



DESCRIPTION

Altec's new 1692A mixer amplifier provides 6-input, 2-output versatility with features designed to answer a wide variety of commercial and entertainment needs. Combining expanded input/output flexibility with cost-efficient advances in design, the 1692A replaces the well-known Altec 1592B.

The ALTEC LANSING Model 1692A Mixer Amplifier controls and mixes up to six independent input signals and delivers up to +18 dBm of output power to associated power amplifiers.

Controls for each input channel include volume, gain, high-pass and phantom power. Controls for the output channels include volume, bass and treble equalization, low-pass and ground-

ing. Additional features include XLR-type input and output connectors, link connectors, auxiliary in/out connectors, and switchable line/mic for input channels 5 and 6. In addition, switching is provided to assign any input signal to either or both outputs.

Power for the 1692A may be obtained from any 100/120/200/220/240V ac, 50/60 Hz line. Auxiliary 24/28V dc battery power may be connected to the battery terminal block on the rear of the chassis.

The 1692A is assembled on a 19-inch chassis that occupies 5¼" of vertical rack space in a standard 19" equipment rack.

SPECIFICATIONS

Type:	Mixer/amplifier with 6 input channels
Gain:	81 dB (may be reduced approximately 14 or 28 dB with gain switches)
Output:	+18 dBm (6.15 volts) with 600 ohm line
Frequency Response:	± 1 dB, 20-20,000 Hz
Total Harmonic Distortion (THD):	Less than 0.25% from 35 Hz to 100 Hz; less than 0.05% from 100 Hz to 20 kHz at +10 dBm (2.45V) into a 600 ohm load with channel and master volume controls at nominal levels.
Input Impedance:	150/250 ohms nominal source impedance (transformer isolated balanced input)
Load Impedance:	600 ohms (transformer-isolated output)
Link Load Impedance:	200 ohms
Link Output Voltage:	Approximately +4 dBm (1.23V) at rated output (no load)
Aux In/Out Load Impedance:	4500 ohms
Aux In/Out Voltage:	Approximately +4 dBm (1.23V) at rated output (no load)
Hum and Noise:	-128 dBm EIN (150 ohm termination) Channel In to Line Out (from 20 Hz to 20,000 Hz)
Controls:	1 POWER on-off ac line switch 6 INPUT MIX controls, continuously variable potentiometers Gain reduction switches for 54 dB, 40 dB or 26 dB of preamp gain selection 2 MASTER controls, continuously variable potentiometers, ± 12 dB

Indicators:	1 tone control disable per output 2 BASS controls, continuously variable potentiometers, ± 12 dB 2 TREBLE controls, continuously variable potentiometers, ± 12 dB 6 OUTPUT ASSIGNMENT switches, 3-position 6 PHANTOM POWER switches, +15 Vdc available 2 LINE/MIC switches (channels 5 and 6) 1 high pass filter (250 Hz) per channel, 6 dB/octave (internal) 1 low pass filter (5 kHz) per output, 6 dB/octave (internal) 1 Tone control defeat switch per channel (internal) 1 ground lift switch per output
Connections—	
Inputs 1-6:	6 XLR type receptacles (F)
Link:	2 phono jacks per channel
Aux. In/Out:	1 phono jack per channel
Balanced Output:	1 XLR type receptacle (M) per channel
Battery Power:	3-terminal, barrier type terminal block
AC Power:	Power cord, with NEMA 5-15 plug 100/120/200/220/240V ac, 50/60 Hz, 10 watts
Power Requirements:	
Operating Temperature Range:	Up to 55°C (131°F) ambient
Dimensions:	5 1/4" H x 19" W x 8" D (13.34 cm H x 48.26 cm W x 20.32 cm D)
Weight:	13 pounds (5.91 kg)
Enclosure:	Rack mount chassis with heavy duty front handles
Color:	Black
Accessory:	1692/99 RVC (Remote Volume Control Kit)

ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The mixer/amplifier shall have six independent microphone input channels. Six MIX gain potentiometers shall be provided for these channels. Each channel shall be provided with selectable gain positions of 54 dB, 40 dB or 26 dB to prevent distortion when using high output microphones. Input channels 5 and 6 shall be switchable for microphone or high level input devices. Outputs shall incorporate two MASTER volume controls, two BASS equalization controls and two TREBLE equalization controls. Each channel shall be provided with a low pass filter (5 kHz) at 6 dB/octave. A tone control defeat switch "ground lift switch and high pass filter (250 Hz)" shall also be provided for each output channel.

The mixer/amplifier shall contain a power supply capable of operating from a 100/120/200/220/240V, 50/60 Hz line or from a 24/28V dc battery. The power supply shall automatically transfer the power to dc

operation if ac power fails. Normal operating controls shall be on the front panel. Connections shall be on the rear panel.

The mixer/amplifier shall meet the following performance criteria. Gain: 81 dB. Output: +18 dBm with 600 ohm line. THD: Less than 0.25% from 35 Hz to 100 Hz; less than 0.05% from 100 Hz to 20 kHz at +10 dBm into a 600 ohm load with channel and master volume controls at nominal levels. Frequency response: ± 1 dB from 20 Hz to 20 kHz. Input impedance: 150/250 ohms nominal with balanced input. Load impedance: 600 ohms. Hum and noise: -128 dBm EIN with 150-ohm termination.

The mixer/amplifier shall be 5 1/4" H x 19" W x 8" D and shall weigh 13 pounds.

The mixer/amplifier shall be the ALTEC LANSING Model 1692A.



P.O. BOX 26105, OKLAHOMA CITY, OK 73126-0105

OPERATING INSTRUCTIONS

INSTALLATION

Rack Mounting

The 1692A 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 5¼". Rack installation is accomplished by using the appropriate four mounting screws supplied.

Ventilation

The 1692A must be adequately ventilated to prevent excessive temperature rise. Maximum rated ambient operating temperature is 55°C (131°F).

ELECTRICAL

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 specified voltage before connecting the 1692A to ac line power.

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

Refer to Authorized Altec Service Representative.

Battery Operation

The 1692A may be connected to an external bipolar battery system at a nominal rating of 24 Vdc. See Figure 2. Connections are made at the BATTERY terminals located on the rear of the chassis.

If ac power falls, transfer to dc power is instantaneous, automatic and silent.

