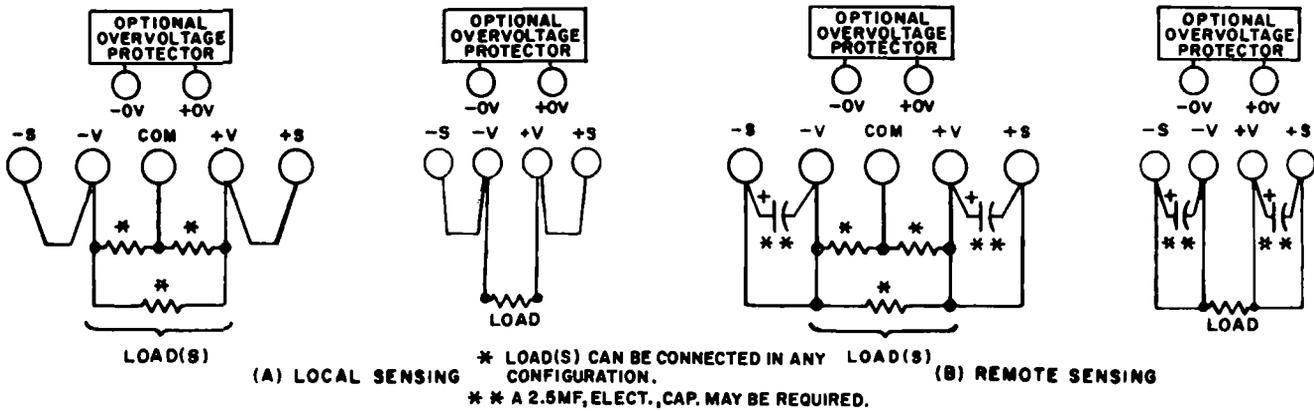


Figure 3. DC Output Connection.

