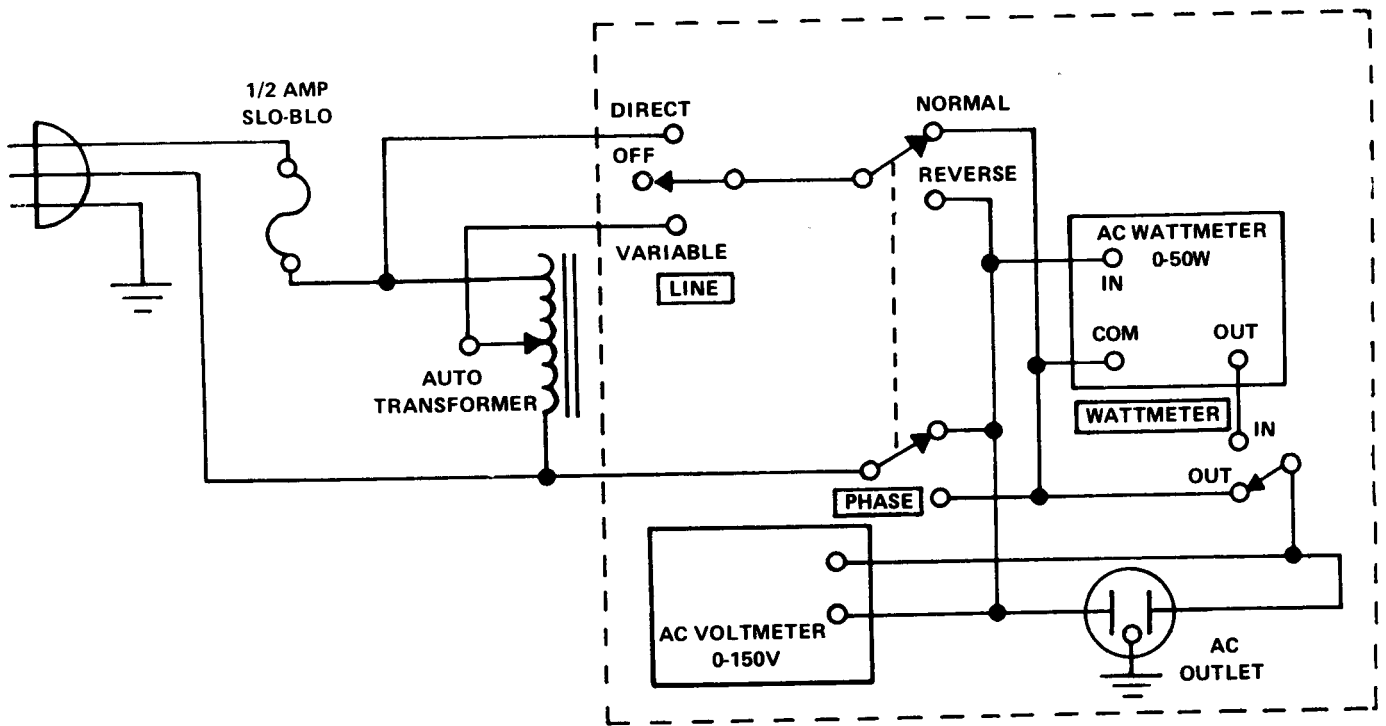


EQUIPMENT ITEM	MANUFACTURER AND MODEL NO. OR EQUIVALENT	USE
Distortion Analyzer (capable of measuring 0.02% THD)	Sound Technology Model 1700A or Hewlett Packard Model 331A or 333A	Measure total harmonic distortion of preamp
AC Voltmeter (capable of measuring 30 mV (noise) accurately)	Hewlett Packard Model 400F	Measure preamp output voltage
Audio Oscillator residual distortion less than 0.02%	Sound Technology Model 1700A or Weston Model CVO-100P	Audio signal source
Oscilloscope	Tektronix Model 503; Data Model 555	Waveform analysis and troubleshooting
VTVM	RCA Senior Volt-Ohm-yst Model 555; Simpson 312	Voltage and resistance measurements
Variable Autotransformer (0-140 V AC)	Powerstat Model 116B	Controls A.C. line voltage to preamp
AC Wattmeter 0-150 W	Simpson Model 1379 (Catalog No. 10970)	Monitor preamp power consumption
Line Voltmeter 0-150 V AC	Simpson Model 1359 (Catalog No. 10320)	Monitor A.C. line voltage to preamp
AC Power Control Box (optional)	Fabricated in accordance with Figure 4.	Monitor line voltage and power consumption
Phono Shorting Plug (4)	Phono shorting plug with 600 ohm resistor across center pin and shell	Short preamp input to eliminate noise pickup
Noise Filter (20 Hz to 20 KHz, 12 dB per octave roll off, less than 3 microvolts residual noise input)	Commercial grade.	Measure noise .

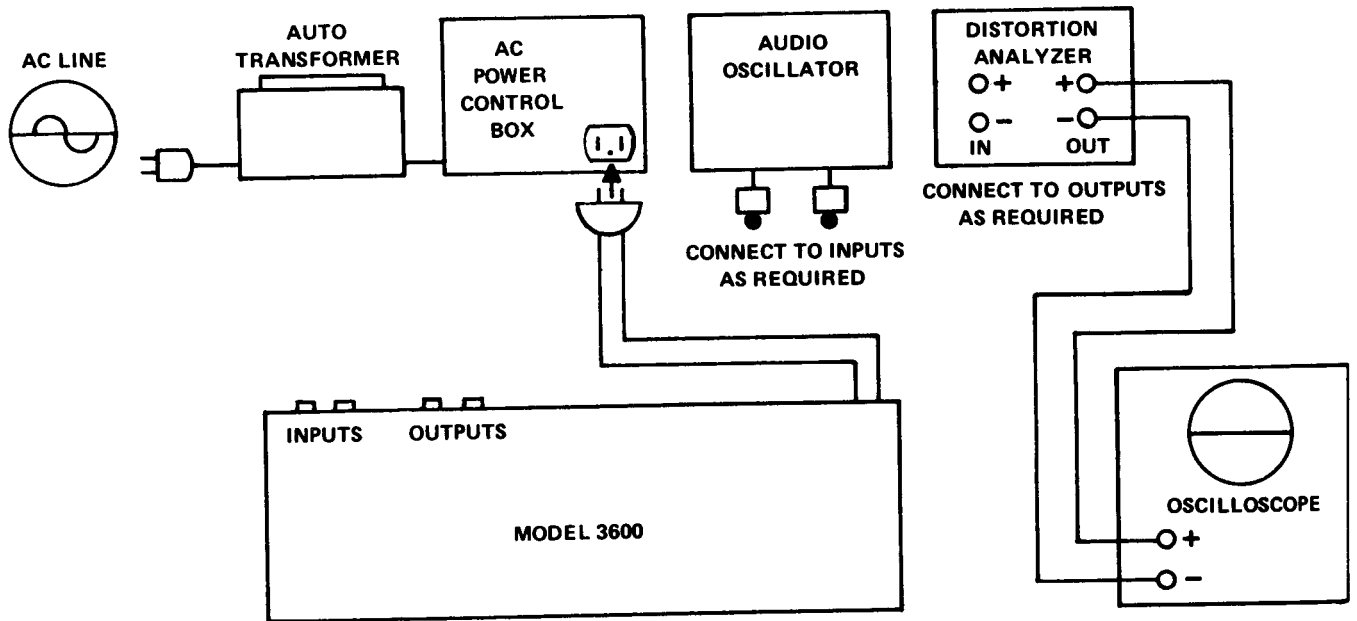
Table 1. Recommended Test Equipment

C. POWER CONSUMPTION VERIFICATION

1. Plug Model 3600 AC Plug into AC Control Box outlet.
2. Set LINE Switch (AC Power Control Box) to VARIABLE.
3. Observing Wattmeter, slowly rotate autotransformer control CW to 120 VAC. If Wattmeter indicates more than 7 W at any time, (or fails to indicate at all), shut off AC power and refer to the Trouble Analysis section.



AC Power Control Box Connection Diagram



Test Equipment Connection Diagram

D. FUNCTIONAL TESTS

Perform functional tests on unit to establish the operation of all inputs, outputs and controls as specified. Reset Model 3600 controls to their "Normal" positions upon completion of the functional test.

