

# SERVICE MANUAL

*NAD Model 300*

**STEREO RECEIVER**



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# 1. SPECIFICATIONS

	NOMINAL	LIMIT	UNIT
<b>A. FM SECTION</b>			
1. FM Tuning Range *Adjustment for tuning prohibited below 87.5 MHz in West Germany		*87.7–108	MHz
2. Dial Calibration Accuracy	90 & 106 MHz 98 MHz	±150 ±100	kHz kHz
3. IHF Sensitivity at 90, 98 & 106 MHz Noise and Distortion: –30 dB	1.8	2.8	μV
4. Image Rejection at 98 MHz	83	73	dB
5. IF Rejection at 90 MHz	90	75	dB
6. AM Rejection at 98 MHz at 30% AM & 100% FM Simultaneous Modulation, 100 – 20,000 μV Antenna Input	50	45	dB
7. Limiter Sensitivity at – 1 dB Below Maximum Audio	1.6	3	μV
8. Total Harmonic Distortion at 98 MHz TAPE OUT (at 400 Hz 100% Modulation, 1,000 μV Input)	0.25	0.6	%
9. Spurious Response at 98 MHz Antenna Input: 3 μV OSC 2nd 206.7 MHz 1/2 IF 103.35 MHz		80 80	dB dB
10. IF Bandwidth, 6 dB down Antenna Input: 100 μV	250	200	kHz
11. IF Bandwidth, 50 dB down Antenna Input: 100 μV	600	800	kHz
12. Signal-to-Noise Ratio 100% Mod., 1 mV Input	70	65	dB
13. Capture Ratio 1,000 μV, MONO Input	1.2	2	dB
14. Output Voltage Stereo and Mono, 400 Hz, 100% Mod. TAPE-2 OUT	1.0	0.8	V
15. Alternate Channel Selectivity (IHF) Antenna Input: 100 μV	75	60	dB
16. Muting Threshold	10	8–20	μV
<b>B. FM MPX SECTION</b>			
1. Stereo Separation at 98 MHz (Antenna Input: 1,000 μV)	100 Hz 1 kHz 10 kHz	35 40 28	dB dB dB
HI-BLEND on, at 1 kHz	13	13±3	dB
2. Total Harmonic Distortion at 98 MHz Stereo, 1 mV Antenna Input 1 kHz and/or 500 Hz 100% Mod., at REC OUT	0.4	1.2	%
3. Automatic Stereo Threshold	10	5–16	μV
4. Residual 19 kHz & 38 kHz at 98 MHz, 1 mV Input	50	45	dB
5. Stereo Frequency Response 40 – 10,000 Hz		±1	dB
6. 19 kHz Pilot Signal Dev. to Activate		7	%