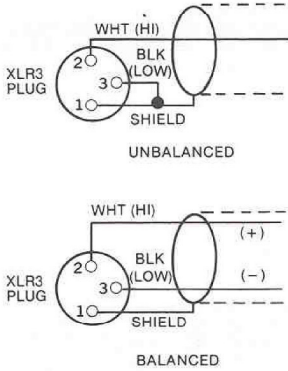


Figure 1. Wiring Diagram for Input Cables

Input/Output Connections

Connection to the channel INPUT and OUTPUT is described in Table 2. Two-wire shielded cable (Belden 8412, 8413, 8451 or similar) is recommended for preparation of cables terminated with XLR3 type connectors. Cable wiring shown in Figure 1.

Link Connections

Two LINK jacks enable combining additional 1692A, 1699A and 1689A Mixer Amplifiers into one system. Figure 3 illustrates two 1692A Mixer Amplifiers connected as one system having 12 inputs and 4 outputs. The system provides two outputs for channel 1 and two outputs for channel 2. Additional mixer amplifiers may be connected to expand the system as desired.

All inputs of such a system appear at the output of each mixer amplifier, according to the position of the OUTPUT ASSIGNMENT switches. Each output of the 1692A is then adjustable for a separate application. Figure 4 illustrates four 1699A Mixer Amplifiers linked in series with the channel 1 output of a 1692A. This extended system provides 30 inputs and 6 outputs (two outputs from the 1692A). Each output of the system is separately adjustable with the corresponding MASTER control.

The link connectors and the output assignment switches provide a nearly limitless flexibility in adapting ALTEC systems to specific applications.

A single conductor shielded cable terminated with standard ¼" phone plugs (T&S) is used for each link connection.

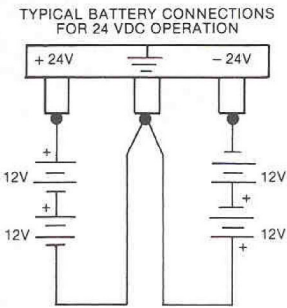
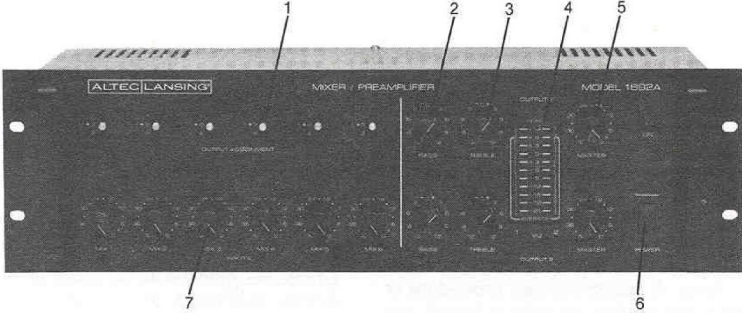


Figure 2. Typical Battery Connections

Table 1. Controls and Indicators

		
Item	Name	Function/Description
1	OUTPUT ASSIGNMENT Switches	Provide option of connecting channel input signals to either or both outputs.
2	BASS Control	Provide boost or attenuation for bass response. Continuously variable potentiometer. Normal or flat response at zero setting. Turn clockwise to boost bass response.
3	TREBLE Controls	Provide boost or attenuation for treble response. Continuously variable potentiometer. Normal or flat setting at zero position. Turn clockwise to boost treble response.
4	LED VU Meters	Displays both outputs of mixer/amplifier. Range indication is -21 to +6 VU. Scaled increments of 3 dB, with +24 VU (+18 dBm) peak detection.
5	MASTER Controls	Provide simultaneous attenuation for all inputs assigned to the respective output channel. Continuously variable potentiometers, graduated from zero to ∞. Turn clockwise to increase gain.
6	POWER Switch	Applies primary ac power. Power indicator illuminates when power is turned on.
7	MIX Controls	Provide attenuation for corresponding input channels. Continuously variable potentiometers, graduated from 0 to ∞. Turn clockwise to increase volume.

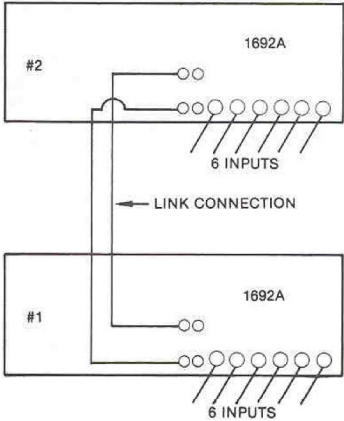


Figure 3. Two Linked 1692A Mixer Amplifiers

Auxiliary Input/Output Connections

An AUX IN/OUT jack is provided for each of the two output channels. The jack may provide a single-ended auxiliary input to the summing buss from a low impedance source (600 ohms or lower), or provide an auxiliary output from the summing buss to a high impedance load (10,000 ohms or higher).

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.

NOTICE
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.

For factory service, ship the 1692A prepaid to ALTEC Customer Service/Repair, P.O. Box 26105, Oklahoma City, OK 73126-0105. For additional information or technical assistance, 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.

Internal Controls

Filter switches and tone disable switches are located on the control circuit board assembly, within the chassis. For access to the switches, remove the top cover. Location and arrangement of the switches is shown in Figure 1.

For details of the high pass and low pass filters, refer to the specifications given on page 2.

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 1/4-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 1692A.

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. See Figure 1. Verify that line voltage is in accordance with the specified voltage rating before connecting the 1692A to line power.

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

Export equipment requires restrapping of the power transformer primary for voltages

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.

other than 120V, 50/60 Hz. To change primary power operating voltage of the 1692A, refer to the conversion chart of Table I 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 I, disconnect leads of transformer T1 from terminal block
- 4. Select the appropriate voltage rating label from the voltage rating label strip supplied with the 1692A. Affix label over previous voltage rating designation on chassis.
- 5. Install top cover and secure with eight screws previously removed.