1. For low level (Phono or Mic) input tests, apply a 1 kHz, 10 mV audio signal to Phono Input. Depress PHONO Selector Pushswitch.
2. Set Distortion Analyzer controls for AC VTVM and monitor output at SCOPE or TAPE OUTPUT Jack. Output should be approximately 1.0 V rms.
3. Without changing generator output level, disconnect and reconnect to Mic Input. Depress MIC Selector Pushswitch. Output should remain at approximately 1.0 V rms.
4. For high level (Tuner, Aux, or Tape) inputs, turn preamp power off, set generator to 1 kHz, 300 mV rms output. Connect to TUNER Input. Reconnect Distortion Analyzer to PREAMP Output.
5. Turn preamp power on, set VOLUME to maximum, depress TUNER Selector Pushswitch. Output should be approximately 3.0 V rms.
6. Without changing any connections other than inputs, check AUX, TAPE 1, and TAPE 2 Inputs as described in Step 5. Output level should remain at approximately 3.0 V rms.

E. MAXIMUM VOLTAGE OUTPUT

1. Depress AUX Selector pushswitch. Connect generator to AUX Input. Monitor signal at PREAMP OUTPUT with oscilloscope and distortion analyzer controls set for AC VTVM. Set VOLUME to MAX.
2. Set generator frequency to 1 kHz and increase generator output to the point of just below clipping. VTVM should indicate at least 9.0 V rms.

F. TOTAL HARMONIC DISTORTION (THD)

1. With preamp VOLUME set to maximum, check THD of AUX Input at 20 Hz, 2 kHz, and 20 kHz (3.0 V rms output). THD should be less than 0.025 percent.
2. Change input to PHONO and depress PHONO Selector pushswitch. Adjust generator for 3.0 V rms at TAPE OUTPUT. Check THD at 20 Hz, 2 kHz, and 20 kHz. THD should be less than 0.025 percent.

G. HUM AND NOISE

1. Insert 600-ohm phono shorting plug into each PHONO and AUX INPUT jack. Switch in bandpass filter control.
2. Turn VOLUME control CW up to maximum and depress PHONO Selector pushswitch. Noise output should indicate less than 78 microvolts at TAPE OUTPUT.
3. Depress AUX Selector pushswitch. Noise output should indicate less than 30 microvolts at PREAMP OUTPUT.

H. FREQUENCY RESPONSE (PHONO/MIC)

Refer to Figure 6. RIAA Equalization Curve and Standards to verify unit conformance.

1. For Phono frequency response apply a 1 kHz signal to PHONO INPUT. Connect AC VTVM to PREAMP OUTPUT. Set generator output for 0 dB indication on VTVM.
2. Check output level at the following frequencies ± 0.5 dB:

20 Hz	.....	- 19.30 dB
100 Hz	.....	+ 13.11 dB
400 Hz	.....	+ 3.81 dB
2 kHz	.....	- 2.61 dB
10 kHz	.....	- 13.75 dB
20 kHz	.....	- 19.60 dB
3. For Mic frequency response apply a 1 kHz signal to MIC INPUT. Depress MIC Selector pushswitch. Set generator output to 0 dB as measured at PREAMP OUTPUT.
4. Reduce generator frequency to 30 Hz. Output should be 0 dB (± 0.75 dB).
5. Increase generator frequency to 11.5 kHz. Output should be 0 dB (+ 0 dB, - 4 dB).

HIGH LEVEL SEPARATION

1. Connect generator to left channel AUX INPUT. Insert a 600-ohm phono shorting plug into right channel AUX INPUT. Monitor signal at PREAMP OUTPUT with AC VTVM.
2. Set generator frequency at 20 Hz. Set generator level for 0 dB, 3 V rms output as indicated on the VTVM.
3. Observe the output of the undriven channel on the VTVM. Output should be at least 40 dB below the 0 dB reference level indicating a 40 - dB left - to - right channel separation. Repeat test on right channel.

FILTERS (Figure 7.)

1. Connect generator to AUX INPUT. Depress AUX Selector pushswitch. Connect AC VTVM to PREAMP OUTPUT.
2. To establish a reference level, set generator frequency to 1 kHz, 0 dB as measured on the VTVM.
3. Depress 9 kHz FILTER Switch. With oscillator switched to 9 kHz input, output level should drop 3.0 dB (± 1.25 dB). Depress and release FILTER switch.
4. Depress 5 kHz FILTER Switch. With oscillator switched to 5 kHz, output should drop 3 dB (± 1.25 dB). Depress and release FILTER Switch.
5. Depress 30 Hz FILTER Switch. With oscillator switch to 30 Hz, signal should drop 3 dB (± 0.75 dB). Depress and release FILTER Switch.

L. TONE CONTROL (Figure 8.)

1. Connect generator to AUX INPUT. Depress AUX Selector pushswitch. TONE Control should be set to OUT. Connect AC VTVM to PREAMP OUTPUT.
2. With VOLUME Control set to maximum, set generator output level for 0 dB, 3 V rms indication on VTVM.
3. Set TONE switch to IN and center TONE controls. Output should remain 0 dB.
4. Sweep from 20 Hz to 20 kHz. Frequency response should be flat (± 0.25 dB) at all audio frequencies.
5. Set generator to 100 Hz. Slide BASS Tone Control up to maximum boost position. Output level should increase 10 dB (± 2 dB) as measured on VTVM. Slide BASS Control down to maximum cut position. Output should decrease to 10 dB (± 2 dB) below 0 dB reference level. Center BASS Control.
6. Set generator to 1 kHz. Slide MID Control up to maximum boost and observe for an increase of 8.5 (± 2 dB). Slide MID Control down to maximum cut and observe for a decrease of 8.5 dB (± 2 dB) below 0 dB reference level. Center MID Control.
7. Set generator to 10 kHz. Slide TREBLE Control up to maximum boost. Output should increase 10 dB (± 2 dB). Slide control down to maximum cut and observe for a 10 dB ± 2 dB decrease below 0 dB reference level. Center TREBLE Control.

TROUBLE ANALYSIS

This section is included to assist in locating troubles that may be difficult to isolate. Normal troubleshooting techniques (point-to-point signal tracing and oscilloscope analysis) are assumed in isolating problems.

NOTE: Performance verification is necessary following any repair.

Table 2. lists possible symptoms and causes if a Model 3600 malfunctions. We do not attempt to point up all potential problems and their remedies since the service technician is capable of recognizing most. We attempt to aid the service technician in isolating problems from the unit level down to a detail part.

All references in this section will be made to Figures 1, 2, and 3.

SYMPTOMS	PROBABLE CAUSE
No primary power consumption	<ol style="list-style-type: none"> 1. Open A.C. input circuit, line cord, fuse, power switch or transformer 2. Power supply circuit defective.
Excessive primary power consumption	<ol style="list-style-type: none"> 1. Short in A.C. input circuit 2. Short in A.C. secondary circuit, pilot lamp circuit, or power supply.
No signal output both channels	No D.C. supply voltage to amplifiers, +Vcc, -Vcc or neither, caused by broken supply lines, defective power supply lines or defective power transformer.
No signal output in any condition	<ol style="list-style-type: none"> 1. Short in input circuit 2. Open input circuit, Program Selector, Tape Monitor, Mode, Volume or Balance Switch 3. Defective X10 amplifier and/or filter amplifier 4. Output circuit open or shorted.
No signal output in low level inputs	<ol style="list-style-type: none"> 1. Shorted input circuit to phono amplifier 2. Open input circuit 3. Defective phono amplifier 4. Phono amplifier output circuit open 5. Short in phono amplifier output circuit 6. Phono amplifier oscillating (VHF) because of open (or shorted) feedback circuit through Program Selector Switch.
No signal output with TONE in or LOUDNESS in	<ol style="list-style-type: none"> 1. Defective tone amplifier 2. Open tone amplifier output circuit 3. Defective Tone or Loudness switch.
Low gain in low level inputs	Defective phono amplifier.
Low gain with TONE in	Defective tone amplifier.
High distortion in any condition	<ol style="list-style-type: none"> 1. X10 amplifier defective 2. Excessive output loading 3. Filter amplifier defective.

SYMPTOMS	PROBABLE CAUSE
High distortion in low level inputs	1. Defective phono amplifier 2. Hum pickup in the input circuit .
High distortion with TONE in	Defective tone amplifier .
Excessive noise in low level inputs	1. Defective phono amplifier 2. Open feedback circuit, Program Selector switch 3. Input circuit open 4. Input cable shield not grounded.
Excessive noise in high level inputs	1. Defective X10 amplifier 2. Input circuit cable shield not grounded 3. Excessive power supply ripple (hum) .
Excessive noise with TONE in	Defective tone amplifier .
Oscillation in low level inputs	1. Open input circuit 2. Open feedback circuit, program selector switch 3. Grounds intermittent or broken 4. Defective phono amplifier .
Oscillation in high level inputs	1. Defective X10 amplifier 2. Shorts in high or low filter circuits.