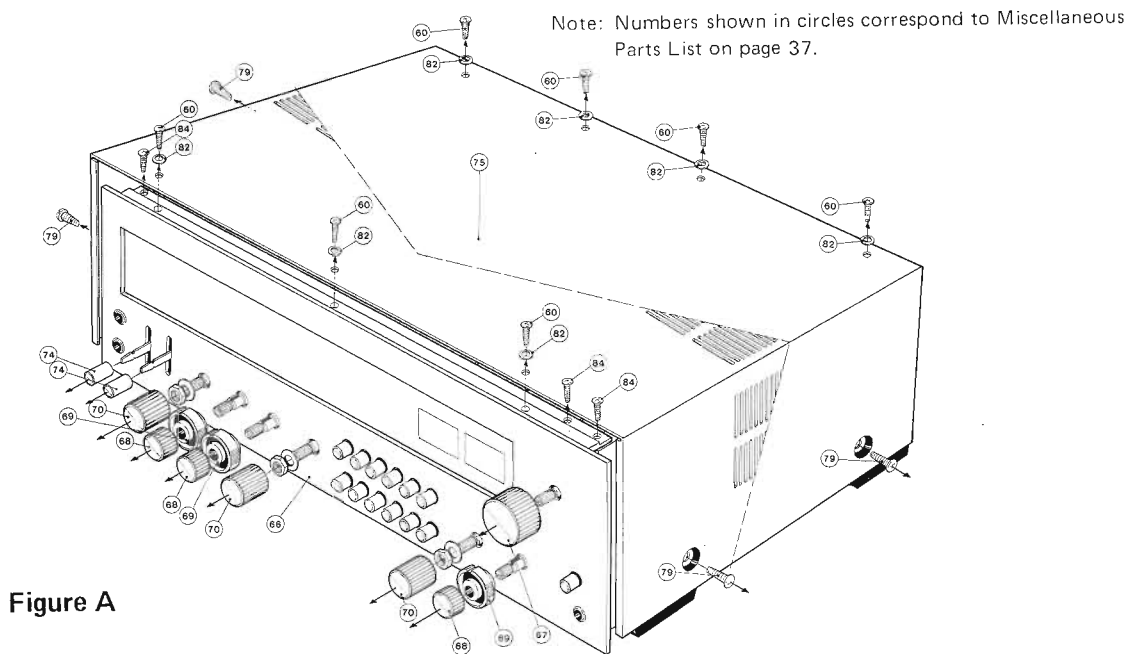
	NOMINAL	LIMIT	UNIT
<b>C. AM SECTION</b>			
1. AM Tuning Range	525—1,650	535—1,605	kHz
2. Sensitivity (IHF) at 600, 1,000, 1,400 kHz, 400 Hz, 30% Mod.	200	400	$\mu$ V/m
3. Bandwidth 6 dB down at 1,000 kHz with Antenna Input of 500 $\mu$ V/m	6	4—10	kHz
4. Image Rejection at 1,400 kHz	80	60	dB
5. IF Rejection at 600 kHz	40	32	dB
6. AGC Figure of Merit Form 0.2 V/m, at 1,000 kHz	50	45	dB
7. Total Harmonic Distortion at 1,000 kHz 5,000 $\mu$ V/m Antenna Input, 400 Hz, 30% Mod., at REC OUT	1.5	2.5	%
8. Dial Calibration Accuracy			
600 kHz		$\pm$ 12	kHz
1,000 kHz		$\pm$ 20	kHz
1,400 kHz		$\pm$ 30	kHz
9. Output Voltage 1 kHz 30% Mod. 5 mV/m Input at TAPE 2 OUT	150	120	mV
10. Signal-to-Noise Ratio 400 Hz 30% Mod. 50 mV/m Input	45	42	dB
<b>D. AUDIO SECTION</b>			
1. Output Power 0.3% THD, 20 Hz — 20 kHz, 8 ohms Load, Both Channels Driven	85	80	W/Channel
2. Harmonic Distortion at 1 kHz, 8 ohms Load, 65 Watts Output	0.03	0.1	%
3. Intermodulation Distortion at 2 V Output, 4 ohms Load	0.06	0.15	%
4. Frequency Response AUX 1 W Output, 8 ohms Load 20 Hz — 20 kHz		+0.5 -2.0	dB dB
5. Input Sensitivity at 1 kHz, for 25.3 Volt Output, 8 ohms Load			
PHONO	3	3 $\pm$ 0.5	mV
AUX	200	200 $\pm$ 30	mV
MIC	2.2	2.2 $\pm$ 0.5	mV
TAPE IN	200	200 $\pm$ 30	mV
6. Tape Recording Output Level Front Panel Phono Jack/Rear Panel DIN Jack at PHONO Input: 3 mV	200/30	200 $\pm$ 30/30 $\pm$ 5	mV
7. Phono Input Equalization 50 $\div$ 15,000 Hz	$\pm$ 0.5	$\pm$ 1.2	dB

	NOMINAL	LIMIT	UNIT
8. Harmonic Distortion of EQ Amplifier Section at 1 kHz, 50 mV Input	0.035	0.08	%
9. Overload Capability of EQ Amplifier Section at 1 kHz, 0.1% HD	240	200	mV
10. Tone Control			
BASS at 100 Hz	±10	±10±2	dB
TREBLE at 10 kHz	±10	±10±2	dB
11. Gain Difference of Left and Right Channels at AUX and PHONO		1.5	dB
12. High-Filter at 7 kHz	-5	±2	dB
13. Subsonic Filter at 40 Hz	-3	±2	dB
14. Channel Separation on AUX Input Opposite Channel: Shorted			
100 Hz	70	50	dB
1 kHz	80	60	dB
10 kHz	70	50	dB
15. Signal-to-Noise Ratio (Input Shorted)			
PHONO	63	58	dB
AUX	85	75	dB
TAPE IN	85	75	dB
Volume Minimum	90	85	dB
16. LOUDNESS Compensation (-30 dB)			
100 Hz	+8	+8±2	dB
10 kHz	+5	+5±2	dB
17. Harmonic Distortion of Pre-Amplifier Section 20 Hz - 20 kHz, 2 Volt Output 50 Kohms Load	0.02	0.1	%
18. Input Sensitivity of Pre-Amplifier Section at 1 kHz, for 25.3 Volts Output, 8 ohms Load	1	1±0.2	V
<b>E. DOLBY NR SECTION</b>			
1. Output vs Input at REC Position at 2 kHz, 0 dB=30 mV			
Input Level      0 dB	0	±2	dB
-20 dB	-15.7	-15.7±2	dB
-30 dB	-21.5	-21.5±2	dB
-40 dB	-31.1	-31.1±2	dB
2. Output vs Input at PLAY Position at 5 kHz, 0 dB=30 mV			
Input Level      0 dB	0	±2	dB
-20 dB	-26.7	-26.7±2	dB
-30 dB	-40.3	-40.3±2	dB
3. Frequency Response of DOLBY FM Input=30 mV			
5 kHz	+3	+3±1	dB
10 kHz	+5	+5±1	dB

