



## DESCRIPTION

Quantum increases in the sophistication of modern sound systems have been paralleled by rapid and significant advances in the design of amplifiers intended to power these systems. The first generation of 'super amplifiers' successfully met the challenge of generating massive wattage from a single source.

As system demands continue to rise, however, output capability alone no longer represents the full measure of professional performance. The ALTEC LANSING 1268 Power Amplifier harnesses super amp brute strength to state-of-the-art computer protection circuitry. Designed to protect itself and the acoustic elements it drives, the 1268 is 200+ watts of **controlled** power in the bridge mode.

The 1268 provides continuous high power demand where uninterrupted operation is requisite. Two channels may be operated independently to deliver 60 watts per channel at less than 0.03% THD from 20 Hz to 20 kHz.

**Peak/Error Computer** The amplifier is provided with a peak/error computer that compares channel input and output signals and detects any output errors. Detection of any peak/error causes the appropriate peak/error indicator to illuminate. Output anomalies detected include excessive voltage, excessive current (load),

excessive slew rate, and any other significant difference between the channel input and output signal.

**Amplifier Protection** The amplifier output is continuously monitored to guard against excessive current drain. An instantaneous VI limiter restricts output to 100 VA  $\pm 45^\circ$  phase shift. The amplifier is additionally protected against excessive operating temperature; if temperature rises excessively, the load is disconnected by a relay and the protection indicator illuminates. When temperature falls to safe operating conditions, the amplifier automatically resumes operation.

**Load Protection** The load is protected from transients during startup and shutdown of the amplifier. During startup, the load remains disconnected through a relay during a three-second delay period. During shutdown or loss of power, the load is instantaneously disconnected by the relay. The load is similarly protected against amplifier failure, such as dc voltage at the output.

The ALTEC Model 1268 Power Amplifier has less than 0.05% total harmonic distortion (THD) while delivering more than 60 watts per channel into 8-ohm loads.

The 1268 may be operated from a 120V or 240V, 50/60 Hz ac source. An LED indicates ac power.

**SPECIFICATIONS:**

<b>Type:</b>	Two-channel basic power amplifier
<b>Power Gain:</b>	46.5 dB (balanced) bridging 600-ohm line with 8-ohm load 52.5 dB (balanced) bridging 600-ohm line in bridge (mono) mode with 8-ohm load
<b>Voltage Gain:</b>	29.0 dB (unbalanced)
<b>Input Sensitivity:</b>	0.775V rms for rated output
<b>Power Output:</b>	60 watts per channel into 8 ohms, both channels driven from 20 Hz to 20 kHz at less than 0.03% THD Typically greater than 75 watts per channel into 8 ohms at 1 kHz at less than 0.01% THD
<b>Bridge (mono) Operation:</b>	Typically greater than 200 watts into 8 ohms from 20 Hz to 20 kHz at less than 0.05% THD
<b>IM Distortion (single channel):</b>	Less than 0.03% from 0.01 watt to 60 watts into 8 ohms (60 Hz, 7 kHz, 4:1)
<b>Frequency Response (direct input):</b>	$\pm 0.25$ dB at 1W (8 ohms) from 20 Hz to 20 kHz +0 dB, -3 dB at 1W (8 ohms) from 5 Hz to 100 kHz
<b>Input Impedance:</b>	15,000 ohms (nominal for all inputs)
<b>Load Impedance:</b>	4 ohms or greater $\pm 45^\circ$ or less 8 ohms or greater $\pm 45^\circ$ or less in bridge (mono) mode
<b>Output Impedance:</b>	Less than 0.1 ohm in dual mode at 1 kHz Less than 0.2 ohms in bridge (mono) mode at 1 kHz
<b>Signal-to-Noise Ratio:</b>	Greater than 100 dB unweighted with 600-ohm source impedance volume at maximum
<b>Channel Separation:</b>	Greater than 70 dB at 1 kHz

<b>Slew Rate:</b>	18 V/ $\mu$ sec
<b>Controls:</b>	2 stepped attenuators 1 MODE switch (mono or dual operation) 1 ac POWER ON-OFF switch 1 ac power indicator (LED) 2 peak/error indicators (LED); indicate excessive input/output differential for each channel; shows THD greater than 1% and transient errors. Response time: 1 microsecond with 25 millisecond hold for visibility. 1 PROTECTION indicator (LED); indicates operation of load/amplifier protection system. 2 channel input receptacles (Cannon type) 4 channel output jacks (5-way binding post type) 2 phone jack multiple receptacles (to connect additional amplifiers) 8-foot, 3-wire, 16GA power cord with NEMA 5-15 plug