REFERENCE DESIGNATION	MARANTZ PART NUMBER	NOMENCLATURE
	361-1001	LINE CORD, AC
	367-1000	FUSE HOLDER, W/MTG. HDW
	565-1001	BUSHING, STRAIN RLF
	567-2000	FOOT, PLASTIC, BLK, W/FELT PAD x4
	670-4552	WASHER, F LAT NO. 6, BLK WAX x4
	671-2232	LOCKWASHER, NO. 4, SPT, BLK
	671-4330	LOCKWASHER, NO. 6, SPT, CD x2
	671-4332	LOCKWASHER, NO. 6, SPT, BLK, WAX x6
	672-5510	LOCKWASHER NO. 8 INTL T x2
	672-8816	LOCKWASHER, INTL T x4
	675-1015	FLATWASHER
	680-8726	NUT, HEX, 3/8-32 x 1/2 x4
	682-2000	SPEED NUT, J-TYPE x4
	689-1023	NUT, HEX, 3/8-32 x5
	689-2000	SPEED NUT, NO. 6, J-TYPE x4
	741-0410	SCREW, 6-32 x 1/4 L, PNH CRSHD, STL, CD x2
	741-0412	SCREW, 6-32 x 1/4 L, PNH, CRSHD, STL, BLK, WAX x2
	741-0612	SCREW, 6-32 x 3/8 PNH, CRSHD, STL, BLK, WAX x4
	769-2002	SCREW, 3MM x 35MM L, PNH, CRSHD, STL, BLK x4
	741-0612	SCREW, 6-32 x 3/8 L, PNH CRSHD, BLK, WAX x4
	799-1011	SCREW, NO. 6-20 x 1/2 L, SH MET TYPE Z, STL, BLK, WAX x4
A100	200-2000-1	CONTROL BOARD COMPONENT ASSEMBLY
C101, C102	* 381-2002	CAPACITOR, 10MFD +100%, -20%, 25V

REFERENCE DESIGNATION	MARANTZ PART NUMBER	NOMENCLATURE
C103, C104	386-2000	CAPACITOR, 5600PF \pm 10%, 100V
C105, C106	381-2002	CAPACITOR, 10MFD +100%, -20%, 25V
DS-101	482-2000	LAMP, PILOT LIGHT
J101	360-2000	CONNECTOR, 11-PIN
J102 (PARTIAL)	360-1020	CONNECTOR, 13-PIN
J102 (PARTIAL)	360-1019	CONNECTOR, 16-PIN
J103	360-2001	CONNECTOR, 8-PIN
J104	360-2003	CONNECTOR, 7-PIN
J105,		PHONE JACK, SINGLE CLOSED
J106	360-1017	CIRCUIT, MIC
J107	360-1004	PHONE JACK, DOUBLE CLOSED CIRCUIT, DUB IN
J108	360-1005	PHONE JACK, DOUBLE OPEN CIRCUIT, DUB OUT
		RESISTORS ARE OHMS \pm 5%, 1/4 W UNLESS OTHERWISE SPECIFIED
R101,		
R102	434-4202	RESISTOR, C-F 2K
R103	420-2003	RESISTOR, VAR, 50K BALANCE
R105	420-2009	RESISTOR, VAR, 50K, DUAL VOLUME
R107,		
R108	434-5152	RESISTOR, C-F, 15K
R109,		
R110	434-4562	RESISTOR, C-F, 5.6K
R111,		
R112	434-4622	RESISTOR, C-F, 6.2K
R113		
thru R118	420-2002	RESISTOR, VAR, 100K, TONE

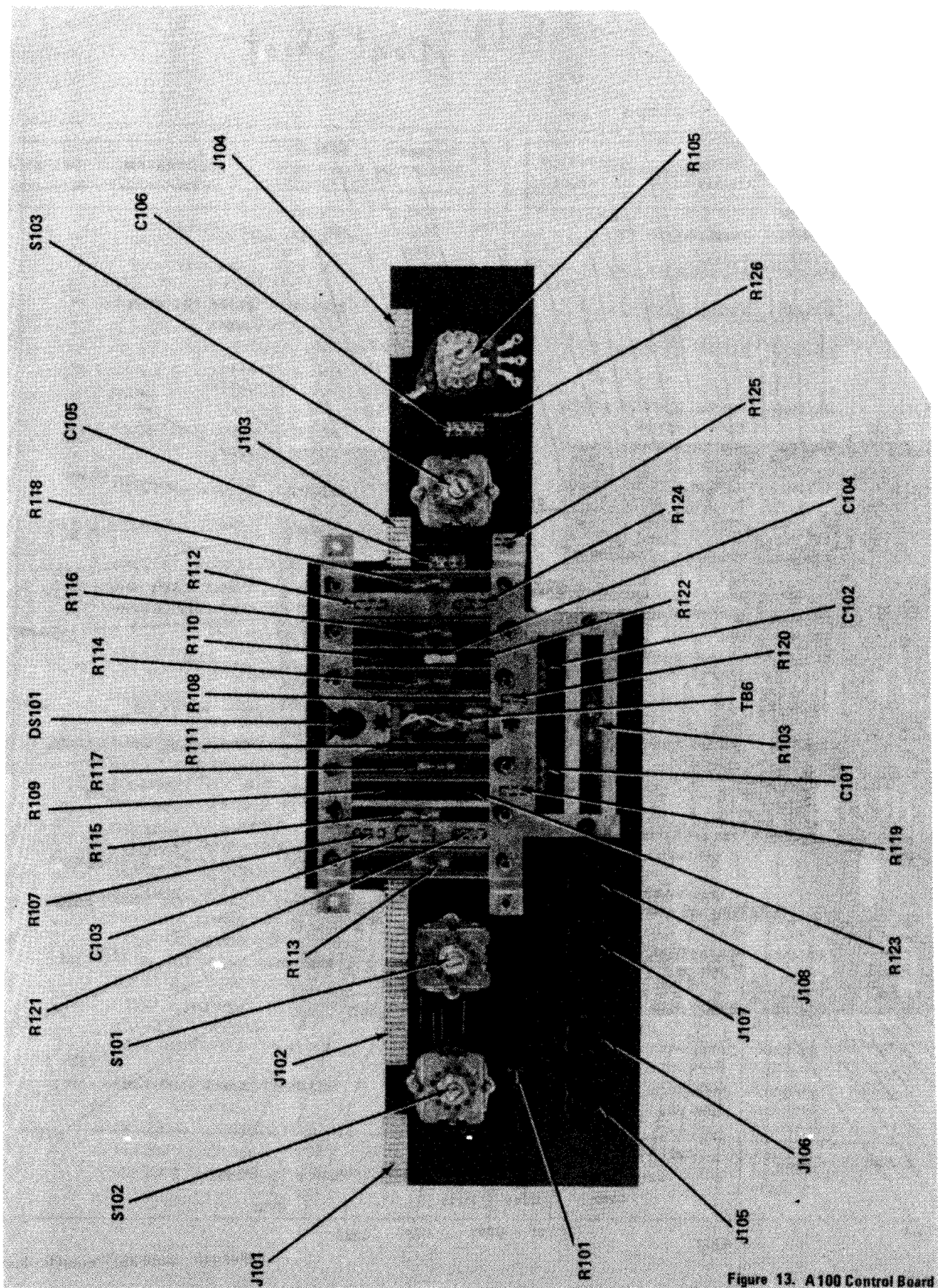
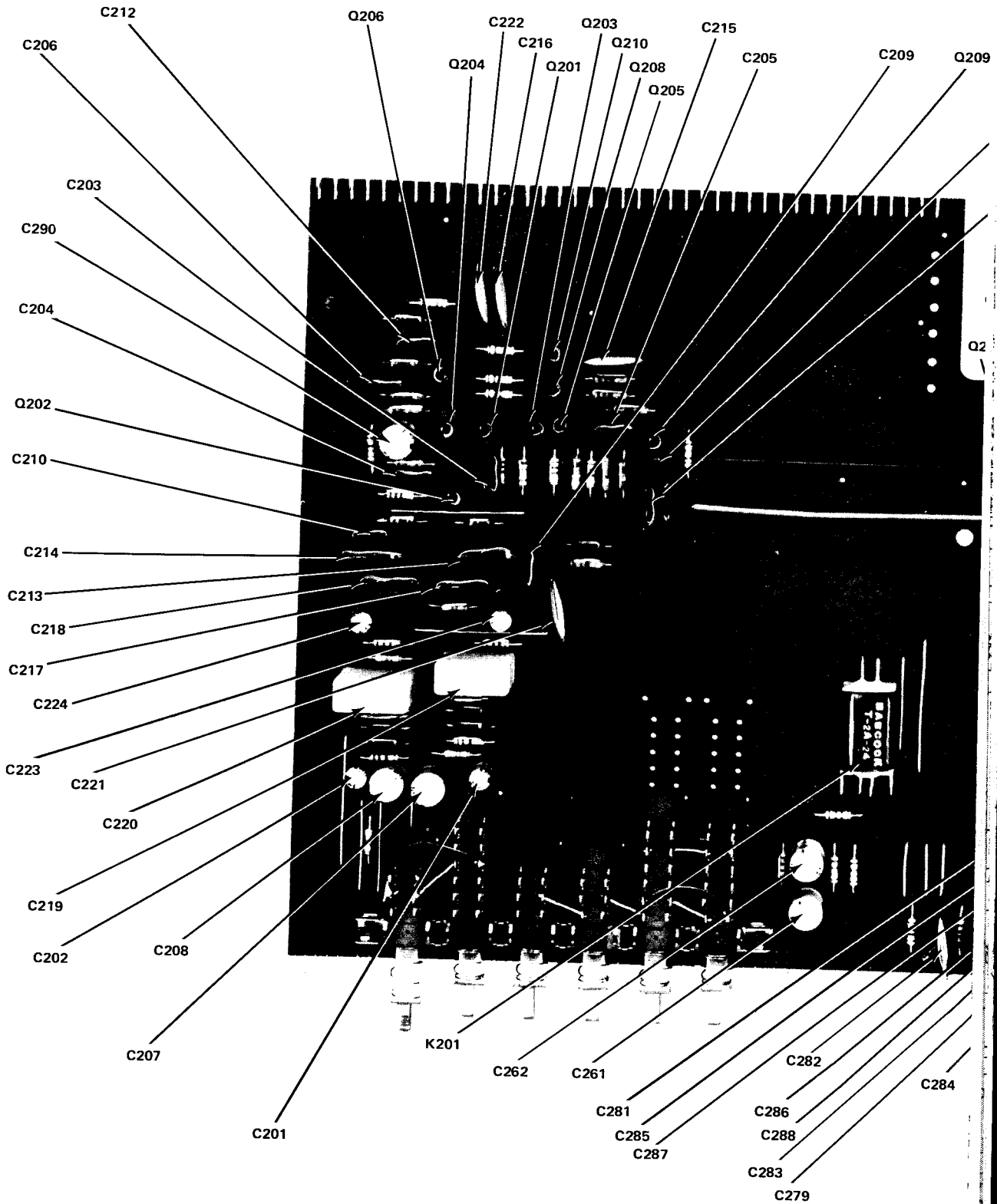