	NOMINAL	LIMIT	UNIT
<p>F. <u>GENERAL</u></p> <ol style="list-style-type: none"> <li>1. Power Requirements 220 VAC, 50 Hz (120, 240 VAC, 50 Hz)</li> <li>2. Dimensions 508(W) x 400(D) x 145(H) mm</li> <li>3. Weight                      22 Kg.</li> </ol>			

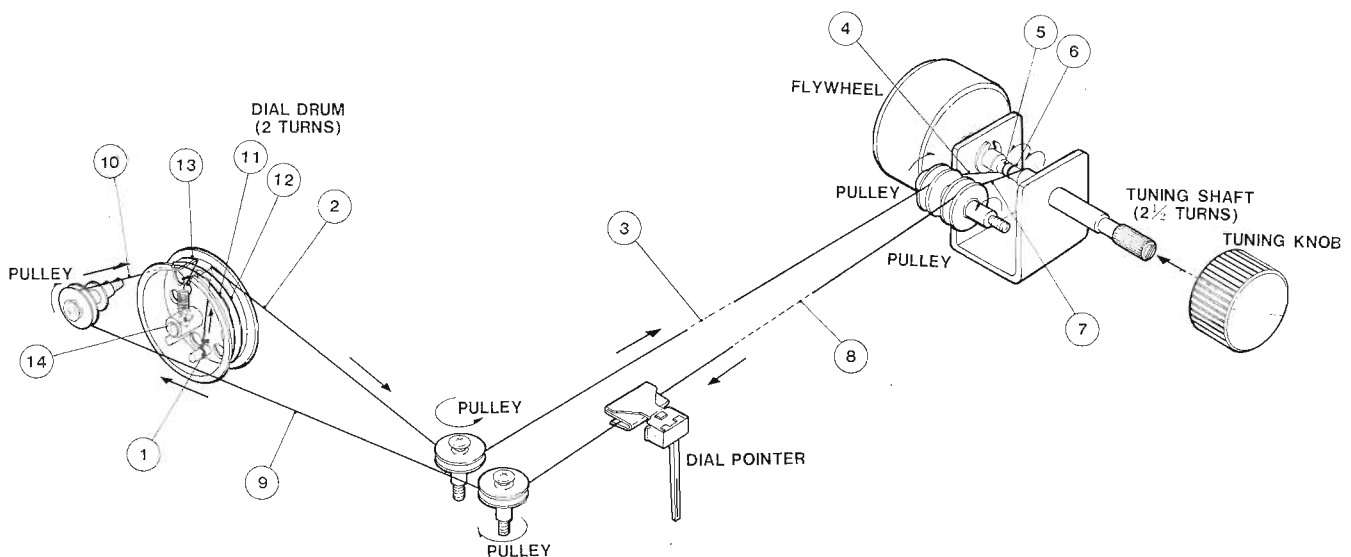
## 2. DISASSEMBLY INSTRUCTIONS

- 1) Removing the metal enclosure from chassis. (Refer to Figure A)  
Remove seven screws from top of the enclosure and four screws from both sides of the enclosure, then pull off the enclosure from the chassis.
- 2) Removing the Front Panel. (Refer to Figure A)
  - a) Pull off all the control knobs except for PLAY CAL and REC LEVEL.
  - b) Remove three nuts from SELECTOR, SPEAKERS and DOLBY NR controls.
  - c) Remove three screws from top of the Front Panel and remove Front Panel.

