



Figure 1. 544A Power Supply (2 Ampere)

#### FUNCTION

The function of the ALTEC 544A Power Supply is to provide a well-regulated and filtered 24 or 48 volts dc, 2 ampere power source for use in locations where Central Office battery supplies are not available.

#### SPECIFICATIONS

Type:	Regulated and filtered 24/48 V dc power supply
Output Voltage:	24 or 48V dc (selective)
Regulation Voltage:	24.00 $\pm$ 0.25V dc, line and load 48.00 $\pm$ 0.50V dc, line and load
Maximum Output Current:	2A
Power Required:	105 to 125V ac, 60 Hz at 120 watts
Ripple and Noise:	Less than 2 mv RMS
Monitor Facilities:	Four bridging monitor jacks, located on front panel, identified VOLTAGE 24V/48V and CURRENT .25MV/MA
Fuse:	2A/125V slow-blow fuse
Ambient Operating Temperature:	From 0° C to 50° C
Type of Termination (dc):	Barrier screw terminals
Dimensions:	7-3/16" H x 5-5/8" W x 7-5/16" D
Weight:	12 pounds, 8 ounces
Mounting:	Key Telephone Unit (KTU) mounting in equipment rack or frame
Special Features:	Self-protecting — permanent output short circuit or overload will not damage components or blow fuse

Output voltage is floating — either positive (+) or negative (-) may be grounded

#### DESCRIPTION

The ALTEC 544A Power Supply is a general purpose power supply which may be used in locations where a small, well-regulated dc power source or a very "quiet" dc power source is required.

The power supply provides 24 or 48V dc (selected by an internal switch) and a maximum current of 2 amperes. The unit is extremely well regulated and the output is fully protected to prevent any damage if a short circuit or overload condition is placed across the output.

A current limiter, within the power supply, limits the output current to 2.6 amperes under short circuit or overload conditions. A thermal switch, mounted on the heatsink, interrupts the current as soon as the heatsink temperature reaches approximately 88° C (190° F). Normal operation is automatically restored as soon as the heatsink temperature reaches approximately 71° C (160° F).

The output voltage is floating. This permits grounding either the positive (+) or negative (-) side of the power supply as required.

Critical dimensions are shown in Figure 2.

#### APPLICATION

The ALTEC 544A Power Supply is designed for KTU mounting within an equipment rack or frame. It may be used to power electronic modules such as voice-frequency repeater amplifiers, data repeater amplifiers, compressor amplifiers, power amplifiers, active equalizers, echo suppressors, termination units, etc., or to provide dc simplex control voltages over communication circuits. It is used wherever there is a requirement for a well regulated, filtered, quiet 24 or 48V dc source up to 2 amperes.

#### INSTALLATION

To gain access to the interior of the ALTEC 544A Power Supply, loosen the captive thumb screws at the top and bottom of the unit and slide the cover forward.

Place the voltage selector switch (S2), located on the printed circuit board, in the 24 or 48V dc position as required.

The power supply is equipped with a 3-conductor power cord, six feet in length. The power cord may be made shorter, if desired, by cutting off the excess length and reconnecting it to terminal board TB1 (located inside the unit) as shown in Figure 3, preferably using insulated crimp lugs.

Replace the front cover and secure the power supply to the horizontal mounting rails of the KTU equipment rack or frame, using the four mounting screws supplied with the unit.

*Specifications and components subject to change without notice. Overall performance will be maintained or improved.*