Figure 13. A100 Control Board

REFERENCE DESIGNATION	MARANTZ PART NUMBER	NOMENCLATURE	
R119,			
R120	434-5152	RESISTOR, C-F, 15K	
R121,			
R122	434-4562	RESISTOR, C-F, 5.6K	
R123,			
R124	434-4682	RESISTOR, C-F, 6.8K	
R125,			
R126	434-5472	RESISTOR, C-F, 47K	
S101	453-2009	SWITCH, ROTARY, 3-POSN, TAPE MONITOR	
S102	453-2008	SWITCH, ROTARY, 5-POSN, MODE	
S103	453-2010	SWITCH, ROTARY, 2-POSN, TONE	
	132-2000	BRACKET, VARIABLE RESISTOR	
	168-1016-2	SPACER, BALANCE CONTROL	
	168-2006	SPACER, TONE CONTROL	
	566-1020	GROMMET	
	673-0122	LOCKWASHER NO. 2, EXT. TOOTH	x2
	701-0412	SCREW, 2-56 x 1/4 LG, PNH, CRSHD, STL, BLK, WAX	x2
	769-2001	SCREW, 3.0MM x 6.0MM LG PNH	x14
A200-300	200-2001-1	PREAMPLIFIER BOARD COMPONENT ASSEMBLY	
		CAPACITORS ARE $\pm 10\%$, 100V UNLESS OTHERWISE SPECIFIED.	
C201,	* 381-3001	CAPACITOR, 4.7 MFD + 100%, - 20%, 25V	
C202,			
C203,			
C204	385-1065	CAPACITOR, 82PF	
C205,			
C206	385-1037	CAPACITOR, 270PF	
C207,			
C208	381-3003	CAPACITOR, 22 MFD + 100%, - 20%, 25V	

REFERENCE DESIGNATION	MARANTZ PART NUMBER	NOMENCLATURE	
C209,			
C210	385-2004	CAPACITOR, 220PF	
C211,			
C212	385-1040	CAPACITOR, 47PF	
C213,			
C214	385-1091	CAPACITOR, 1000PF $\pm 5\%$, 100V	
C215,			
C216	383-1002	CAPACITOR, .03MFD $\pm 20\%$, 100V	
C217,			
C218	385-1057	CAPACITOR, 3600PF $\pm 5\%$, 100V	
C219,			
C220	386-2003	CAPACITOR, 1MFD	
C221,			
C222	383-1002	CAPACITOR, .03MFD $\pm 20\%$, 100V	
C223			
thru	381-3001	CAPACITOR, 4.7MFD + 100%, - 20%, 25V	
C226			
C227,			
C228	385-2002	CAPACITOR, 510PF $\pm 5\%$, 100V	
C229,			
C230	385-1074	CAPACITOR, 68PF	
C231,			
C232	381-3006	CAPACITOR, 100MFD + 100%, - 20%, 6.3V	
C233,			
C234	385-1046	CAPACITOR, 2000PF	
C235,			
C236	385-1073	CAPACITOR, 130PF	
C237,	383-2000	CAPACITOR, .001MFD, GMV 300V	
C238			
C239	383-1002	CAPACITOR, .03MFD $\pm 20\%$, 100V	
C240		NOT USED	
C241	383-1002	CAPACITOR, .03MFD $\pm 20\%$, 100V	
C242		NOT USED	
C243,			
C244	385-2003	CAPACITOR, 620PF	
C245,			
C246	381-2002	CAPACITOR, 10MFD + 100%, - 20%, 25V	

* CAPACITOR P/N 381-XXXX ARE ELECTROLYTICS.