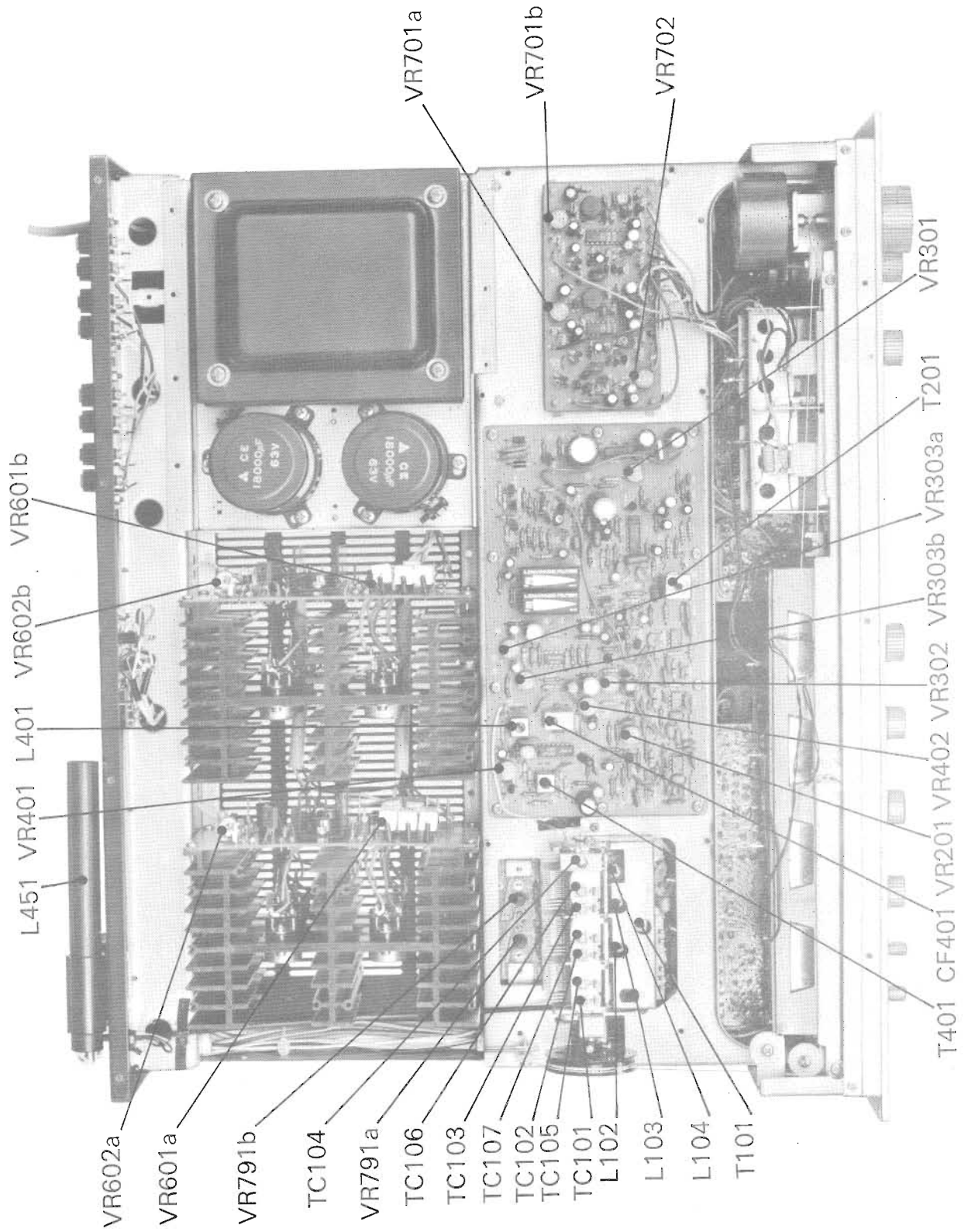


## 3. DIAL STRINGING DETAIL

Note: Tuning capacitor should be fully closed position.



# 4. ALIGNMENT AND CHECK POINTS





# 5. ALIGNMENT PROCEDURES

Do not attempt alignment unless the following equipment is available.

## EQUIPMENT DESCRIPTION

- |                        |                     |                      |
|------------------------|---------------------|----------------------|
| 1. AM Signal Generator | 5. Stereo Modulator | 9. Frequency Counter |
| 2. Oscilloscope        | 6. Audio Generator  |                      |
| 3. AC Voltmeter        | 7. Distortion meter |                      |
| 4. FM Signal Generator | 8. DC Voltmeter     |                      |

## AM IF & RF ALIGNMENT

Output of signal generator should be no higher than necessary to obtain an output reading.  
Set SELECTOR switch S1 to AM.