<b>Power Requirements:</b>	120/240V ac, 50/60 Hz 50W at zero signal 150W at $\frac{1}{3}$ rated output (8 ohms) with both channels driven at 1 kHz 225W at rated output (8 ohms) with both channels driven at 1 kHz
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<b>Amplifier Protection:</b>	Active output stage with voltage/current limiting. Temperature sensor.
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<b>Load Protection:</b>	Output relay delays turn-on of output power for 3 seconds. Provides instant turn-off of output power and removal of load during presence of dc voltage in output, or in event of excessive heat sink temperature
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<b>Operating Temperature Range:</b>	Up to +55° (131°F) ambient
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<b>Dimensions:</b>	3½" (8.9 cm) H 19" (48.3 cm) W 10" (25.4 cm) D
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<b>Color:</b>	Black
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<b>Enclosure:</b>	Rack mount chassis with heavy duty front handles
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**ARCHITECT'S AND ENGINEER'S SPECIFICATIONS**

The power amplifier shall be capable of operating from a 120/240V ac, 50/60 Hz line. Circuitry shall provide protection for the output transistors and the load.

The power amplifier shall meet the following criteria. Gain: 46.5 dB with line transformer bridging 600-ohm line with 8-ohm load. Input sensitivity: 0.775V rms for rated output. Power output: 60 watts per channel into 8 ohms, both channels driven from 20-20,000 Hz at less than 0.03% THD. Frequency response with direct input:  $\pm 0.25$  dB at 1W (8 ohms) from 20-20,000 Hz. Input impedance (nominal):

15,000 ohms. Load impedance: at least 4 ohms/channel; at least 8 ohms in bridge (mono) mode. Output impedance: less than 0.1 ohm in dual mode at 1000 Hz; less than 0.2 ohm in bridge (mono) mode at 1000 Hz. Signal-to-noise ratio: more than 100 dB unweighted with 600-ohm source impedance volume at maximum. Channel separation: more than 70 dB at 1000 Hz. Operating temperature range: up to 55°C (131°F) ambient. Dimensions: 3½" H x 19" W x 10" D. Color: black. Enclosure: rack mount chassis with heavy duty front handles.

The power amplifier shall be the ALTEC Model 1268.



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ALTEC CORPORATION

# OPERATING INSTRUCTIONS

## INSTALLATION

### Rack Mounting

The 1268 may be installed in a standard 19-inch equipment rack, or in the 42526 Shelf Mount Cover Accessory for shelf use. Vertical space required is 3 1/2". Rack installation is accomplished by using the appropriate four mounting screws supplied.

### Ventilation

The 1268 must be adequately ventilated to prevent excessive temperature rise. Maximum rated ambient operating temperature is 55°C (131°F).

### CAUTION

Do not block the side ventilation apertures on either side of the main frame. Allow at least 2" on each side of the main frame to assure adequate ventilation. Do not operate within a completely closed, unventilated housing.

### 100V, 200V, 220V, 240V, 50/60 Hz Power Connections

Refer to Authorized Altec Service Representative.

### Input Connections

Unbalanced input connections are made at the unbalanced input connector, using shielded single-conductor cables terminated with standard 1/4-inch phone jacks. See Figure 1. In preparing the cable, the conductor is soldered to the tip of the jack, and the shield is soldered to the sleeve. Alternately, unbalanced connections may be made to the XLR-3 type receptacle or the balanced input screw terminals; however,

jumpers must be installed (pins 1 to 8 ; and pins 6 to 7) in the input transformer socket as shown in Figure 1.

Balanced input connections are made at the input screw-terminal connectors or the XLR-3 type connectors. The Model 15335A Input Transformer Modules must be installed in the sockets. See Figure 1. Wiring for the XLR-3 type connector is shown in Figure 2. Pin 2 is high, as on all Altec Lansing Products.

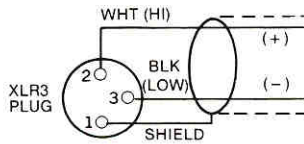


Figure 2. Wiring for XLR-3 Type Connector

### Line Out Connections

Connections to LINE OUT receptacles are made with shielded single-conductor cables terminated with standard 1/4-inch phone jacks. When channels are operated independently (stereo operation) a cable must connect each channel of each additional 1268 amplifier connected in multiple. When channels are operated in the bridge mode, only the left channel of each additional 1268 requires a connecting cable.

### Output Connections

Output connections are made at the Channel 1 and 2 OUTPUT terminals. Figure 3 illustrates connections for independent (stereo) operation and for bridged operation.