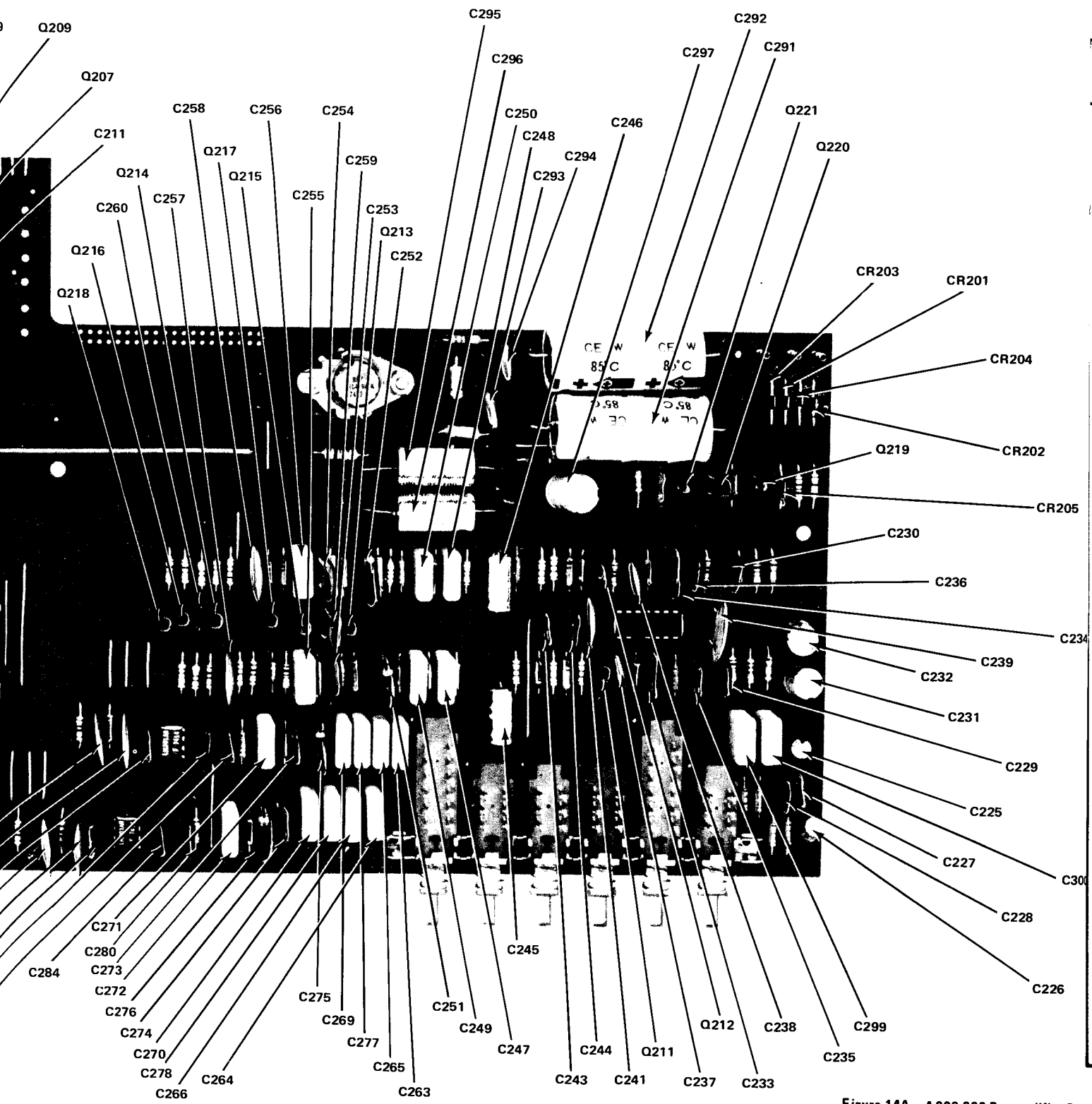
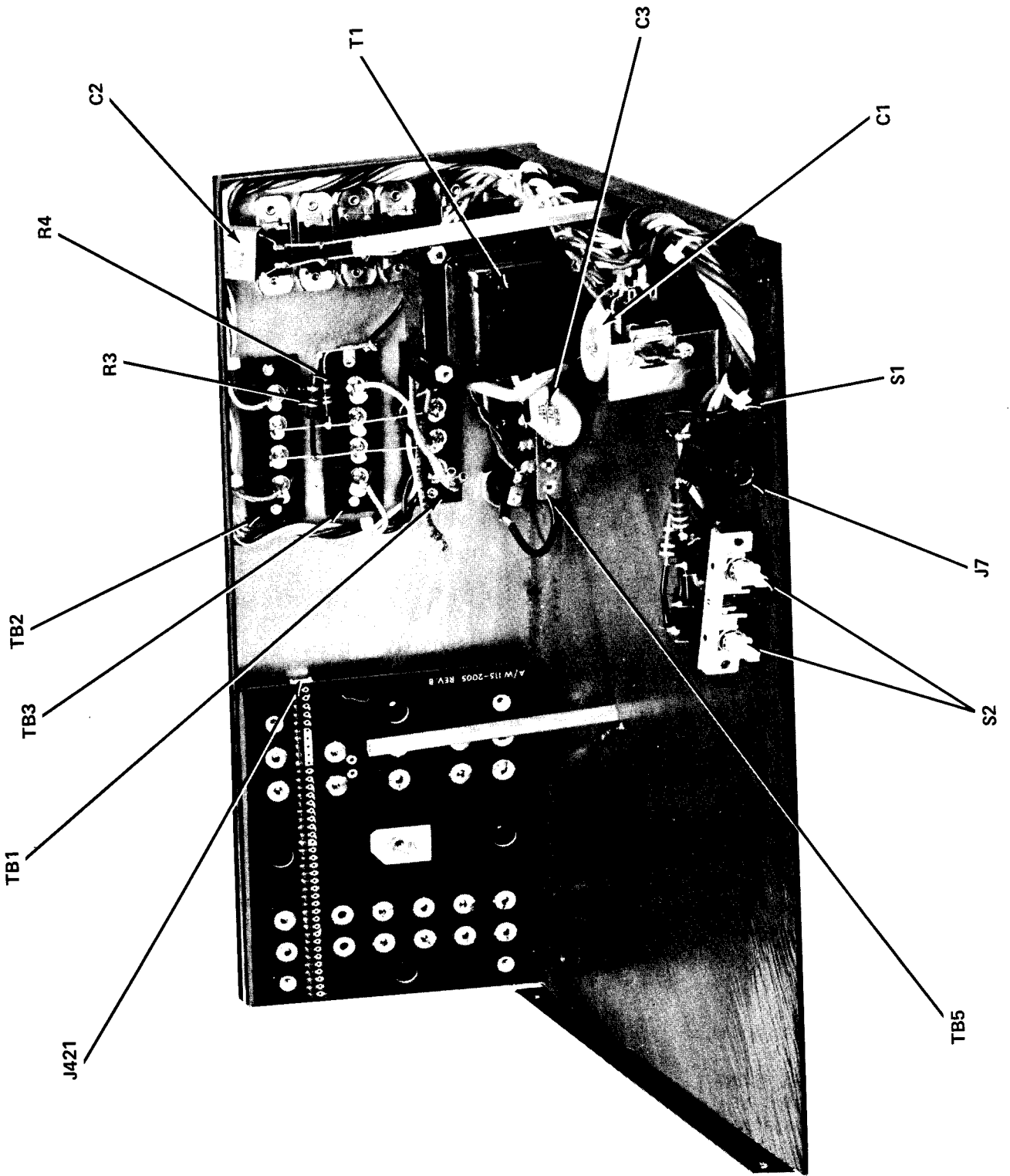
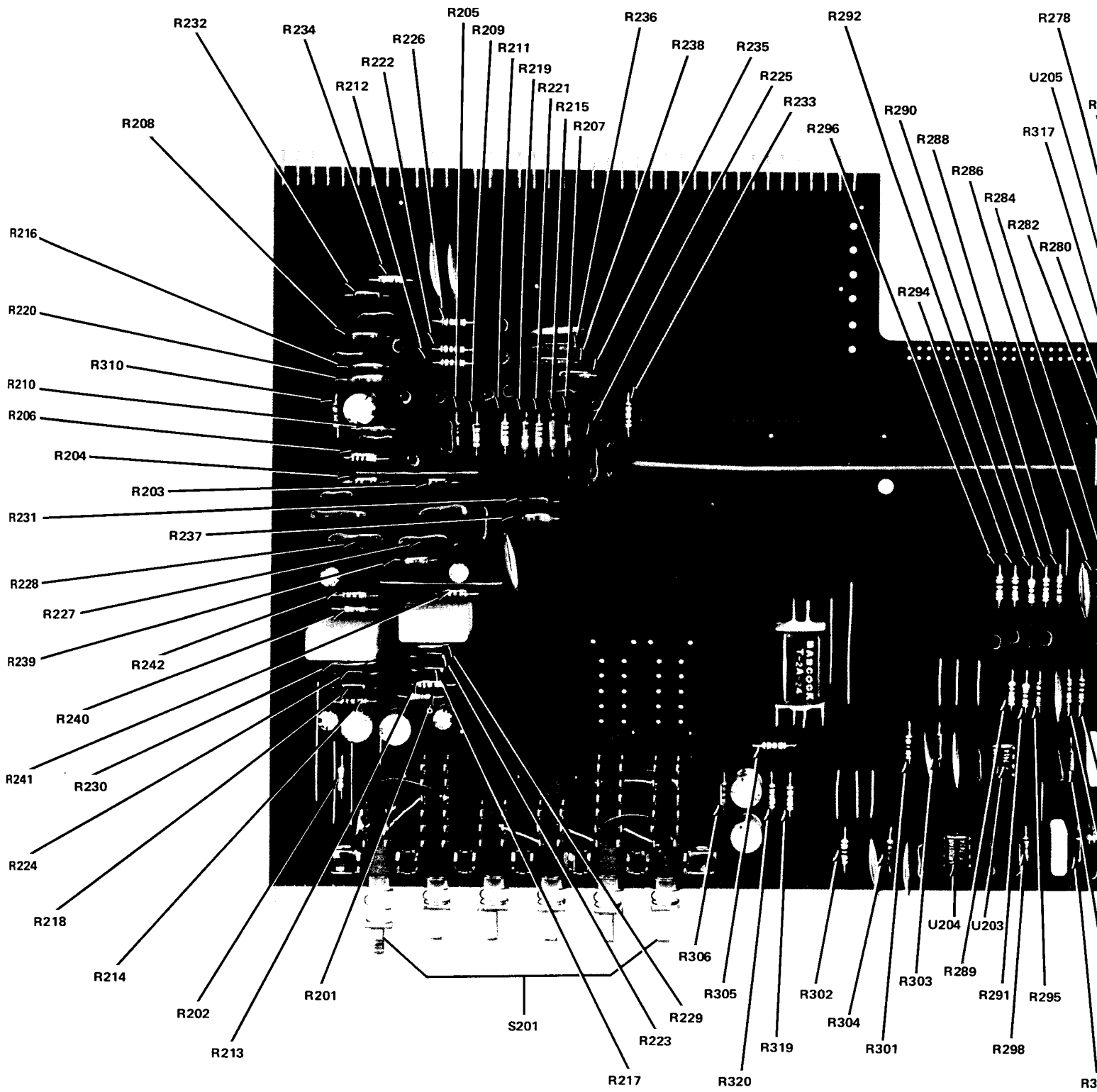