STEP	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RECEIVER DIAL SETTING	INDICATOR	ADJUSTMENT	REMARKS
1	Refer Fig. 1	455 kHz (400 Hz Mod.)	Point of non-interference. (on/about 600 kHz)	AC Voltmeter to TAPE OUT jack.	T401 (RF Coil) Both sections CF401	Adjust for maximum reading.
2	Same as Step 1	600 kHz (400 Hz Mod.)	600 kHz	Same as step 1	L401 (OSC Coil) L451 (ANT Coil)	Adjust for maximum reading.
3	Same as Step 1	1400 kHz (400 Hz Mod.)	1400 kHz	Same as step 1	TC107 (OSC Trimmer) TC105 (ANT Trimmer) TC106 (RF Trimmer)	Adjust for maximum reading. Repeat steps (2) and (3)
4	Same as Step 1	1000 kHz (400 Hz Mod.)	1000 kHz	Same as step 1	VR402	Adjust for 150 mV Audio Output
5	Same as Step 1	1000 kHz (400 Hz Mod.) SG output level 28mV/m	1000 kHz	SIGNAL Meter	VR401	Adjust for maximum reading on SIGNAL meter

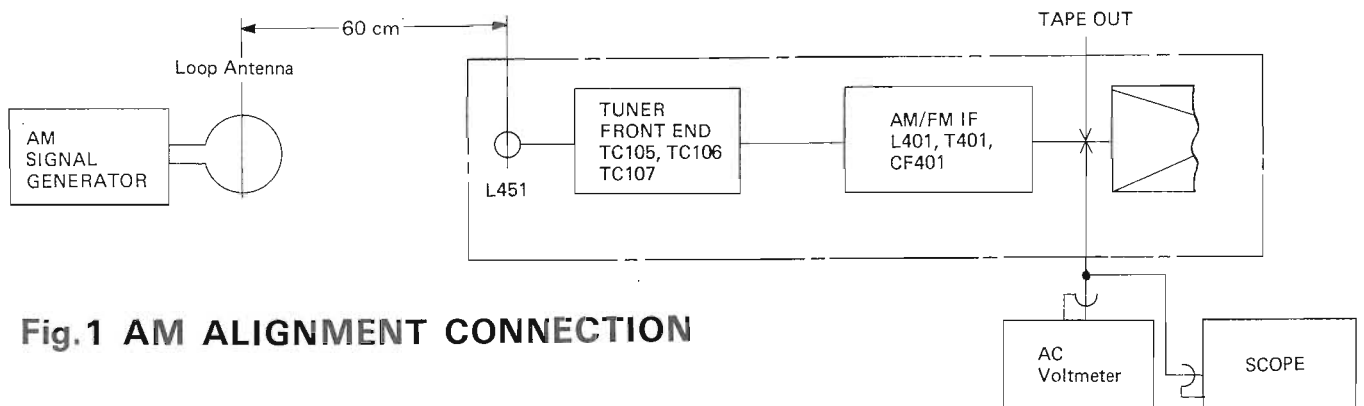


Fig.1 AM ALIGNMENT CONNECTION

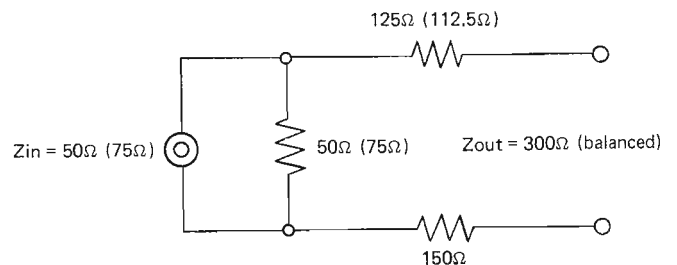
# FM RF AND IF ALIGNMENT

Signal generator output should be no higher than necessary to obtain an output reading.  
 Set Selector switch to FM.  
 Signal Generator deviation: 75 kHz