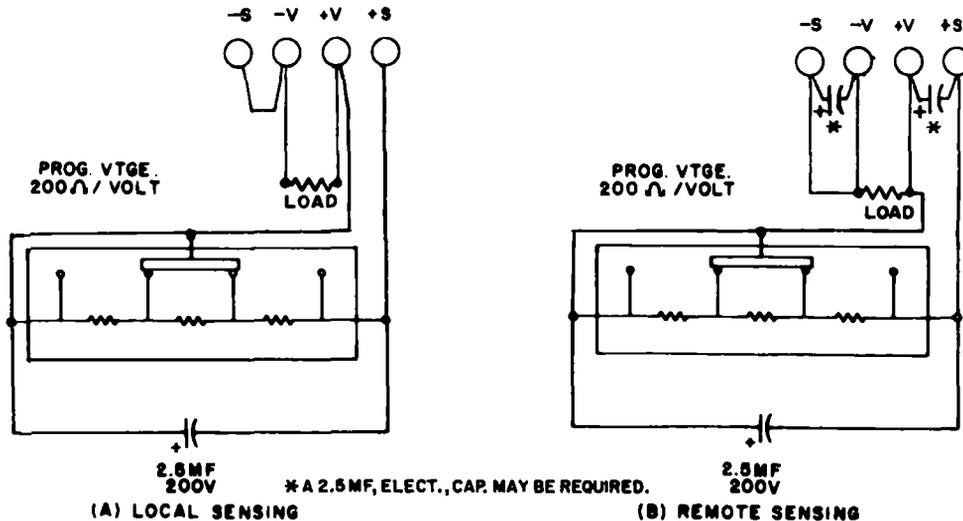
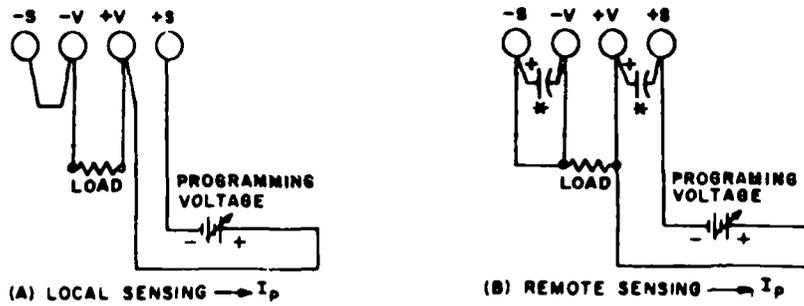
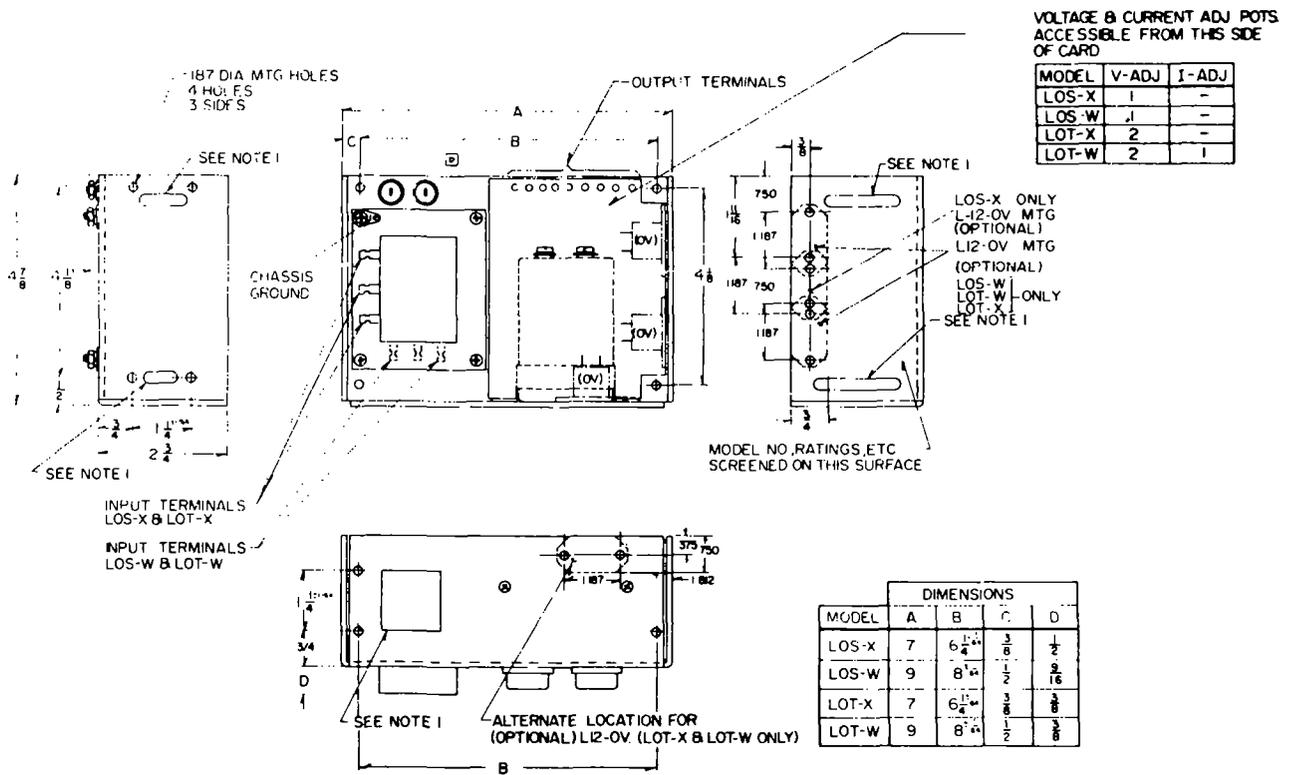


Figure 4. Programmed Voltage, With External Resistor (5V Output Only).