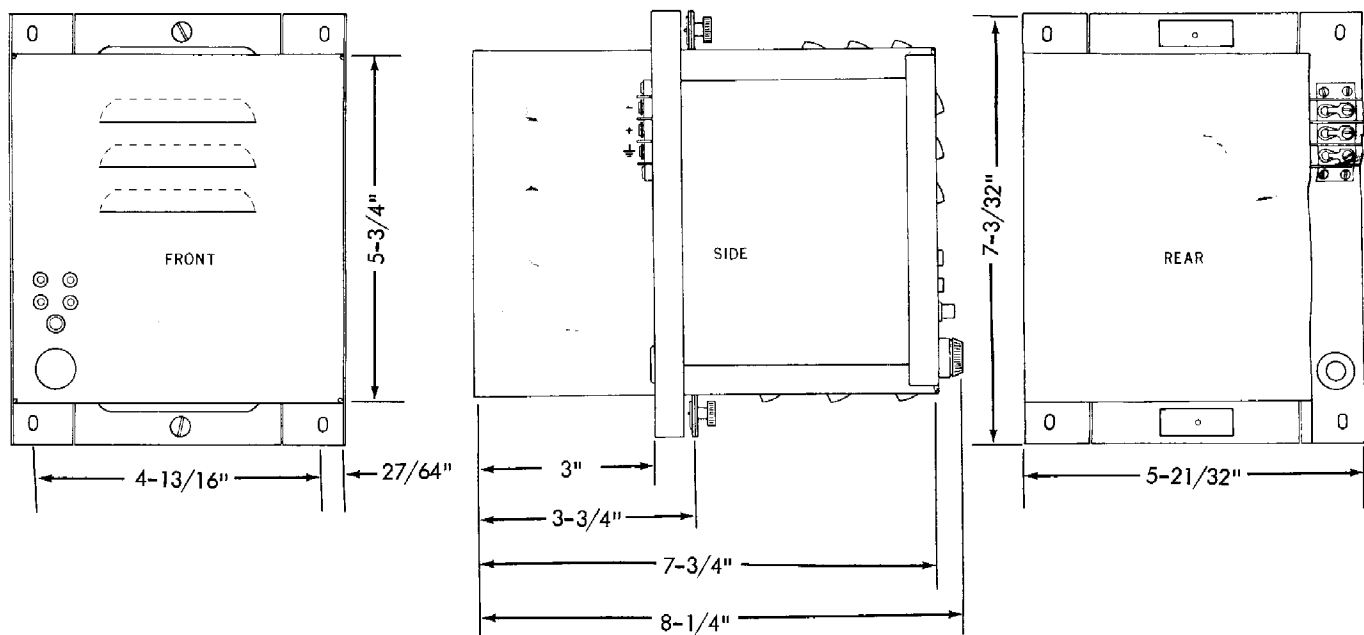


Figure 2. Dimensional Drawing

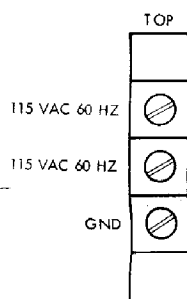


Figure 3. Connections at Terminal Block TB1

Connect the dc power leads to the corresponding dc positive (+) and negative (-) terminals of terminal board TB2 located on the rear of the unit next to the heatsink. The ground terminal should be connected to a metallic circuit ground. If required, the positive (+) or negative (-) terminal may be connected to the ground lug on the terminal block.

The output voltage may be measured with a voltmeter at the VOLTAGE 24V/48V monitor jacks located on the front panel.

The current drain MUST be measured with a VOLTMETER without a ground connection at the CURRENT.25MV/MA monitor jacks located on the front panel.

**NOTE**  
This is a reference reading where 0.25 mV corresponds to 1.0 mA. As shown in Figure 4, when the voltmeter indicates 200 mV, the output current drain is 800 mA.

**CAUTION**  
DO NOT use an AMMETER at the monitor jacks to measure the current or the power supply may become damaged.

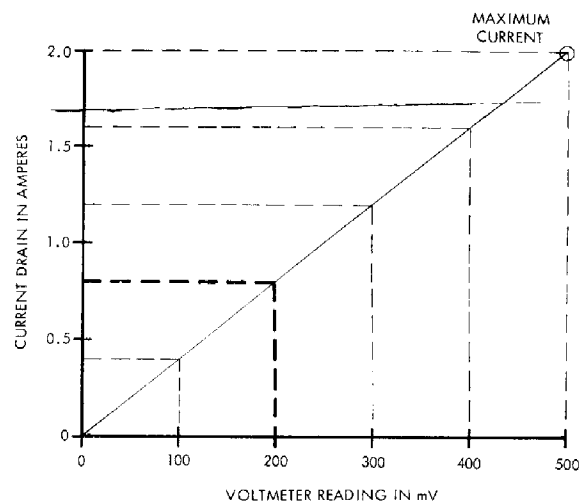


Figure 4. Voltage/Current References

The ALTEC 544A Power Supply is calibrated at the factory to provide exact voltage outputs of 24V dc and 48V dc. If it is necessary to make a minor voltage adjustment for 24V, place the voltage selector switch (S2) in the 24V position and adjust potentiometer R13 to indicate 24V dc on a voltmeter connected to the VOLTAGE 24V/48V monitor jacks (see Figure 5).

To adjust for 48V, place S2 in the 48V position and adjust potentiometer R11 to indicate 48V on the voltmeter.