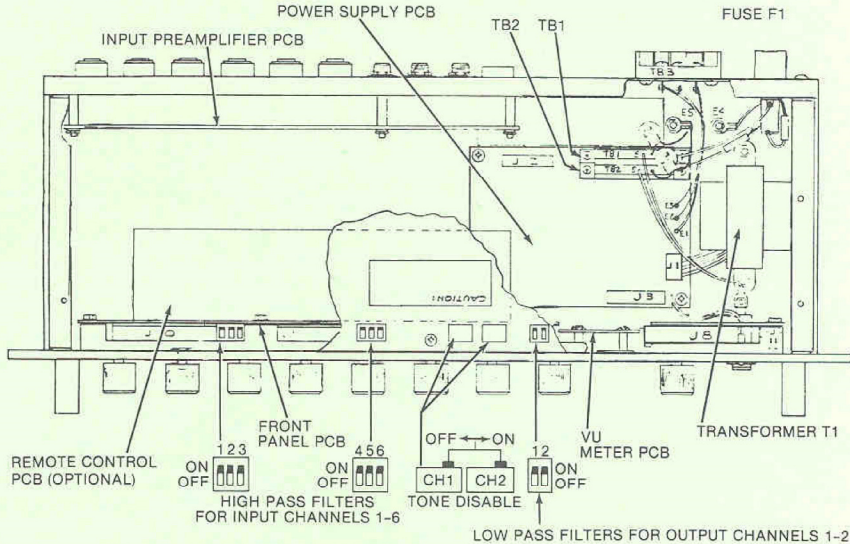


Figure 1. Internal View

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

T101 LEADS	100V	120V	200V	220V	240V
black	TB2-3	TB2-3	TB2-9	TB2-6	TB2-6
white	TB1-6	TB2-9	TB1-6	TB1-6	TB1-10
brown	TB2-9	TB1-6	TB1-10	TB1-10	TB1-6
black/white	TB2-4	TB2-4	TB2-3	TB2-3	TB2-3
white/green	TB1-7	TB2-10	TB2-10	TB2-10	TB2-10
brown/white	TB2-8	TB1-7	TB2-6	TB2-7	TB2-7

PERMANENT AC POWER CONNECTIONS*

AC Cord (white)	TB2-1
Fuse F1	TB1-1
Power Switch S1	TB1-8
Power Switch S1	TB2-5
Capacitor C9	TB1-2
Capacitor C8	TB2-2

TB2

1 2 3 4 5 6 7 8 9 10

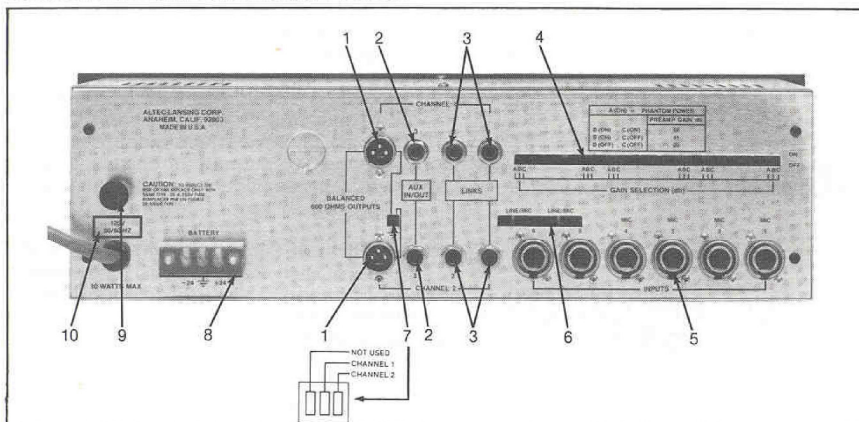
TB1

1 2 3 4 5 6 7 8 9 10

REAR OF CHASSIS

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

Table 2. Rear Panel Controls and Features



Item	Name	Function/Description
1	OUTPUT Connectors	Accept cables from balanced or unbalanced 600-ohm load. 3-pin XLR type (male) connector.
2	AUX IN/OUT Connectors	Provide auxiliary single-ended input to the summing buss from a low impedance source (600 ohms or lower). Also provides auxiliary 2.4K output from the summing buss to a nominal load of 10K or higher. Standard 1/4" phone plugs (T&S).
3	LINKS Connectors	Permit combining additional mixers or amplifiers into one system. Standard 1/4" phone plugs (T&S). Two LINKS connectors are provided for each channel.
4	GAIN & Mic Power Switches	Provide preamp gain selection (54, 40 or 26 dB) for each input. Also provide option of phantom power for microphones.
5	INPUTS Connectors	Accept cables from low impedance (150/250 ohms) from microphones or other devices. Six transformer-isolated, balanced input channels with 3-pin XLR type (female) connectors.
6	LINE/MIC Switches	Permit selection of low impedance microphones or high impedance input devices connected to balanced inputs of channels 5 and 6.
7	Ground Lift Switches	Selects chassis ground or floating ground at pin 1 of balanced output connectors.
8	BATTERY Terminals	Connect external battery power supply for auxiliary operation or standby switchover. Requires two 24/28V battery power sources. See Figure 2.
9	Fuse	Protects against excessive current drain from ac source. Replace only with same type 0.25A fuse.
10	Voltage Rating	Specifies primary power voltage rating for indicated option; 100V, 120V, 200V, 220V, 240V, 50/60 Hz power connections.

A single conductor, shielded cable terminated with a standard 1/4" phone jack (T&S) is used to complete the AUX IN/OUT connection for each output channel.

Remote Volume Control

The optional 1692/99RVC accessory is available to remotely adjust input level for any input channel. The RVC accessory consists of a circuit board assembly to be installed by technically qualified personnel within the mixer/amplifier, and six potentiometers to be installed at the desired remote site.

When operating any remote mix level control, the corresponding MIX control on the front panel should be turned to the maximum desired level.

For installation of the 1692/99RVC accessory, refer to your Authorized Altec Service Representative.

NORMAL GAIN SETTINGS

For average input signals, the MASTER gain control should be set to approximately 14 dB. This allows maximum flexibility in setting the six channel MIX controls to the desired level. If one input is unusually low,

it may be necessary to increase the MASTER gain control setting and operate the other inputs at a proportionately lower gain setting. A recommended procedure is to divide the losses equally between the MASTER and MIX gain controls.

When the 1692A feeds high-gain power amplifiers such as the ALTEC 1268, 1269 or 1270, the gain controls should be set to preserve an optimum signal-to-noise ratio. Average signal through the 1692A should be set with the VU meter at the +14 VU (+18 dBm) range (using program material); the power amplifier gain controls should then be set for optimum audience listening level.