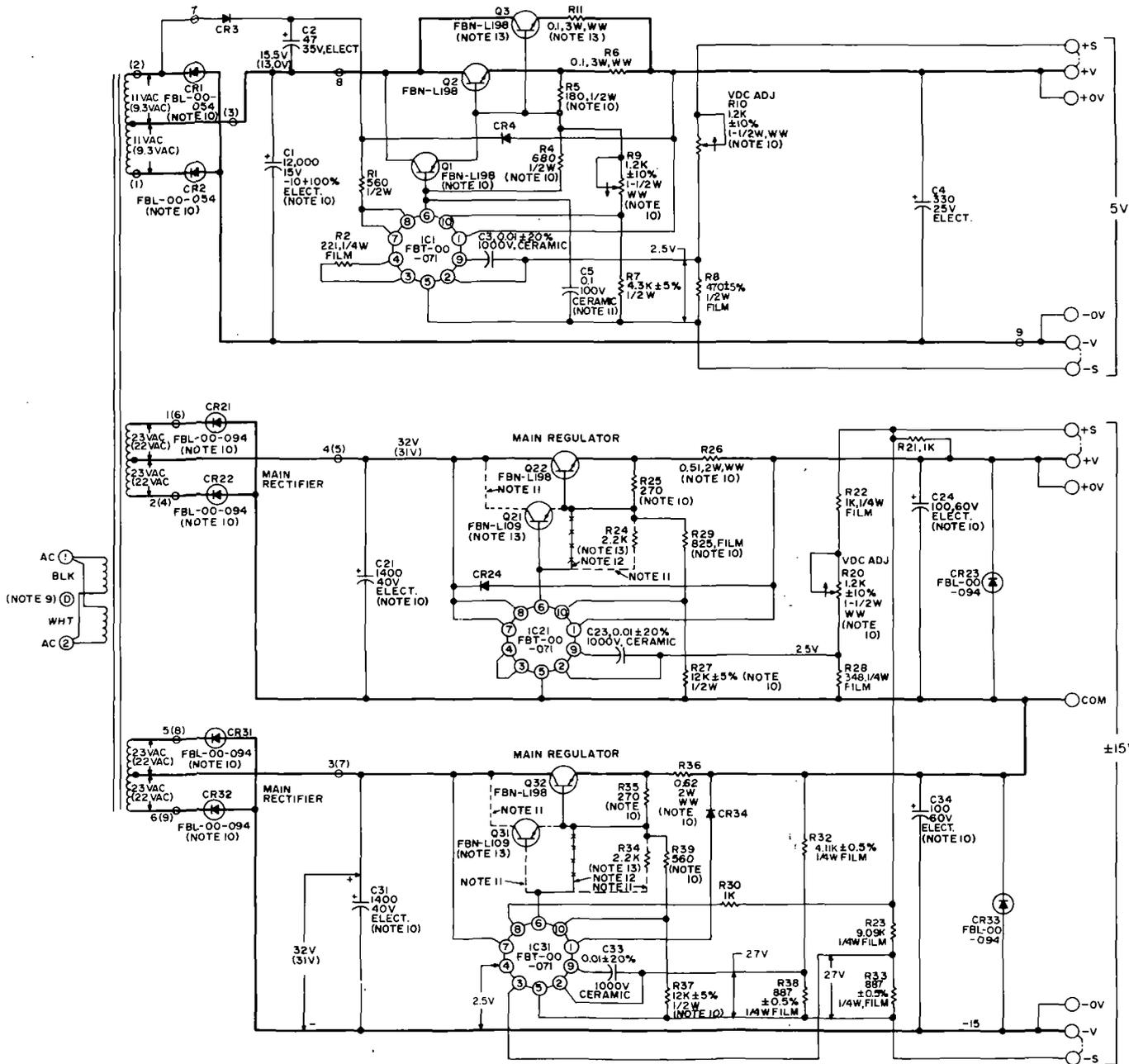
* A 2.5MF, ELECT., CAP. MAY BE REQUIRED.

Figure 5. Programmed Voltage, With External Programming Voltage Source (5V Output Only).



NOTES
1. CUSTOMER MUST PROVIDE CLEARANCE IN HIS MOUNTING SURFACE FOR VENT HOLES TO ALLOW FOR AIR CIRCULATION.

Outline Drawing.