### GND and COM Connections

The GND (chassis ground) and COM (electrical common) terminals are disconnected only when required to correct unsatisfactory grounding conditions for system configurations.

## STEREO (INDEPENDENT CHANNEL) OPERATION

1. After installation and hookup of connections as in Figure 3A, check that the BRIDGE/STEREO switch is positioned at STEREO, and that the CHANNEL 1 and 2 volume controls are turned fully counterclockwise ( $\infty$ ).
2. Set input signal level to the 1268 at a nominal value of 0.775V.
3. Turn on ac line POWER switch. Power indicator illuminates; protection indicator illuminates momentarily, then extinguishes after a few seconds.
4. Turn CHANNEL 1 and 2 volume controls clockwise until desired output power is obtained.

## BRIDGE (MONO) OPERATION

1. After installation and hookup of connections as in Figure 3B, check that the BRIDGE/STEREO switch is positioned at BRIDGE, and that the CHANNEL 1 and 2 volume controls are turned fully counterclockwise ( $\infty$ ).
2. Set input signal level to the CHANNEL 1 INPUT of the 1268 at a nominal value of 0.775V. (The Channel 2 INPUT is left unconnected.)
3. Turn on ac line POWER switch. Power indicator illuminates; protection indicator illuminates momentarily, then extinguishes after a few seconds.
4. Turn CHANNEL 1 volume control clockwise until desired output power is obtained. Be sure to leave CHANNEL 2 volume control fully counterclockwise.

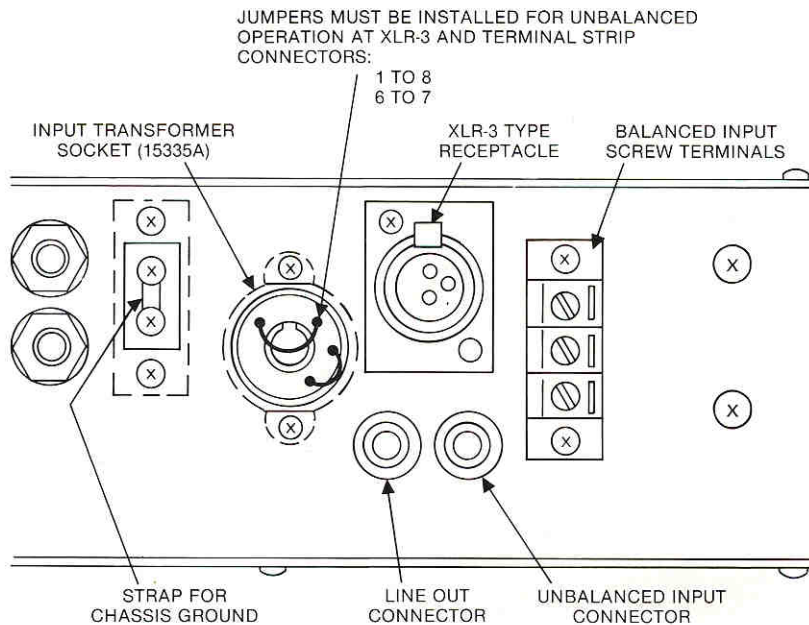
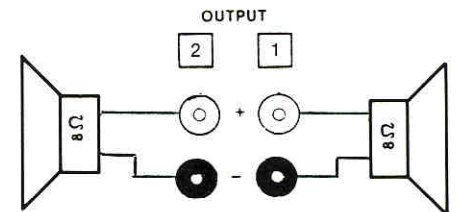
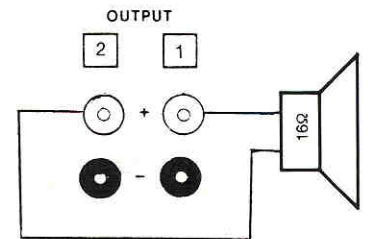


Figure 1. Input Connectors



3A. Independent Operation



3B. Bridge Operation

Figure 3. Output Connections

# SERVICE INSTRUCTIONS

This service information is for the use of authorized warranty stations (dealers) only. Service must be performed by an Altec Qualified Service Representative.

### NOTE

**REPAIR PERFORMED BY OTHER THAN AUTHORIZED WARRANTY STATIONS (DEALERS) OR OTHER QUALIFIED PERSONNEL SHALL VOID THE WARRANTY PERIOD OF THIS UNIT. TO AVOID LOSS OF WARRANTY, SEE YOUR NEAREST ALTEC AUTHORIZED DEALER OR CALL ALTEC CUSTOMER SERVICE DIRECTLY AT (405) 324-5311 OR WRITE:**

**ALTEC Customer Service  
P.O. Box 26105  
Oklahoma City, OK 73126**

For factory service, ship the 1268 prepaid to ALTEC Customer Service/Repair, 10500 W. Reno Ave., Oklahoma City, OK 73128. For information, call (405) 324-5311 or Telex 74-8510.