Figure 14A. A200-300 Preamplifier Box

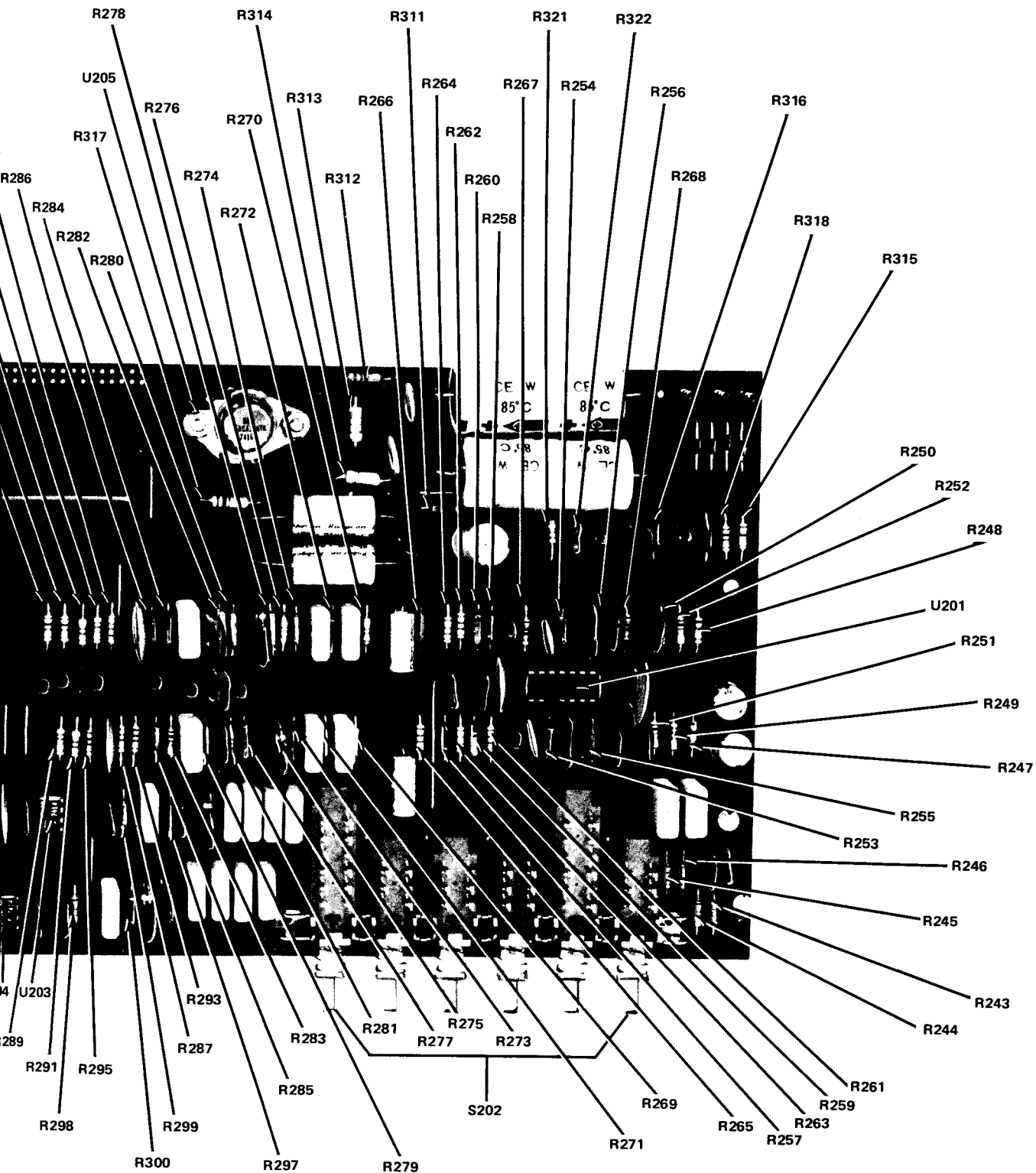
REFERENCE DESIGNATION	MARANTZ PART NUMBER	NOMENCLATURE
	210-2000-1	PREAMPLIFIER UNIT
	136-2001	COVER, UNIT
	206-2000-1	FRONT DRESS PANEL ASSY (INCLUDES) INSULATOR, UNIT COVER PANEL, FRONT DRESS SHIELD, DRESS PANEL MASK, DUST, TONE CONTROL MASK, DUST, BALANCE CONTROL WINDOW, DRESS JEWEL, PILOT LIGHT
	174-2001	KNOB, ROUND, FUNCTION x4
	180-1092	LABEL, UL APPROVED
	180-2000-1	LABEL, SERIAL NUMBER (SERIALIZED)
	551-2000	BUSHING, ROUND x3
	551-2001	BUSHING, PHONE JACK x5
	551-2002	BUSHING, BALANCE CONTROL
	551-2003	BUSHING, TONE CONTROL x6
	578-2000	FRAME, DRESS PANEL
	578-2001	BEZEL, 6-STATION SWITCH
	580-2009	KNOB, ROUND, TONE/ BALANCE CONTROL x7
	580-2003	KNOB, ROUND, POWER
	580-2004	KNOB, RECTANGULAR x12
	580-2005	KNOB, ROUND, SPEAKER x2
	585-1008	LABEL, CAUTION
	769-2010	DRESS BOLT, HEX HD. x4
	775-3242	SETSCREW, 8-32 x 1/4, BLK CP x4
	784-4112	SCREW, 6-32 x 1/4, TF, CRSHD, BLK x20
	820-9900	SHIELD, LAMP
A1	210-2001-1	CHASSIS ASSEMBLY
	133-2000	CHASSIS, FRONT
	133-2001	CHASSIS, BASE
	133-2002	CHASSIS, REAR, MARKED