Compressor amplifiers connected between the 1692A and other amplifiers may provide excessive gain, which must be attenuated by the following procedure:

1. Place MIX and MASTER gain controls of the 1692A at normal settings.
2. With a typical signal feeding into the 1692A, adjust the compressor amplifier for desired compression. If the compressor is not equipped with an input gain control, an attenuator or fixed pad should be connected at the compressor input.

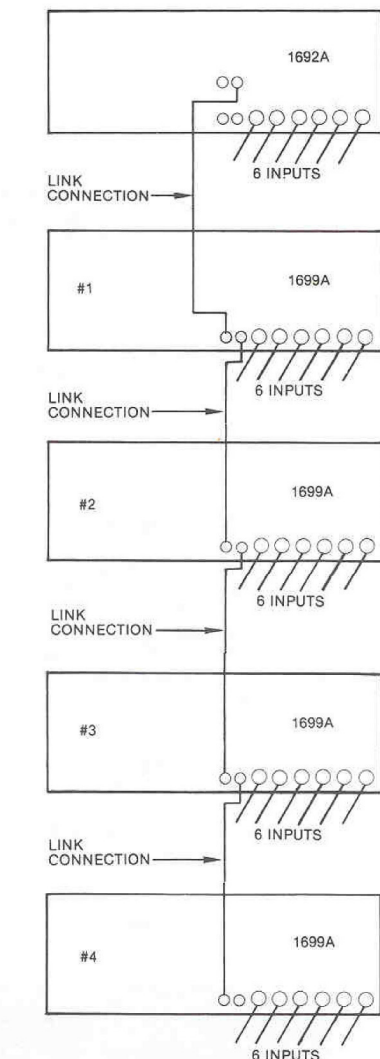


Figure 4. 1692A Linked with Four 1699A Mixer Amplifiers

3. Set gain control of the power amplifier for desired loudspeaker level.

Excessive gain *must* be attenuated at the points described above, and *not* at the 1692A MIX and MASTER gain controls; otherwise, undesirable noise may be introduced into the sound system.

VU METER

The 1692A output for each of the two channels is indicated in VU by the LED VU meter. The meter is calibrated from -21 to +14 VU; these calibrations are 4 dB below dBm values. VU indications are approximately 10 dB below peak output of voice and program material because the meter does not follow such rapidly changing signal peaks. For an indicated +4 VU on the meter, the output may be assumed to have peaks of +14 VU (+18 dBm).

SERVICE

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

PARTS LIST

MAIN CHASSIS

Reference Designator	Ordering Number	Name and Description
--	24-04-122894-03	Knob, black gloss/wht line
A1	27-01-045535-07	Assembly, PCB, Power Supply
A2	27-10-045533-04	Assembly, PCB, Control
A3	27-01-045523-03	Assembly, PCB, Input Preamp
A4	27-01-045553-04	Assembly, PCB, VU meter

Reference Designator	Ordering Number	Name and Description
C8, 9	15-02-122768-01	Cap., 3.3 nF $\pm 20\%$, 1400V
F1	51-04-100462-01	Fuse, 1/4A, 250V
L1, 2	56-01-044110-01	Choke, ferrite bead
SW1	51-02-122946-01	Switch, SPST
T1	56-08-007691-01	Transformer, Power

CONTROL CIRCUIT BOARD ASSEMBLY (27-01-045533-04)

Reference Designator	Ordering Number	Name and Description
C1,3,5,7,9,11	15-06-108173-01	Cap., 0.47 μ F $\pm 20\%$, 100V
C13,22	15-02-100014-01	Cap., 15 pF $\pm 5\%$, 1000V
C14,15,23,24	15-01-122935-01	Cap., 10 μ F, 35V
C16,25	15-06-100084-01	Cap., 0.015 μ F $\pm 10\%$, 100V
C17,18,26,27	15-06-100311-01	Cap., 0.1 μ F $\pm 20\%$, 250V
C19,28	15-06-109103-02	Cap., 0.047 μ F $\pm 10\%$, 250V
C20,29	15-06-107005-01	Cap., 0.01 μ F $\pm 5\%$, 200V
C21,30	15-02-107470-01	Cap., 220 pF $\pm 10\%$, 100V
R1,6,11,16,21,26	47-01-102084-01	Res., 1.8 k Ω $\pm 5\%$, 1/4W
R2,7,12,17,22,27,40,60	47-06-122684-01	Pot., 20 k Ω $\pm 20\%$, K-taper

Reference Designator	Ordering Number	Name and Description
R31,32,47,67	47-01-122895-01	Res., network, 7x10k $\pm 2\%$
R36,37,38,56,57,58	47-01-102127-01	Res., 100 k Ω $\pm 5\%$, 1/4W
R39,45,59,65	47-01-102087-01	Res., 2.4 k Ω $\pm 5\%$, 1/4W
R48,50,68,70	47-06-122686-01	Pot., 50 k Ω $\pm 20\%$, W-taper
R51,71	47-01-102073	Res., 620 Ω $\pm 5\%$, 1/4W
R72,52	47-01-102077	Res., 910 Ω $\pm 5\%$, 1/4W
R69,49	47-01-102094-01	Res., 4.7 k Ω $\pm 5\%$, 1/4W
S1,5	51-02-123209	Switch, 3xSPST
S2,3,4,6,7,8	51-02-122689-02	Switch, level, 2P3T
S9	51-02-123208	Switch, 2xSPST
SW10,11	51-02-042697-04	Switch, slide, DPDT
U7,8,9	17-01-122833-01	Int. Ckt., dual op-amp

VU METER CIRCUIT BOARD ASSEMBLY (27-01-045553-04)

Reference Designator	Ordering Number	Name and Description
C1,3,5	15-01-122935-01	Cap., 10 μ F, 35V, low leakage
C2	15-01-113212-01	Cap., 2.2 μ F $\pm 20\%$, 35V
C4	15-06-123372	Cap., 0.047 μ F $\pm 10\%$, 35V
CR1,2,3	48-01-107017-01	Doide, 1N546A, 100 mA, 25V
DS1 thru DS9	39-01-122898-01	LED, green, rectangular
DS10	39-01-122899-01	LED, yellow, rectangular
DS11	39-01-122900-01	LED, red, rectangular