### Access

Remove eight screws securing top cover of chassis; raise front edge of cover and pull forward to disengage cover from chassis.

### Fuse Replacement

If replacement of any fuse is required, determine and correct the cause of failure before installing another fuse. Install an identical fuse as specified by the PARTS LIST.

The primary power fuse is located on the rear of the chassis. Replace fuse by unscrewing fuse holder, replacing 5A ampere fuse and resealing fuse holder.

### CAUTION

Replace fuses only with identical type and rating. See PARTS LIST. Use of different fuses voids warranty of 1268.

### 120 Volt, 50/60 Hz Power Connections

Equipment supplied for domestic use is provided with the power transformer primary strapped for 120 volts. Specified voltage rating is located on the chassis, adjacent to the power cord. Verify that line voltage is in accordance with the specified voltage rating **before** connecting the 1268 to line power.

**CAUTION:** No user-serviceable parts inside. Hazardous voltage may be encountered within the chassis. Installation and Service information within this document is for use only by ALTEC sound contractors, factory authorized warranty stations and qualified service personnel.

**IMPORTANT:** Il est enjoint à l'utilisateur de ne pas réparer lui-même les pièces internes de l'appareil, des courants à haute tension pouvant passer à l'intérieur du châssis. Les renseignements inclus dans ce document sont destinés uniquement à l'usage des installateurs agréés des systèmes acoustiques ALTEC, des centres de réparation sous garantie autorisés, ainsi que du personnel d'entretien qualifié.

### 100V, 200V, 220V, 240V, 50/60 Hz Power Connections

Export equipment requires restrapping of the power transformer primary for voltages other than 120V, 50/60 Hz. To change primary power operation voltage of the 1268, refer to the conversion chart to Table 1 and proceed as follows:

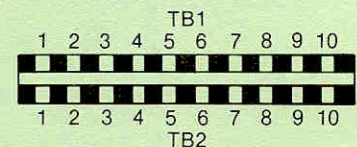
1. Remove eight screws securing top cover of chassis; raise front edge of cover and pull forward to disengage cover from chassis.
2. Locate terminal block TB1/TB2 within the chassis; see Figure 1.
3. Referring to Table 1, disconnect leads of transformer T1 from terminal block TB1/TB2 and reconnect leads in accordance with terminal designations that correspond to the desired operating voltage. Pull each wire firmly to disengage push-on terminal connector. Press each connector firmly to snap in place.
4. Select the appropriate voltage rating label from the voltage rating label strip supplied with the 1268. Affix label over previous voltage rating designation on chassis.
5. Install top cover and secure with eight screws previously removed.

Table 1. Primary Power Conversion Chart for 100V, 120V, 200V, 220V, and 240V 50/60 Hz Operation

PRIMARY LEAD VOLTAGE	TRANSFORMER LEAD COLOR					
	T1-BN	T1-WH	T1-BK	T1-BN/WH	T1-WH/GN	T1-BK/WH
100V	TB2-9	TB1-6	TB2-3	TB2-8	TB1-7	TB2-4
120V	TB1-6	TB2-9	TB2-3	TB1-7	TB2-10	TB2-4
200V	TB1-10	TB1-6	TB2-9	TB2-6	TB2-10	TB2-3
220V	TB1-10	TB1-6	TB2-6	TB2-7	TB2-10	TB2-3
240V	TB1-6	TB1-10	TB2-6	TB2-7	TB2-10	TB2-3

### PERMANENT AC POWER CONNECTIONS\*

AC Cord (white) TB2-2  
 Fuse F1 TB1-2  
 Power Switch S1 TB1-3  
 Power Switch S1 TB1-5  
 Capacitor C2 TB1-1  
 Capacitor C1 TB2-1



FRONT OF CHASSIS

\*Do not make any wiring changes of these wire connections when altering the amplifier for a different primary operation voltage.