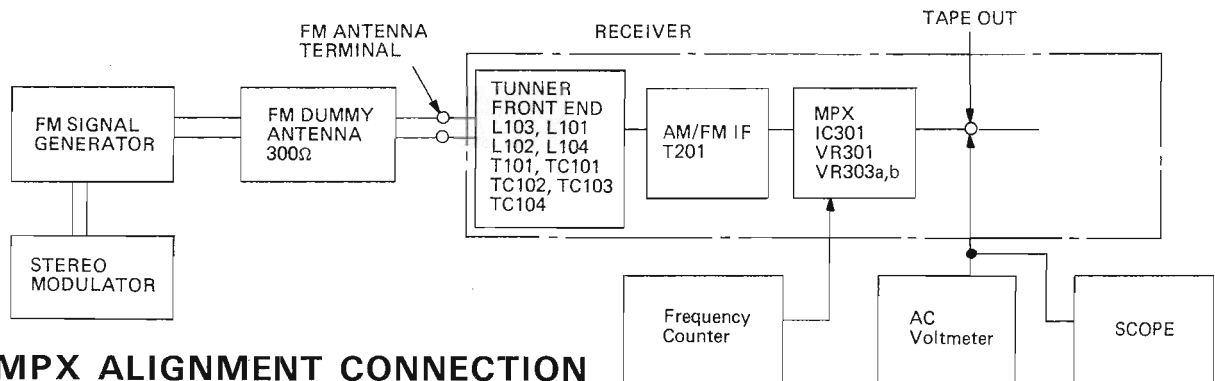
STEP	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RECEIVER DIAL SETTING	INDICATOR	ADJUSTMENT	REMARKS
1	Connect to FM Antenna Terminal through FM Dummy Antenna (300Ω) Fig. 2	90 MHz (400 Hz, Mod.)	90 MHz	AC Voltmeter connected to TAPE OUT jack	L104 (FM OSC Coil) L101 (FM ANT Coil) L102, L103 (FM RF Coil)	Adjust for maximum reading on AC Voltmeter
2	Same as Step 1	106 MHz (400 Hz, Mod.)	106 MHz	Same as Step 1	TC104 (FM OSC Trimmer) TC101 (FM ANT Trimmer) TC102, TC103 (FM RF Trimmer)	Adjust for maximum reading
Repeat steps 1 & 2 until no further improvement is possible.						
3	Same as Step 1	90 MHz (400 Hz, Mod.)	90 MHz	Same as Step 1	T101 (FM IFT)	Adjust for maximum reading
4	Same as Step 1	90 MHz (400 Hz, Mod.)	90 MHz	DC Voltmeter: connect between BASE of TR305 and Ground	T201 TOP (DISCRIMINATOR)	Adjust for 0V on DC Voltmeter
5	Same as Step 1	90 MHz (400 Hz, Mod.)	90 MHz	Distortion Meter connected to TAPE OUT jack	T201 Bottom	Adjust for minimum distortion
6	Same as Step 1	98 MHz (400 Hz, Mod.) SG output level: 1 V	98 MHz	Signal Meter	VR201	Adjust for maximum reading
7	Same as Step 1	98 MHz (400 Hz, Mod.)	98 MHz	AC Voltmeter connected to PIN 2 (or 9) of 7110 DOLBY NR BOARD	VR791a(or b)	Adjust for 60 mV reading on AC Voltmeter

**Fig.2 FM DUMMY ANTENNA**

FM Dummy Antenna to 300Ω antenna terminal of Receiver.



## MPX ALIGNMENT



**Fig.3 MPX ALIGNMENT CONNECTION**

Set SELECTOR Switch to FM.

Tune for 98 MHz on band.

Signal Generator output level:  $1000 \mu\text{V}$ , Deviation: 75 kHz at 100% modulation of composite signal.

Connect Signal Generator to FM Antenna Terminal through FM Dummy Antenna ( $300\Omega$ ).

STEP	19 kHz (PILOT SIGNAL) Modulation Level	SIGNAL GENERATOR Freq. Set to	OUTPUT INDICATOR Connected to	ADJUST- MENT	ADJUST FOR	NOTE
1	PILOT OFF	Stereo Modulator (Sub Signal)	Frequency counter connect to #12 PIN on IC301	VR301	19 kHz	
2	8%	Composite 1 kHz R channel SG output level: $5 \mu\text{V}$	Stereo beacon lamp	VR302	Just turns ON	Adjust so TR311 turns ON, with SG output level of $5 \mu\text{V}$
3	8%	Composite 1 kHz R channel	AC Voltmeter to TAPE OUT jack of R channel			Adjust input for audio output of about 1.1 V
4	8%	Composite 1 kHz L channel	AC Voltmeter to TAPE OUT jack of R channel	VR303a	Minimum	AC Volt- meter reading should be at least 30 dB below read- ing in step 3.
5	8%	Composite 1 kHz R channel	AC Voltmeter to TAPE OUT jack of L channel	VR303b	Minimum	Same as Step 4.

## MAIN AMP & DOLBY NR ALIGNMENT

STEP	ADJUSTMENT	INDICATOR	REMARKS
1	VR601a, b (Bias control)	DC Voltmeter	Adjust for 0.025V across R629a, b or R630a, b (0.82) with no signal.
2	VR602a, b (DC balance control of output)	DC Voltmeter	Connect DC Voltmeter to SPEAKER terminals. Adjust for $0V \pm 20$ mV reading on DC Voltmeter.
3	VR702 (output level control of 400 Hz TONE)	AC Voltmeter	Connect AC Voltmeter to output terminal (Pin #1) of 7110 DOLBY NR Board. Adjust for 30 mV reading on AC Voltmeter.
4	VR701a, b (DOLBY level cal. of SIGNAL Meter)	SIGNAL Meter	Adjust for DOLBY level on SIGNAL Meter reading with 400 Hz TONE button (located on the Front Panel) pushed in position, with DOLBY NR switch to the PLAY position.