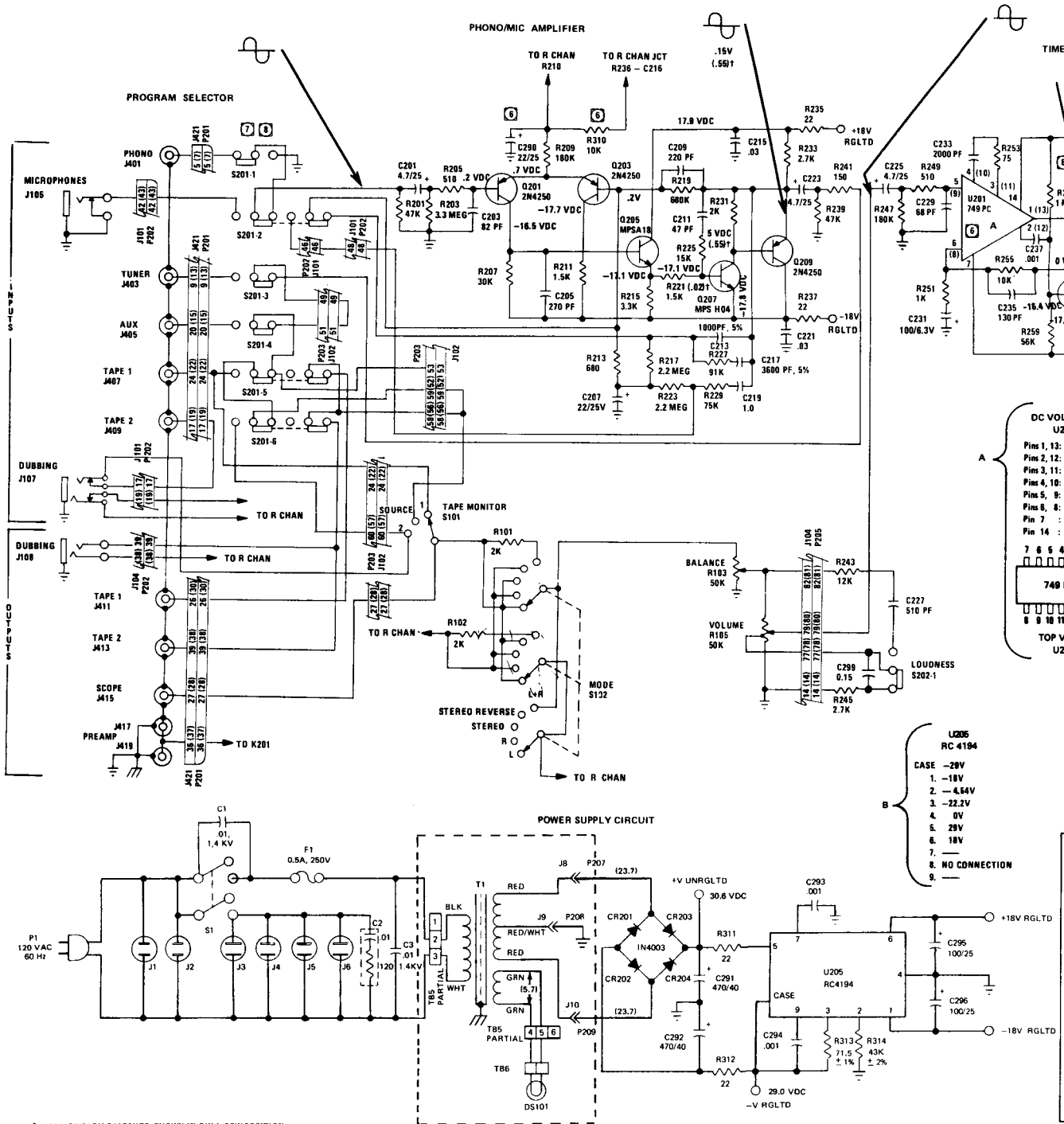
REFERENCE DESIGNATION	MARANTZ PART NUMBER	NOMENCLATURE
	202-2000-1	PILOT LIGHT SHIELD ASSY
	210-2002-1	REAR CHASSIS ASSEMBLY
C1, C3	383-1006	CAPACITOR, .01 MFD, 1400V
C2	389-2000	CAPRISTOR, .1 MFD, 120 OHMS, 500V
F1	451-1016	FUSE, 0.5 A, 250V
J1-J6	360-1034	OUTLET, AC
J7	360-1005	PHONE JACK, DOUBLE OPEN CIRCUIT
J8, J9, J10	365-1015	CONNECTOR, FEMALE
R1, R2	423-3332	RESISTOR, C-C, 330 OHMS ± 5%, 1W
R3, R4	436-1103	RESISTOR, WW, 1 OHM ± 10%, 2W
S1	452-2015	SWITCH, POWER
S2	452-2000	SWITCH, 2-STATION, SPEAKER
T1	440-2001	TRANSFORMER, POWER
TB1 thru TB3	362-2000	TERMINAL BLOCK
TB4	362-2005	TERMINAL STRIP
TB5	362-2006	TERMINAL STRIP
TB6	362-2002	TERMINAL STRIP
	127-2001	INSULATOR, PILOT LIGHT ASSEMBLY
	132-2002	BRACKET, POWER SWITCH
	136-2005	SHIELD, PILOT LIGHT
	168-2000	STANDOFF, HEX x2
	168-2001	SPACER x4
	359-2004	STANDOFF, HEX, 5-32 x 1/2, 2-56 THD x2
	359-2012	BINDING POST





A200-300 Preamplifier Board

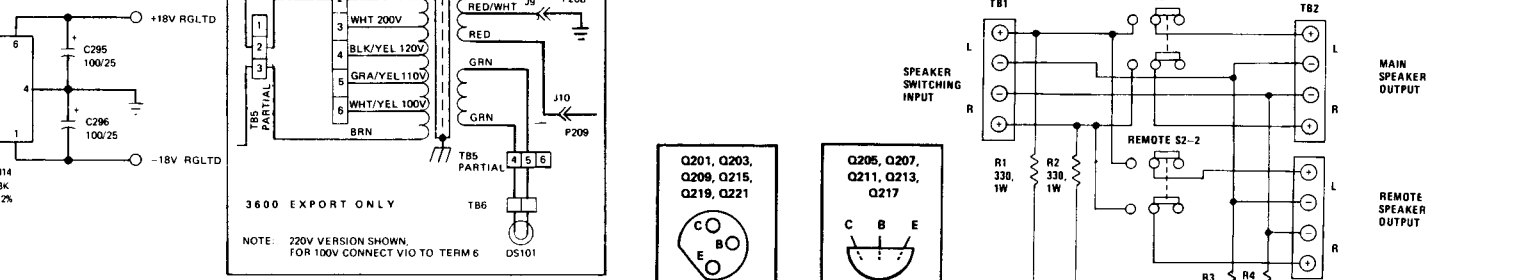
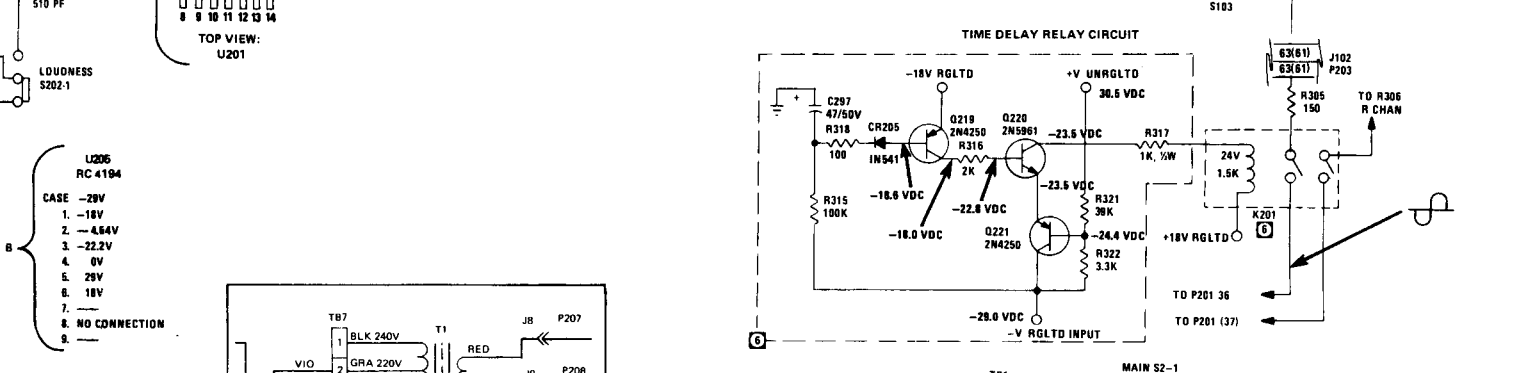
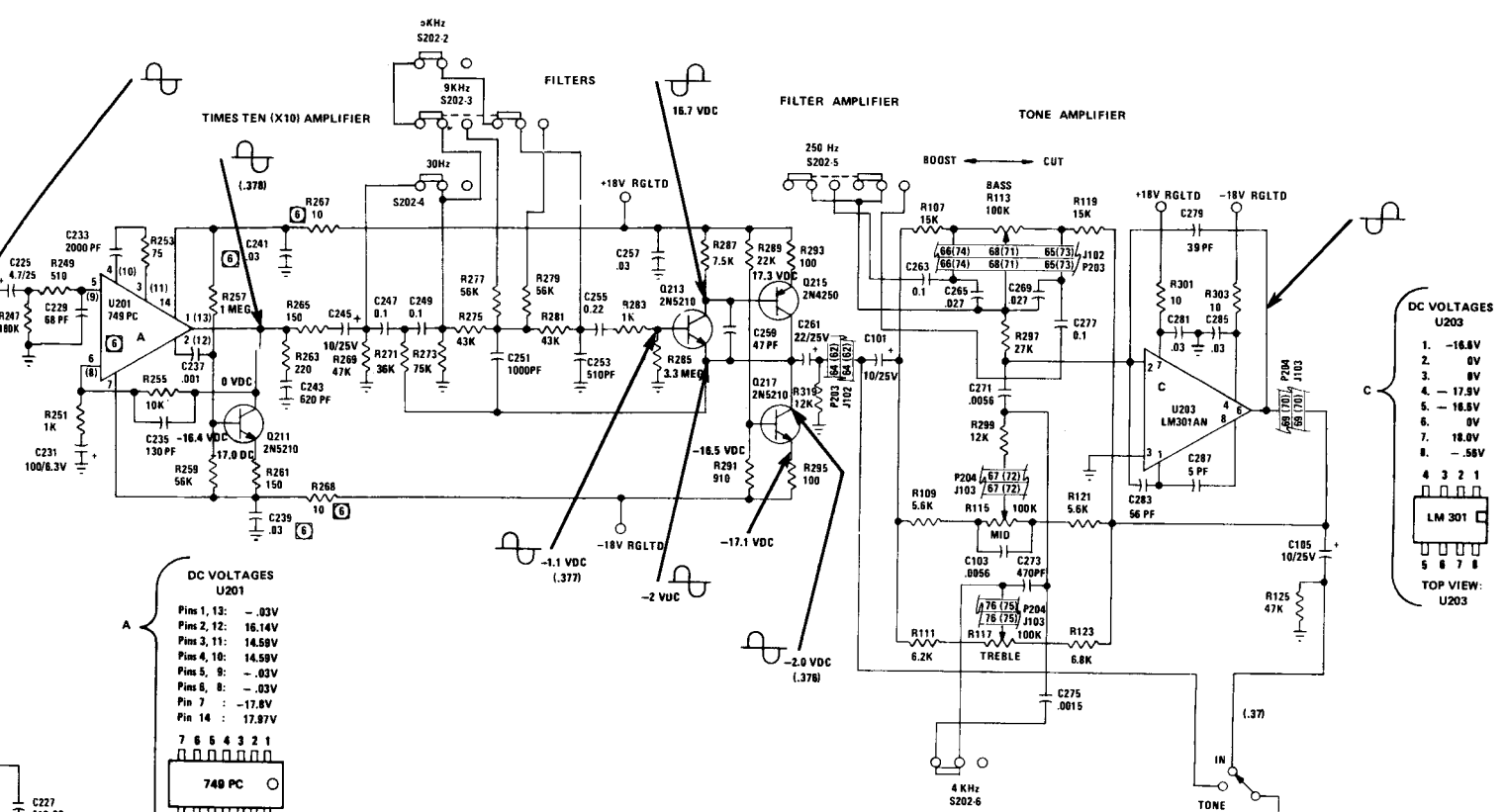