### PARTS LIST MAIN CHASSIS

Reference Designator	Ordering Number	Name and Description
--	24-04-122892-02	Knob, blk gloss/whit line
A1	27-01-045639-05	Left Channel Output
A2	27-01-045642-05	Right Channel Output
A3	27-01-045645-07	Power Supply/Control
C3	15-01-109010-01	Cap., 18µF ± 10%, 50V
C6,7	15-01-123176-02	Cap., 10pF + 75/- 10%, 75V
CR1,2,3,5	39-01-122876-01	LED, red, 2V
CR4	48-02-122651-01	Rect., Bridge, 25V, 200V

Reference Designator	Ordering Number	Name and Description
F1	51-04-100470-01	Fuse, 5A, 3AG
K1	45-01-044782-01	Relay, 2C, 24V
R1,2	47-06-122802-04	Pot., 15 kΩ ± 15%
R3	47-01-100635-01	Res., 22Ω ± 10%, 1W
S1	51-02-122875-02	Switch, DPST, rocker, 16A
S2	51-02-122828-01	Switch, 1P1T, slide
T1	56-08-007699-07	Transformer, power

PARTS LIST (Continued)

RIGHT CHANNEL OUTPUT PCB ASSEMBLY (27-01-045642) AND  
LEFT CHANNEL OUTPUT PCB ASSEMBLY (27-01-045639)

Reference Designator	Ordering Number	Name and Description
C1,13	15-01-107221-01	Cap., 5 $\mu$ F, 25V
C2	15-02-100024-02	Cap., 100 pF $\pm$ 10%, 500V
C3	15-01-108605-01	Cap., 100 $\mu$ F + 100/- 10%, 15V
C4	15-02-100034-01	Cap., 390 pF $\pm$ 10%, 500V
C5	15-02-100014-01	Cap., 15 pF $\pm$ 5%, 500V
C6	15-02-102603-01	Cap., 120 pF $\pm$ 10%, 100V
C7,8,15	15-02-122891-01	Cap., 100 nF $\pm$ 20%, 50V
C9	15-02-100109-01	Cap., 100 nF $\pm$ 20%, 100V
C10,11	15-01-102595-01	Cap., 10 mF + 100/-10%, 100V
C12	15-01-121637-01	Cap., 1.0 $\mu$ F, 35V
C14	15-02-100027-01	Cap., 150 pF $\pm$ 10%, 500V
C17	15-02-108584-01	Cap., 27 pF $\pm$ 10%, 100V
CR1,2,9,10,13,14	48-01-122601-01	Diode, signal, 1N4448, 75V, 10 mA
CR3,4,15	48-01-108576-02	Diode, zener, 15V $\pm$ 10%, 33.5 mA, 2W
CR8	48-01-122226-01	Diode, zener, 3.1V $\pm$ 5%, 1.45 mA, 0.4W
CR11,12	48-02-042787-01	Rect., 1N4004, 1A, 400V
L1	56-01-122770-01	Choke, 2.5 mH
Q1	48-03-120233-01	Transistor, MPS-A43, NPN
Q2,3,9	48-03-120160-01	Transistor, SPS6870K, selected, PNP
Q4	48-03-112928-03	Transistor, TZ24, NPN
Q5,8	48-03-120159-01	Transistor, MPS-U10, NPN
Q6	48-03-121306-02	Transistor, 2N3904, NPN
Q7	48-03-107102-02	Transistor, 2N3906, PNP
Q10	48-03-122320-01	Transistor, 66IE02, NPN
Q11,12	48-03-122318-01	Transistor, 2N3773, selected, NPN
Q13	48-03-122321-01	Transistor, 2N6420, selected, PNP
Q14,15	48-03-122319-01	Transistor, N6609, PNP
Q16	48-03-101098-06	Transistor, 2N2712, selected, NPN