Reference Designator	Ordering Number	Name and Description
R1A-G	47-01-122895-01	Res., network, 7x10 k Ω $\pm 2\%$
R8	47-01-102102-01	Res., 10 k Ω $\pm 5\%$, 1/4W
R9	47-03-109434	Res., 20 k Ω $\pm 1\%$, 1/4W
R10	47-01-108933-01	RES., 1.2 M $\pm 10\%$, 1/4W
R11,12,13	47-01-102080-01	Res., 1.2 k Ω $\pm 5\%$, 1/4W
U1	17-01-121819	Int. Ckt. Quad op amp 4156
U2	17-01-122347	Int. Ckt. LED Driver

INPUT PREAMPLIFIER CIRCUIT BOARD ASSEMBLY (27-01-045523-03)

Reference Designator	Ordering Number	Name and Description
C101,102,301,302,501,502	15-01-122935-01	Cap., 10 μ F, 35V, low leakage
C701 thru 706	15-02-107454	Cap., 100 pF $\pm 10\%$, 100V
801 thru 806	15-02-108584	Cap., 27 pF $\pm 10\%$, 500V
C601 thru 606	56-01-043100-01	Choke, ferrite bead
L100,101,200,201,300,301,400,401,500,501,600,601	48-03-121251-01	Transistor, FET, 30V, 0.62W, IDSS-5mA, MPF4393
Q100,200,300,400,500,600	47-01-102138-01	Res., 300 k Ω $\pm 5\%$, 1/4W
R100,200,300,400,500,600		

Reference Designator	Ordering Number	Name and Description
R101,106,201,206,301,306,401,406,501,505,601,606	47-01-102113-01	Res., 30 k Ω $\pm 5\%$, 1/4W
R102,202,303,404,502,602	47-01-102091-01	Res., 3.6 k Ω $\pm 5\%$, 1/4W
R103,203,303,403,503,603	47-01-102074-01	Res., 680 Ω $\pm 5\%$, 1/4W
R104,105,304,305,504,505	47-01-102030-01	Res., 10 Ω $\pm 5\%$, 1/4W
S100,200,300,400,500,600,700	51-02-122896-01	Switch, dip 3 x SPST
S501,601	51-02-122337-02	Switch, slide, 4PDT
T100,200,300,400,500,600	56-04-004859-03	Transformer, input
U1,2,3	17-01-122832-02	Int. Ckt. dual op-amp, low noise, EXAR XR5532AN

PARTS LIST (Continued)

POWER SUPPLY CIRCUIT BOARD ASSEMBLY (27-01-045535-017)

Reference Designator	Ordering Number	Name and Description
C1,3	15-01-122935-01	Cap., 10 μ F, 35V, low leakage
C2	15-06-108173-01	Cap., 0.47 μ F \pm 20%, 100V
C4,6	15-01-122764-01	Cap., 1000 μ F, 35V
C5,7	15-01-108925-01	Cap., 50 μ F, 50V
C8,9	15-02-122891	Cap., 100 nF \pm 20%, 50V
CR1,2,3,4,5 6,7,8,9,10, 11,15,16	48-02-042787-01	Rect., 1N4004, selected
CR12,13	48-01-100842-01	Diode, zener, 4.3V, 116 mA, 2W
CR14	39-03-122943-01	Lamp, LED, red

Reference Designator	Ordering Number	Name and Description
F1,2	51-04-121469-01	Fuse, 1/4A, slo-blo
K1	45-01-123000-01	Relay, DPDT, 1A, 12V
R1	47-01-102118-01	Res., 43 k Ω \pm 5%, 1/4W
R2	47-01-102122-01	Res., 62 k Ω \pm 5%, 1/4W
R3	47-01-107043-01	Res., 220 k Ω \pm 5%, 1/4W
R4	47-01-123177	Res., 100 Ω \pm 5%, 1/2W
T1,2	56-05-015479-01	Transformer, matching
U1	17-01-121887-01	Int. Ckt., Timer
U3	17-01-121660-01	Int. Ckt., Reg., + 15V
U4	17-01-121659	Int. Ckt. Reg., - 15 VDC