9. ALL ROTARY SWITCHES, SHOWN IN FULL CCW POSITION.
 1. SWITCHES S201-1 THRU S201-6 ARE INTERLOCKING.
 2. ALL SWITCHES EXCEPT PHONO ARE SHOWN IN NORMALLY OUT POSITION.
 3. COMPONENT OR CIRCUIT COMMON TO BOTH CHANNELS.
 4. LEFT CHANNEL REFERENCE DESIGNATIONS ARE ODD NUMBERS, RIGHT CHANNEL REFERENCE DESIGNATIONS ARE NEXT HIGHER EVEN NUMBERS.
 5. NUMBERS IN PARENTHESIS ARE FOR RIGHT CHANNEL.
 6. THIS SCHEMATIC SHOWS LEFT CHANNEL ONLY.
 7. CAPACITORS IN MFD, 10%. POLARIZED CAPACITORS ARE ELECTROLYTICS, (+100%, -20%).
 8. RESISTORS IN OHMS, 1/4W, 5%.
- NOTES, UNLESS SPECIFIED:

7. () INDICATES AC VOLTAGES EXPRESSED IN RMS WITH A SIGNAL APPLIED TO THE PHONO INPUT. SIGNAL GENERATOR USED: SOURCE.
 8. () INDICATES AN AC VOLTAGE EXPRESSED IN RMS WITH A SIGNAL APPLIED TO THE AUX INPUT. SIGNAL GENERATOR USED: SOURCE.
 9. ALL DC VOLTAGES MEASURED WITH NO SIGNAL APPLIED, INPUT.
 10. ALL VOLTAGES MEASURED WITH CONTROLS IN THE MID-RANGE POSITION.
 11. ALL VOLTAGES MEASURED WITH RESPECT TO CHASSIS GND.
 12. ALL VOLTAGES MEASURED WHILE MAINTAINING CONSTANT 120VAC.
 13. ALL INDICATED VOLTAGES ARE WITHIN ±10% TOLERANCE.
- NOTES: VOLTAGES UNLESS SPECIFIED:

Schematic Diagram



VOLTAGES EXPRESSED IN RMS WITH A SIGNAL GENERATOR ADJUSTED TO DEVELOP 1kHz @ -40dB LEVEL AND 100mV INPUT. SIGNAL GENERATOR USED: SOUND TECHNOLOGY 1700A.

DC VOLTAGE EXPRESSED IN RMS WITH A SIGNAL GENERATOR ADJUSTED TO DEVELOP 1kHz @ 0dB LEVEL AND 100mV INPUT. SIGNAL GENERATOR USED: SOUND TECHNOLOGY 1700A.

MEASURED WITH NO SIGNAL APPLIED, INPUT JACK SHORTED.

MEASURED WITH CONTROLS IN THE MID-RANGE POSITION, TONE SWITCH ON.

MEASURED WITH RESPECT TO CHASSIS GROUND.

MEASURED WHILE MAINTAINING CONSTANT 120 VOLT LINE INPUT THROUGH AN AUTOTRANSFORMER.

VOLTAGES ARE WITHIN ± 10% TOLERANCE.

RESISTORS ARE UNLESS SPECIFIED:

REFERENCE DESIGNATION	MARANTZ PART NUMBER	NOMENCLATURE
C247 thru C250	386-2002	CAPACITOR, 0.1 MFD
C251, C252, C253, C254, C255, C256, C257, C258	385-1091	CAPACITOR, 1000PF \pm 5%, 100V
C259, C260, C261, C262	385-2002	CAPACITOR, 510PF \pm 5%, 100V
C263, C264, C265, C266, C267, C268, C269, C270, C271, C272, C273, C274, C275, C276, C277, C278, C279, C280, C281, C282, C283, C284, C285, C286, C287, C288, C289, C290	386-2005	CAPACITOR, 0.22 MFD
	383-1002	CAPACITOR, .03MFD \pm 20%, 100V
	385-1040	CAPACITOR, 47PF
	381-3003	CAPACITOR, 22MFD + 100%, -20%, 25V
	386-2002	CAPACITOR, 0.1 MFD
	386-2001	CAPACITOR, 0.027MFD NOT USED NOT USED
	386-2001	CAPACITOR, 0.027MFD
	386-2000	CAPACITOR, 5600PF
	385-1087	CAPACITOR, 470PF
	385-1094	CAPACITOR, 1500PF
	386-2002	CAPACITOR, 0.1MFD
	385-1035	CAPACITOR, 39PF \pm 10%, 500V
	383-1002	CAPACITOR, .03MFD \pm 20%, 100V
	385-2001	CAPACITOR, 56PF
	383-1002	CAPACITOR, .03MFD \pm 20%, 100V
	385-1049	CAPACITOR, 5PF NOT USED
	381-3003	CAPACITOR, 22MFD + 100%, -20%, 25V

REFERENCE DESIGNATION	MARANTZ PART NUMBER	NOMENCLATURE
C291, C292	381-2001	CAPACITOR, 470MFD + 100%, -20%, 50V
C293, C294	383-2000	CAPACITOR, .001MFD, GMV, 300V
C295, C296	381-2000	CAPACITOR, 100MFD + 100%, -20%, 25V
C297	381-3007	CAPACITOR, 47MFD + 100%, -20%, 50V
C298, C299, C300		NOT USED
	386-2004	CAPACITOR, 0.15MFD
CR201 thru CR204	460-2000	DIODE, RECTIFIER, 1N4003
CR205	460-1010	DIODE, RECTIFIER, 1N541
K201	410-2000	RELAY, REED, DPST (NO)
Q201 thru Q204	461-2001	TRANSISTOR, PNP, 2N4250
Q205, Q206	462-2000	TRANSISTOR, NPN, MPSA18
Q207, Q208	462-2018	TRANSISTOR, NPN, MPSH04
Q209, Q210, Q211	461-2001	TRANSISTOR, PNP, 2N4250
thru Q214	462-2002	TRANSISTOR, NPN, 2N5210
Q215, Q216	461-2001	TRANSISTOR, PNP, 2N4250
Q217, Q218	462-2002	TRANSISTOR, NPN, 2N5210
Q219	461-2001	TRANSISTOR, PNP, 2N4250
Q220	462-2004	TRANSISTOR, NPN, 2N5961
Q221	461-2001	TRANSISTOR, PNP, 2N4250