Reference Designator	Ordering Number	Name and Description
R1,19	47-01-102112-01	Res., 27 k $\Omega$ $\pm$ 5%, 1/4 W
R2,9	47-03-122858-01	Res., 27.4 k $\Omega$ $\pm$ 1%, 1/4 W
R3	47-03-108772-01	Res., 887 $\Omega$ $\pm$ 1%, 1/4 W
R5,6	47-01-100650-01	Res., 1.5 k $\Omega$ $\pm$ 10%, 1W
R7	47-01-102097-01	Res., 6.2 k $\Omega$ $\pm$ 5%, 1/4 W
R8,45	47-01-102080-01	Res., 1.2 k $\Omega$ $\pm$ 5%, 1/4 W
R10	47-01-102072-01	Res., 560 $\Omega$ $\pm$ 5%, 1/4 W
R11,14,15	47-01-102061-01	Res., 300 $\Omega$ $\pm$ 5%, 1/4 W
R12	47-01-102082-01	Res., 1.5 k $\Omega$ $\pm$ 5%, 1/4 W
R13	47-01-102290-01	Res., 12 k $\Omega$ $\pm$ 5%, 1/2 W
R16	47-01-102104-01	Res., 12 k $\Omega$ $\pm$ 5%, 1/4 W
R17	47-01-102095-01	Res., 5.1 k $\Omega$ $\pm$ 5%, 1.4W
R18	47-06-122138-01	Pot., trimmer, 2.5 k $\Omega$
R20,21	47-01-102057-01	Res., 130 $\Omega$ $\pm$ 5%, 1/4 W
R22,23	47-01-102278-01	Res., 3.9 k $\Omega$ $\pm$ 5%, 1/2 W
R24,25	47-01-102066-01	Res., 330 $\Omega$ $\pm$ 5%, 1/4 W
R26,28	47-01-102056-01	Res., 120 $\Omega$ $\pm$ 5%, 1/4 W
R27,29	47-01-102043-01	Res., 36 $\Omega$ $\pm$ 5%, 1/4 W
R30,31,32,33	47-02-120244-01	Res., 0.50 $\Omega$ $\pm$ 5%, 3W
R34	47-02-112166-01	Res., 5.0 $\Omega$ $\pm$ 10%, 5W
R35	47-01-122960-01	Res., 3.9 $\Omega$ $\pm$ 5%, 2W
R36,37,38	47-01-102102-01	Res., 10 k $\Omega$ $\pm$ 5%, 1/4 W
R39	47-01-102093-01	Res., 4.3 k $\Omega$ $\pm$ 5%, 1/4 W
R40	47-01-102088-01	Res., 2.7 k $\Omega$ $\pm$ 5%, 1/4 W
R41	47-01-102068-01	Res., 390 $\Omega$ $\pm$ 5%, 1/4 W
R42	47-01-102111-01	Res., 24 k $\Omega$ $\pm$ 5%, 1/4 W
R43	47-01-102109-01	Res., 20 k $\Omega$ $\pm$ 5%, 1/4 W
R44	47-02-100698-01	Res., 680 $\Omega$ $\pm$ 5%, 5W
R46	47-01-102078-01	Res., 1.0 k $\Omega$ $\pm$ 5%, 1/4 W
R47	47-01-109298-01	Res., 180 k $\Omega$ $\pm$ 5%, 1/4 W
R48	47-01-102098-01	Res., 6.8 k $\Omega$ $\pm$ 5%, 1/4 W
RT1	47-09-120248-01	Res., temp, variable
U1	17-01-122317-01	IC, Op Amp, 9 mV
U2	17-01-079486-01	IC, Op Amp, 10 mV
U3	17-01-121887-02	IC, Timer
W7	21-01-110310-01	Jumper

POWER SUPPLY & CONTROL PCB ASSEMBLY (27-01-045645)

Reference Designator	Ordering Number	Name and Description
C1,3,8,10,11	15-02-100109-01	Cap., 100 nF $\pm$ 20%, 100V
C2,4	15-02-100081-01	Cap., 50 nF $\pm$ 20%, 12V
C5,9,12	15-01-121637-01	Cap., 1.0 mF $\pm$ 20%, 35V
CR1,2,3,4	48-01-100876-01	Diode, signal, 1N27
CR5,12	48-01-108576-01	Diode, zener, 15V $\pm$ 5%, 33.5 mA, 2W
CR6,7,8,9	48-01-122601-01	Diode, signal, 1N4448
CR10,11,13,14	48-02-042787-02	Rect., 1N4004, selected
Q1,2	48-03-121306-02	Transistor, NPN, 2N3904, selected
Q3	48-03-120159-01	Transistor, NPN, MPS-U10, selected
R1,3	47-01-108931-01	Res., 3.9 M $\Omega$ $\pm$ 5%, 1/4 W
R2,4	47-01-108933-01	Res., 1.2 M $\Omega$ $\pm$ 5%, 1/4 W
R5,6	47-01-108491-01	Res., 1.0 M $\Omega$ $\pm$ 5%, 1/4 W
R7	47-03-123111-01	Res., 1.20 k $\Omega$ $\pm$ 5%, 2W