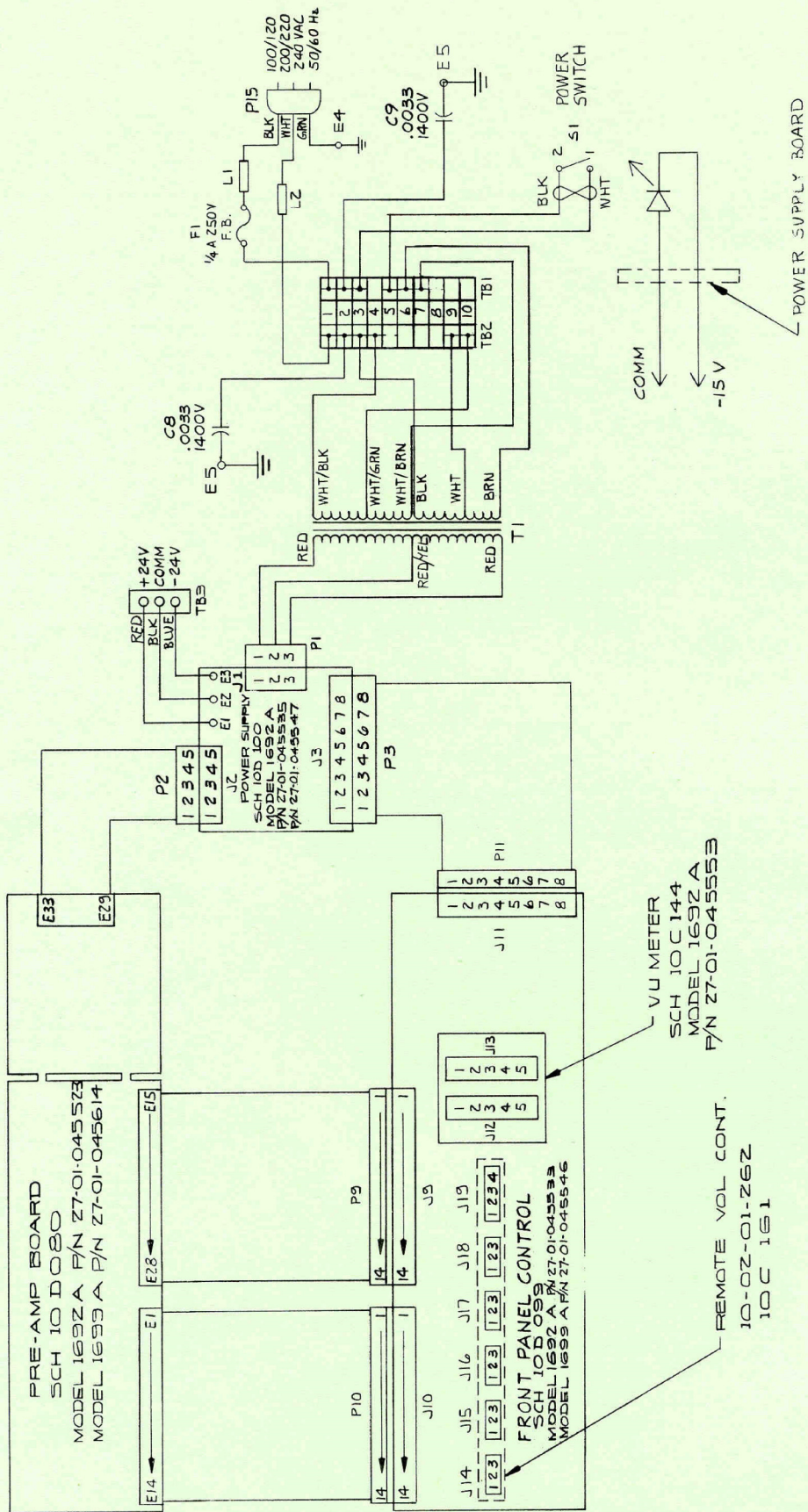
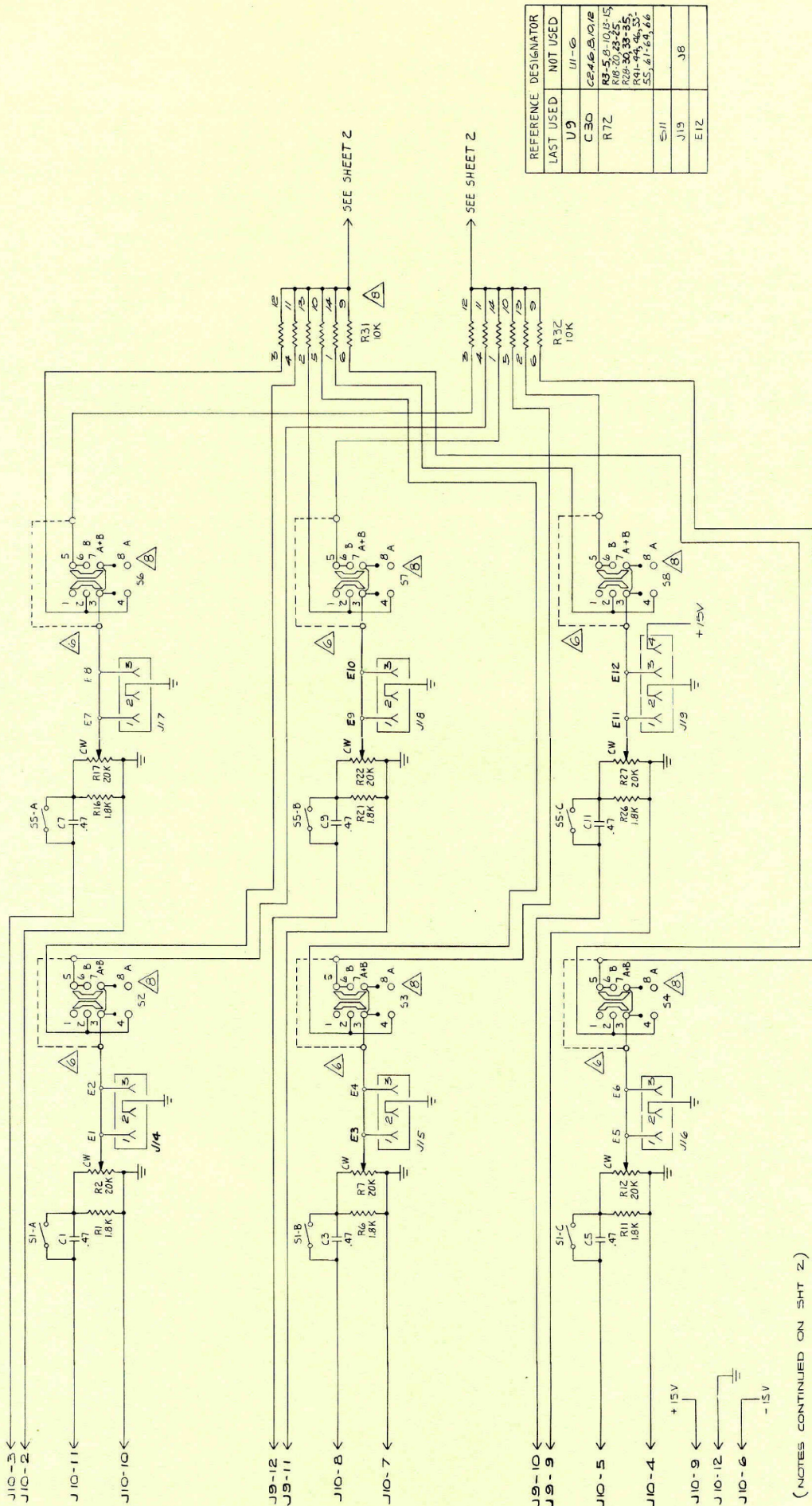


Figure 2. Schematic (10C143-03), 1692A Mixer Amplifier



REFERENCE	DESIGNATOR	LAST USED	NOT USED
U9	U9	U9	U10
C30	C30	C30	C31
R72	R72	R72	R73
S11	S11	S11	S12
J19	J19	J19	J20
E12	E12	E12	E13