### NOTE:

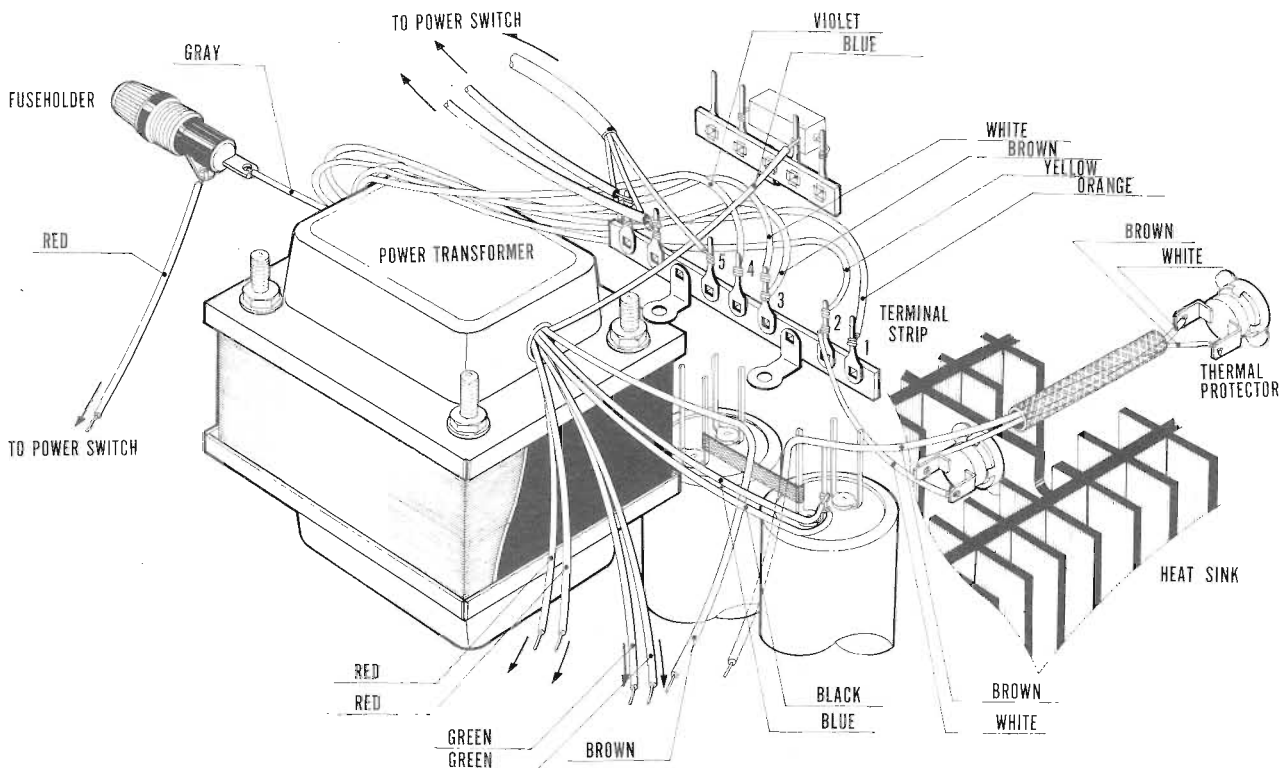
1. The proper bias adjustment is most important to assure correct performance of the amplifier. Bias adjustment is necessary if any of the transistors are replaced in the power amplifier circuitry or the amplifier exhibits overheating of the output transistors under normal operating conditions.
2. This Receiver has built-in overload thermal protections, one is installed within power transformer and the others are installed on heat sinks of power transistors.  
In case of the thermal protector of power transformer, when the temperature of thermal protector reach to  $135 \pm 5^{\circ}\text{C}$ , the thermal protector will be automatically cut out, and as soon as the temperature goes down to  $110 \pm 10^{\circ}\text{C}$ , the thermal protector turns back on automatically.  
The protectors of heat sinks have the same effect as above except for working temperature. When their temperature rises up to  $115 \pm 5^{\circ}\text{C}$ , these protectors will be automatically cut out, and as soon as the temperature falls down to  $40 \pm 10^{\circ}\text{C}$ , these protectors turn back on automatically.

# 6. CHANGING POWER LINE VOLTAGES

The NAD300 has a multi-voltage Power Transformer of 120V, 220V and 240V.