Reference Designator	Ordering Number	Name and Description
R8,9	47-01-102102-01	Res., 10 k $\Omega$ $\pm$ 5%, 1/4 W
R10,13	47-01-102106-01	Res., 15 k $\Omega$ $\pm$ 5%, 1/4 W
R11,12,25	47-01-102080-01	Res., 1.2 k $\Omega$ $\pm$ 5%, 1/4 W
R14	47-01-122971-01	Res., 5.6 k $\Omega$ $\pm$ 5%, 1/4 W
R15	47-01-102096-01	Res., 5.6 k $\Omega$ $\pm$ 5%, 1/4 W
R16	47-01-102115-01	Res., 36 k $\Omega$ $\pm$ 5%, 1/4 W
R17	47-01-102119-01	Res., 47 k $\Omega$ $\pm$ 5%, 1/4 W
R18	47-01-102121-01	Res., 56 k $\Omega$ $\pm$ 5%, 1/4 W
R19	47-01-101120-01	Res., 51 $\Omega$ $\pm$ 5%, 1/4 W
R20	47-01-108606-01	Res., 1.8 M $\Omega$ $\pm$ 5%, 1/4 W
R21	47-01-102094-01	Res., 4.7 k $\Omega$ $\pm$ 5%, 1/4 W
R22	47-02-100698-01	Res., 680 $\Omega$ $\pm$ 10%, 3W
R23	47-03-123206-01	Res., 390 $\Omega$ $\pm$ 5%, 2W
R24	47-01-100652-01	Res., 1.8 k $\Omega$ $\pm$ 5%, 1/4 W
U1	17-01-122131-01	IC, quad op amp
U2	17-01-121887-01	IC, timer