- (NOTES CONTINUED ON SHT 2.)
- PC BOARD ASSY: 27-01-045533 AND 27-01-045546
 - ALL DIODES ARE IN 1004
 - CAPACITORS VALUES ARE IN MF, 35 V.
 - RESISTOR VALUES ARE IN OHMS, 1/4 WATT, 5%.
- NOTES: UNLESS OTHERWISE SPECIFIED

Figure 3. Schematic (10D099-02, sheet 1), Control PCB Assembly

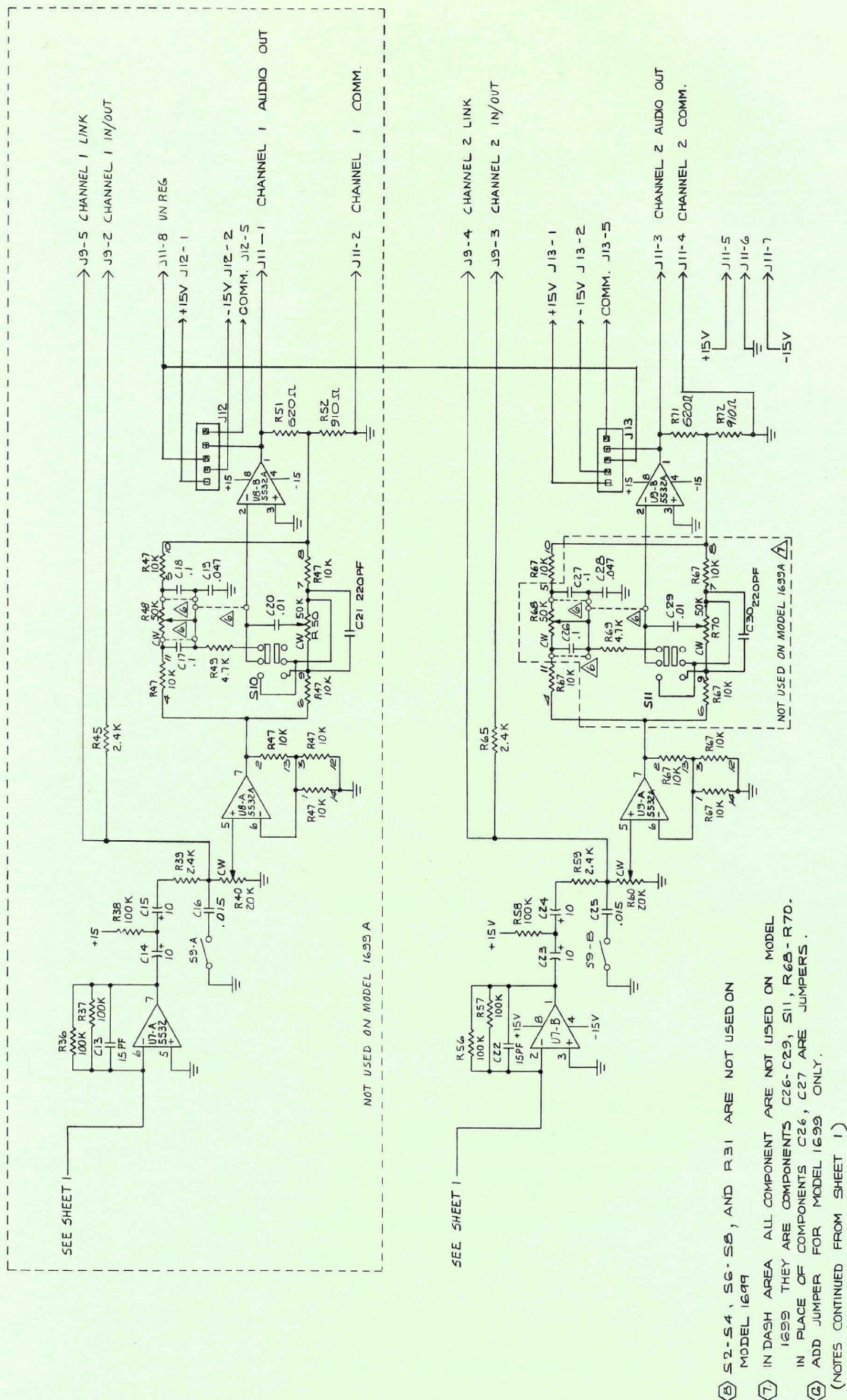
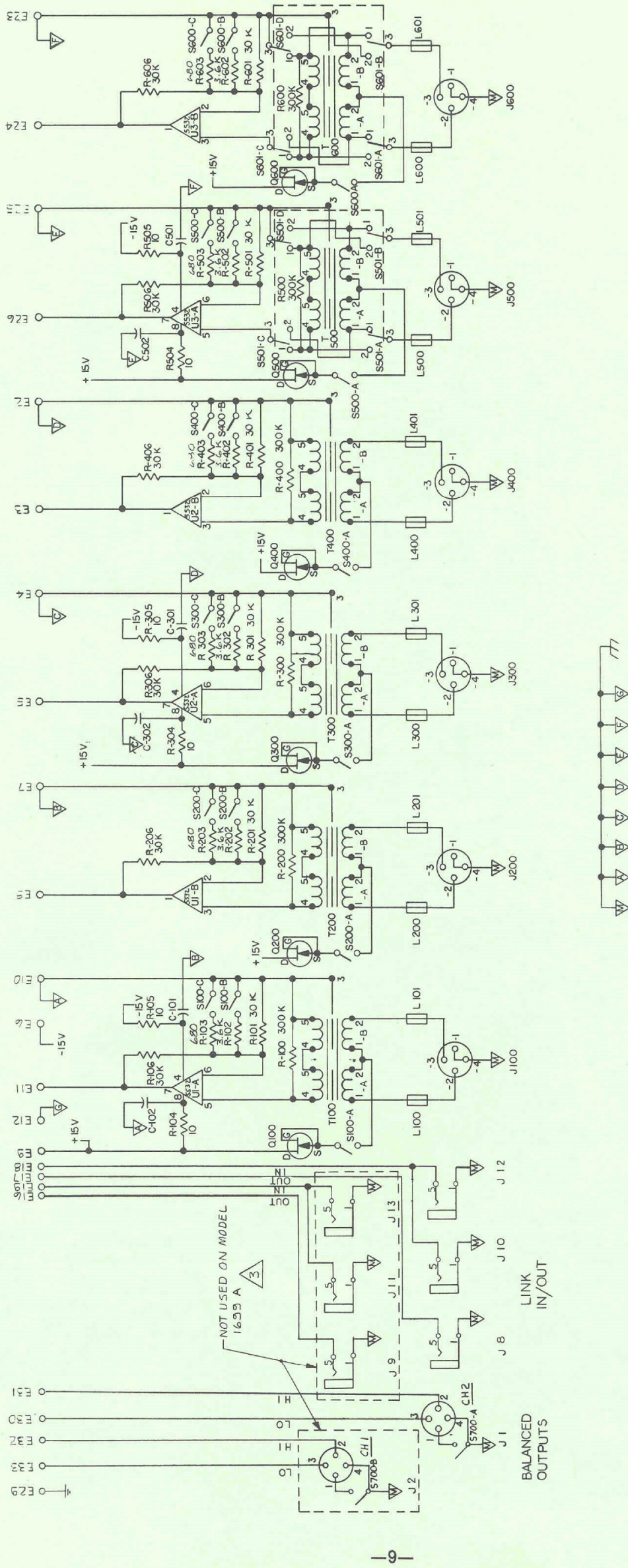