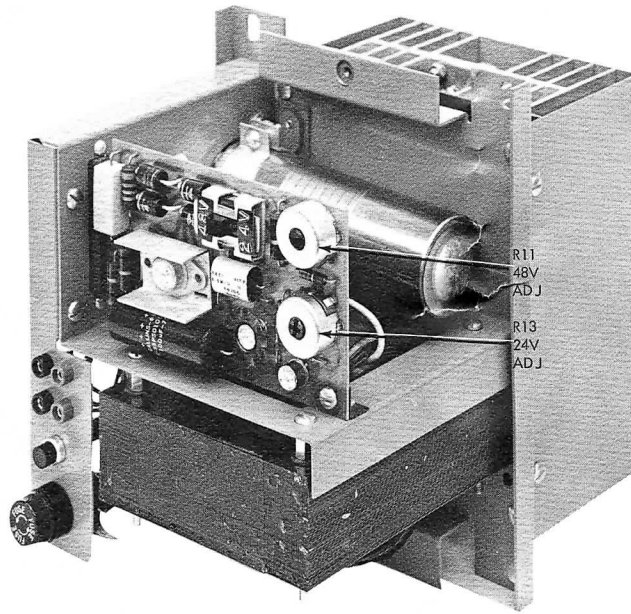


Figure 5. Interior View of ALTEC 544A Power Supply

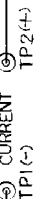
## MAINTENANCE

The ALTEC 544A Power Supply is of modular design to facilitate routine maintenance and service. The printed circuit board (see Figure 6) plugs into the chassis and may be removed for servicing; however, it is recommended the unit be returned to ALTEC for repair and calibration to the original specifications.

If a malfunction occurs, contact the Order Manager — Telecommunications Products, ALTEC Lansing, 1515 South Manchester Avenue, Anaheim, California 92803 to obtain ALTEC return authorization documents to expedite repair and return of the unit. The power supply should then be returned with the documents to ALTEC. For additional information or technical assistance, call (714) 774-2900, or TWX 910-591-1142.

## PARTS LIST

Reference Designator	Ordering Number	Name and Description	Reference Designator	Ordering Number	Name and Description
C1	15-01-110967-01	Cap., 1900 $\mu$ F, 75V	R8	47-02-110785-01	Res., 1.1 $\Omega$ $\pm$ 5%, 1W
C2	15-01-110301-01	Cap., 100 $\mu$ F, 75V	R9	47-02-110784-01	Res., 0.33 $\Omega$ $\pm$ 5%, 5W
C3	15-06-107426-01	Cap., 1 $\mu$ F, 50V	R10	47-01-100650-01	Res., 1.5K $\Omega$ $\pm$ 10%, 1W
C4	15-01-110300-01	Cap., 550 $\mu$ F, 75V	R11	47-05-107504-01	Pot., 500 $\Omega$ $\pm$ 20%, 2W (48V adjust)
CR1,2,3,4	48-02-107467-01	Diode, rectifier	R12	47-01-102353-01	Res., 680 $\Omega$ $\pm$ 10%, 1/2W
CR5,6	48-01-100850-01	Diode, Zener, 6.2V	R13	47-05-107329-01	Pot., 250 $\Omega$ $\pm$ 20%, 2W (24V adjust)
DS1	39-03-110005-01	Assembly, pilot lamp, red	R14	47-01-102354-01	Res., 820 $\Omega$ $\pm$ 10%, 1/2W
F1	51-04-110782-01	Fuse, 2A, slow blow	S1	53-01-110968-01	Switch, thermal, close 150 $\pm$ 10° F, open 190 $\pm$ 5° F
J1	21-02-100754-01	Connector, 10-pin	S2	51-02-110297-01	Switch, 3 PDT
J2	21-02-107441-01	Connector, 9-pin	T1	56-08-007402-06	Transformer
P1	21-03-107442-01	PCB connector strip, 10-pin	TB1	21-04-110295-01	Terminal board, 3-terminal
P2	21-01-107440-01	Plug, 9-pin	TB2	21-04-101056-01	Terminal board, 3-terminal
Q1,2,3	48-03-040934-02	Transistor	TP1,4	21-01-100501-01	Test point, black
Q4	48-03-108636-01	Transistor	TP2,3	21-01-100500-01	Test point, red
Q5,6	48-03-040461-01	Transistor	None(4 each)	28-01-110136-01	Screws, 10-32 x 1/2"
R1,2	47-01-100649-01	Res., 1K $\Omega$ $\pm$ 10%, 1W			
R3,4,5	47-02-107434-01	Res., 0.33 $\Omega$ $\pm$ 10%, 2W			
R6	47-01-102363-01	Res., 4.7K $\Omega$ $\pm$ 10%, 1/2W			
R7	47-01-102167-01	Res., 2.2K $\Omega$ $\pm$ 10%, 1/4W			



ITEM NO.	QTY REQD.	PART NUMBER	ORIGINAL DATE OF ORDERING	DESCRIPTION	MATERIAL	NOTE
UNLESS OTHERWISE SPECIFIED			5-31-70	POWER SUPPLY 24V/45V 2A (SHORTCIRCUIT)		ALTEL ELECTRONICS® A Division of Sylvania Ind. Inc. ANAHEIM, CALIFORNIA
DIMENSIONS ARE IN INCHES			DR. BY GERVASIO			
FRACT. 2 PLACE DEC. 3 PLACE DEC.			CHKD.			
NEAT ASBY	544A	ENGR. A. B.	ENGR. J. J. J.			
USED ON						
APPLICATION						
				SCALE NONE	CODE	SHEET 1 OF 1

SALES UNLESS OTHERWISE INDICATED.

Figure 6. Schematic, ALTF-44A Power Supply (2 Ampere)