- NOTES:
- RESISTORS ARE CARB.FILM 1/4W WITH VALUES IN OHMS, UNLESS OTHERWISE NOTED.
 - RESISTOR TOLERANCES: CARB.FILM ±5%, FILM ±1%, WIREWOUND 5%, UNLESS OTHERWISE NOTED.
 - CAPACITOR VALUES ARE IN MICROFARADS.
 - CAPACITOR TOLERANCES: ELECTROLYTIC -10 +75%.
 - DESIGNATIONS ARE LAMBDA PART NOS.
 - SYMBOLS:
 - ↑ INDICATES CLOCKWISE ROTATION OF SHAFT.
 - ⊥ INDICATES CONNECTION TO CHASSIS.
 - ✱ LAMBDA PART NO. FBL-00-030: USE IN 4002 DIODE FOR REPLACEMENT UNLESS OTHERWISE NOTED.
 - ⊙ INDICATES TERMINAL ON PRINTED CIRCUIT BOARD. TERM NOS. IN PARENTHESIS APPLY ONLY TO LOT-X-5152-A. TERM NOS. NOT IN PARENTHESIS APPLY ONLY TO LOT-W-5152-A.
 - INDICATES ACTUAL UNIT MARKING.
 - CONDITIONS FOR CIRCUIT POINT MEASUREMENTS: INPUT: 115 VAC, 60 HZ RATED VOLTAGE NO LOAD. INDICATED VOLTAGES ARE TYPICAL VALUES AND ARE D.C. UNLESS OTHERWISE NOTED. D.C. MEASUREMENTS TAKEN WITH 20,000 OHMS/V VOLT METER BETWEEN COM. AND INDICATED POINTS FOR ±15V OUTPUT; BETWEEN -V AND INDICATED POINTS FOR 5V OUTPUT UNLESS OTHERWISE NOTED. VOLTAGES IN PARENTHESIS APPLY ONLY TO LOT-X-5152-A. A SINGLE READING APPLIES TO BOTH MODELS.
 - DERATE CURRENT 10% FOR 47-53 HZ INPUT, FOR 63-440 HZ CONSULT FACTORY.
 - T1 PRIMARY CONNECTION SHOWN IS FOR 105-125 VAC INPUT. FOR 210-250 VAC INPUT: DISCONNECT BLK & WHT. TRANSFORMER LEADS FROM TERMINAL AC1 & AC2 RECONNECT BOTH LEADS TO TERM D.
 - COMPONENT VALUES LISTED IN THE FOLLOWING TABLE REFER TO MODEL LOT-X-5152-A.

COMP DESIG	VALUE	COMP DESIG	VALUE
C1	6900 MF 1000MF	R5	390, 1/2W
C21, C31	47MF, 35V	R9	750 ± 5%, 1/2W, COMP. FIXED
C24, C34	47MF, 35V	R10	12K ± 20%, 1W CERMET
CR1, CR2	FBL-00-116	R20	1K ± 10%, 1W, CERMET
CR21, CR22	FBL-00-030	R25, R35	1.2K
CR23, CR31	FBL-LI13	R26, R36	0.91, 2W, WW
CR32, CR33	820/1/2W COMP	R27, R37	12K ± 5%, 1/4W, FILM
Q1	FBL-LI13	R29	680 ± 2%, FILM
R1	4.7K, 1/2W	R38	330
R4	4.7K, 1/2W	R39	330

- ONLY USED ON LOT-W-5152-A.
- ONLY USED ON LOT-X-5152-A.
- R11, R24, R34, Q21, Q31 AND Q3 ONLY USED ON LOT-W-5152-A.

FOR WIRING OF POWER SUPPLY TO LOAD REFER TO SUPPLY-TO-LOAD WIRING DIAGRAMS.
 DOTTED CONNECTIONS SHOWN ON OUTPUT TERMS INDICATE JUMPERS IN PLACE FOR LOCAL SENSING CONNECTION

SCHEMATIC DIAGRAM
 REGULATED POWER SUPPLY
 MODELS
 LOT-W-5152-A
 LOT-X-5152-A