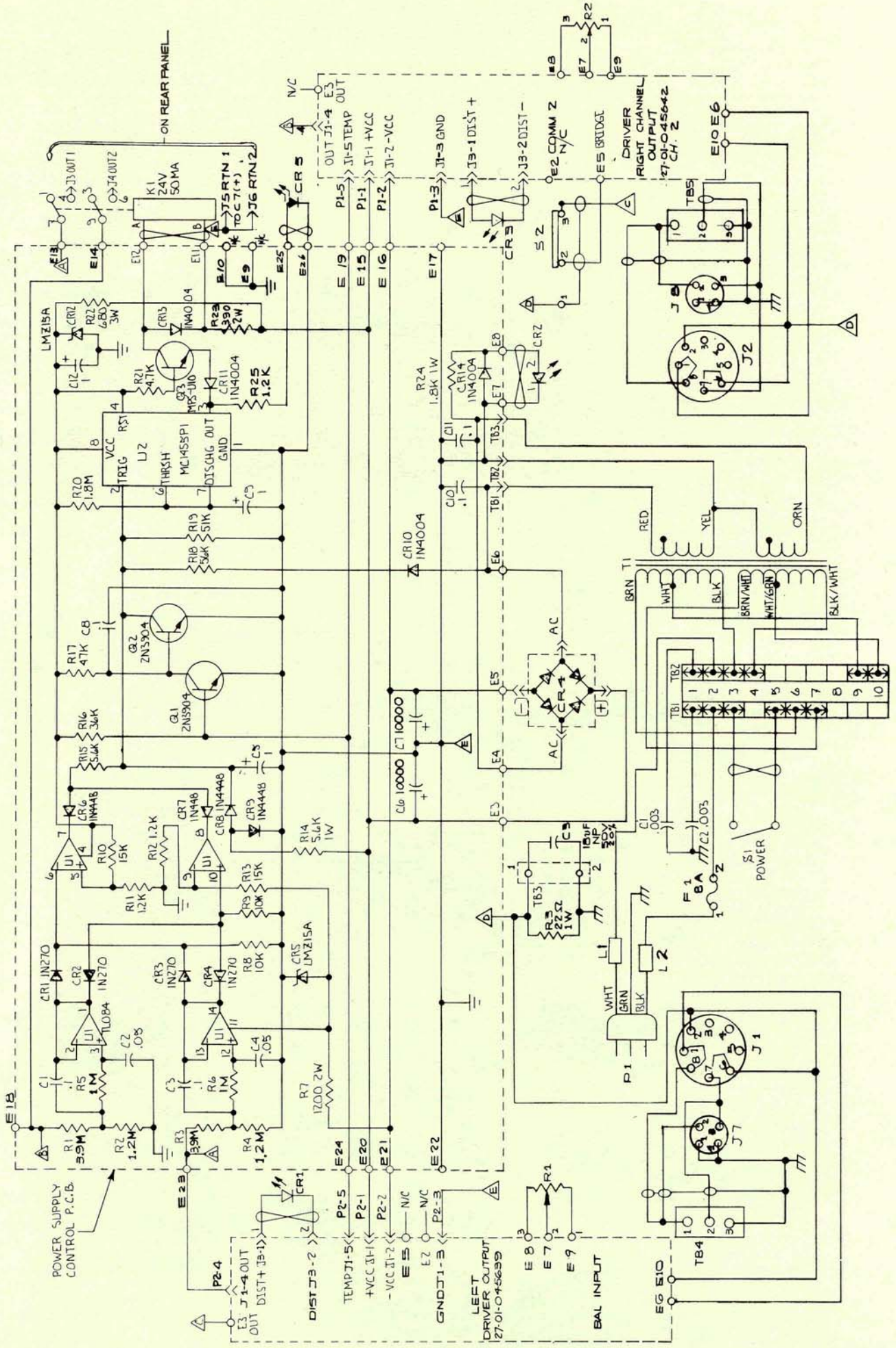


Figure 1. Schematic (10D279-05), Power Supply & Control

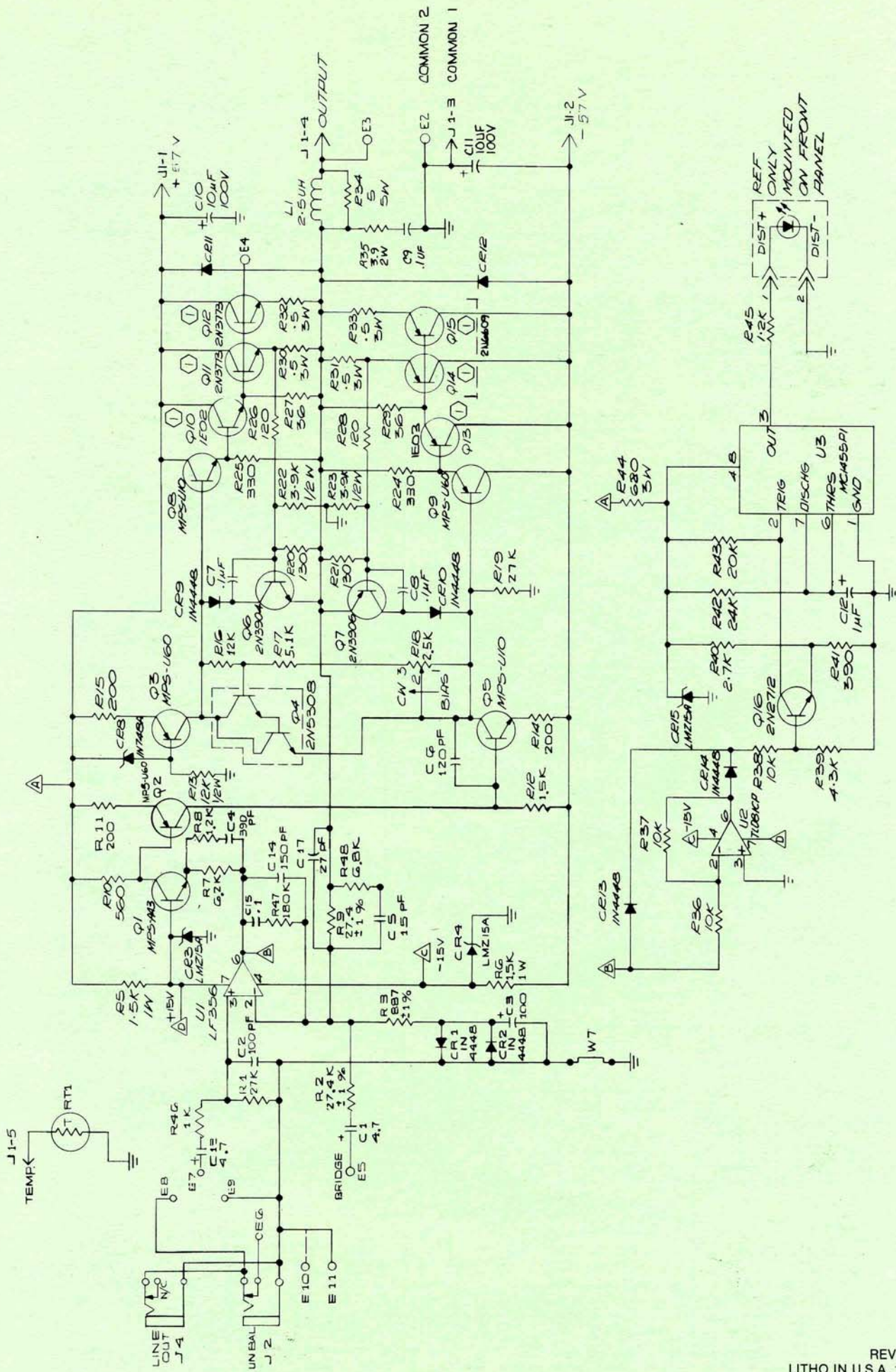


Figure 2. Schematic (10D277-04), Driver/Output Assembly