Figure 4. Schematic (10D099-02, sheet 2), Control PCB Assembly



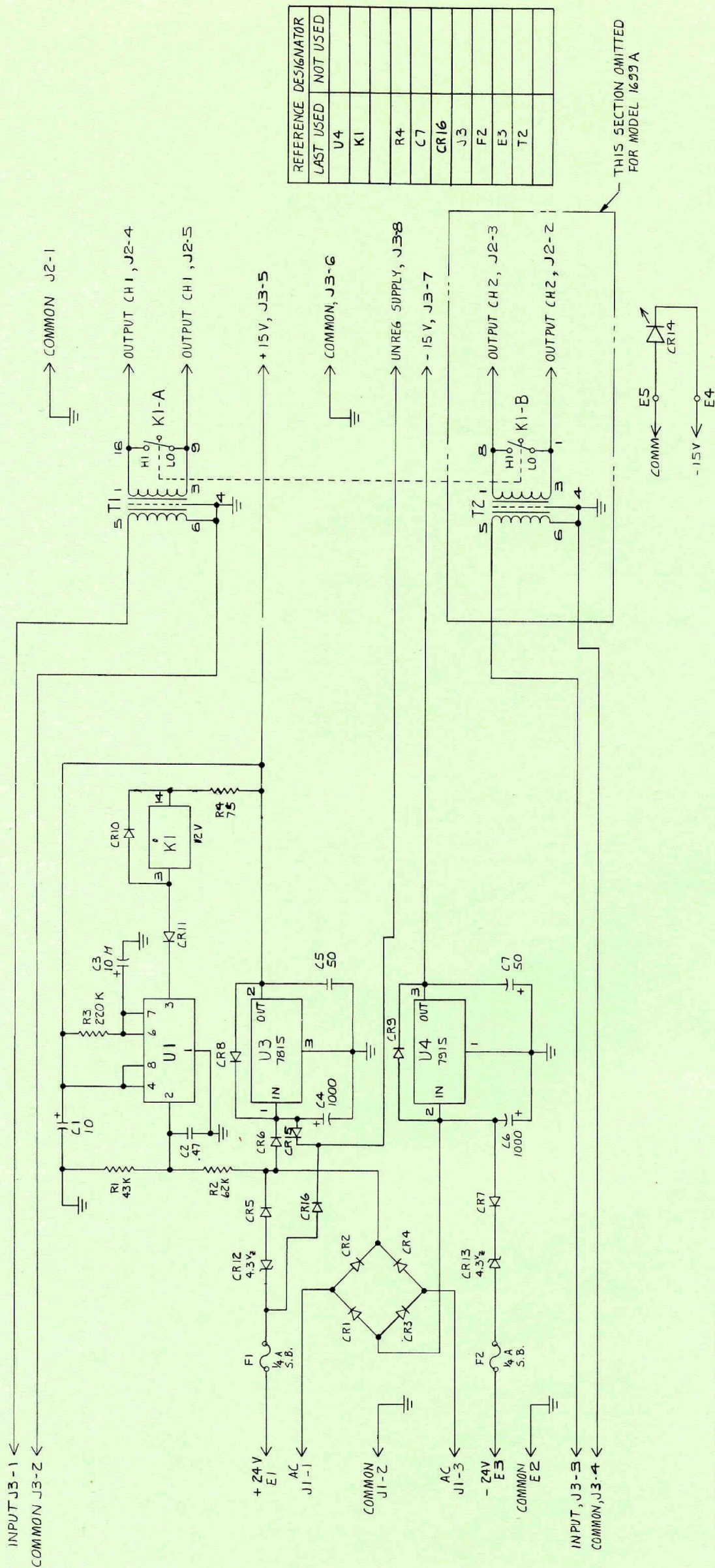
3. IN DASH AREA ALL COMPONENT ARE NOT USED ON MODEL 1655A THEY ARE COMPONENTS J2, J11, J13, AND S1-B.

2. CAPACITORS ARE 100V - 25V.

1. RESISTORS VALUES ARE IN OHMS, 1/4 WATT 5%.

NOTES: UNLESS OTHERWISE SPECIFIED

Figure 5. Schematic (10D080-02), Input Preamplifier PCB Assembly

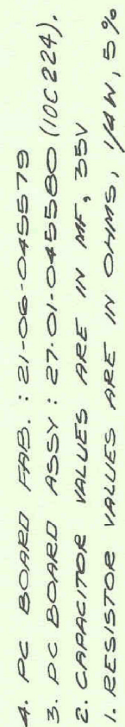


5. PC BOARD FAB: 21-06-045536
 4. PC BOARD ASSY: 27-01-045535 AND 27-01-045547 (IOC 222)

3. CAPACITORS VALUES ARE IN MF, 35 V.
2. RESISTOR VALUES ARE IN OHMS, 1/4 WATT, 5%.
1. ALL DIODES ARE IN1004.

NOTES: UNLESS OTHERWISE SPECIFIED

Figure 6. Schematic (10D100-02), Power Supply PCB Assembly



NOTES: UNLESS OTHERWISE SPECIFIED

Figure 7. Schematic (10C161-01), Remote Volume Control Assembly (optional)