1. Remove the chassis out of cabinet and open the bottom cover of chassis.
2. Change the soldering of primary transformer wire as follows (with a setting of 220V as indicated in figure).
  - A. To change from 220V to 240V.  
Remove the white wire from pin-2 of terminal strip and connect the white wire to pin-1 (already connected orange wire).
  - B. To change from 220V to 120V.  
Remove the orange wire from pin-1 and the white wire from pin-3 of terminal strip, then connect the orange wire to pin-4 of terminal strip and the white wire to lug of fuseholder (already connected gray wire).  
Also remove the white wire to pin-2 of terminal strip and connect the white wire to pin-3 of terminal strip.

**“WARNING”** If the power transformer connections are not set for the correct local voltage the set will be damaged in case it is switched on.  
Please RE-CHECK the connections before power goes on.



# 7. TROUBLESHOOTING

Symptom	Cause and Remedy
<p>1) Fuse blows when power is turned on.</p>	<p>A) Power Transformer T851 defective. Replace the transformer.</p> <p>B) Short in the primary or secondary of transformer circuitry. Repair the short.</p> <p>C) Damaged rectifier D806, D805, D831, D832. Replace the damaged rectifier.</p> <p>D) Short circuit in the power transistor TR610, TR611, TR612, TR613. Replace the defective transistor and check circuit.</p>
<p>2) Pilot lamp lights but no sound from both channels.</p>	<p>A) Resistor R811, R821 defective (open). Replace the defective resistor.</p> <p>B) Capacitor C807, C809, C810 or C814 defective. Replace the defective capacitor.</p> <p>C) Open in secondary winding of the power transformer T851. Replace the transformer.</p> <p>D) Transistor TR807 or TR810 damaged (open). Replace the damaged transistor.</p> <p>E) Diode D803 or D804 damaged. Replace the damaged diode.</p>
<p>3) "A" Speakers do not work.</p>	<p>A) Speaker switch S17 defective. Replace the switch.</p>
<p>4) "B" Speakers do not work.</p>	<p>A) Speaker switch S17 defective. Replace the switch.</p>
<p>5) One channel does not work with VOLUME at maximum with a test signal applied to the center terminal of VOLUME control VR551 of the dead channel.</p>	<p>A) Defect in transistor TR901, TR902, TR903 or TR904 of 9025 TONE AMP BOARD. Locate and correct the defect.</p> <p>B) Defect in transistor TR751, TR752 of 7105 SWITCH BOARD. Locate and correct the defect.</p> <p>C) Defect in transistor TR601–TR613 of 6038 MAIN AMP BOARD. Locate and correct the defect.</p> <p>D) Break in copper foil of printed circuit board 6038, 7105 or 9025. Repair the circuit board.</p> <p>E) Short in speaker output terminal. Repair the short.</p>

Symptom	Cause and Remedy
6) Same as 5 above but channel operates when test signal is applied as 7.	<p>A) Defective transistor TR501, TR502, TR503, or TR504. Replace the defective transistor.</p> <p>B) Faulty resistor R502, R504, R505, R506, R510 or R512. Replace the faulty resistor.</p> <p>C) Faulty capacitor C501 or C505. Replace the faulty capacitor.</p> <p>D) Defective selector switch S1. Repair or replace the switch.</p>
7) Speaker works normally but headphones do not work.	<p>A) Headphone plug does not mate with jack. Replace the plug.</p> <p>B) Defective resistor R651a, b. Replace the resistor.</p>
8) All the inputs work normally except AUX input.	<p>A) Poor contact in AUX input jack. Repair or replace the jack.</p> <p>B) Poor contact in selector switch S1.</p>
9) PHONO input not operative.	<p>A) Poor contact in PHONO input jack. Repair or replace the jack.</p> <p>B) Faulty selector switch S1. Repair or replace the switch.</p>
10) TAPE OUT not operative.	<p>A) Defective contact in TAPE OUT jack. Repair or replace the jack.</p>
11) FM does not operate.	<p>A) Defective diode D833. Replace the diode.</p> <p>B) Transistor TR831 damaged (open). Replace the transistor.</p> <p>C) Defective resistor R831. Replace the resistor.</p> <p>D) Short-circuit in Tuner B+ circuit. Repair the short.</p> <p>E) Poor contact in selector switch S1. Repair or replace the switch.</p> <p>F) Resistor R301 defective. Replace the resistor.</p> <p>G) Capacitor C301 defective. Replace the capacitor.</p> <p>H) Defective IC IC201, IC202, IC203 or IC301. Replace the defective IC.</p> <p>I) Defective IFT T201. Replace the IFT.</p>

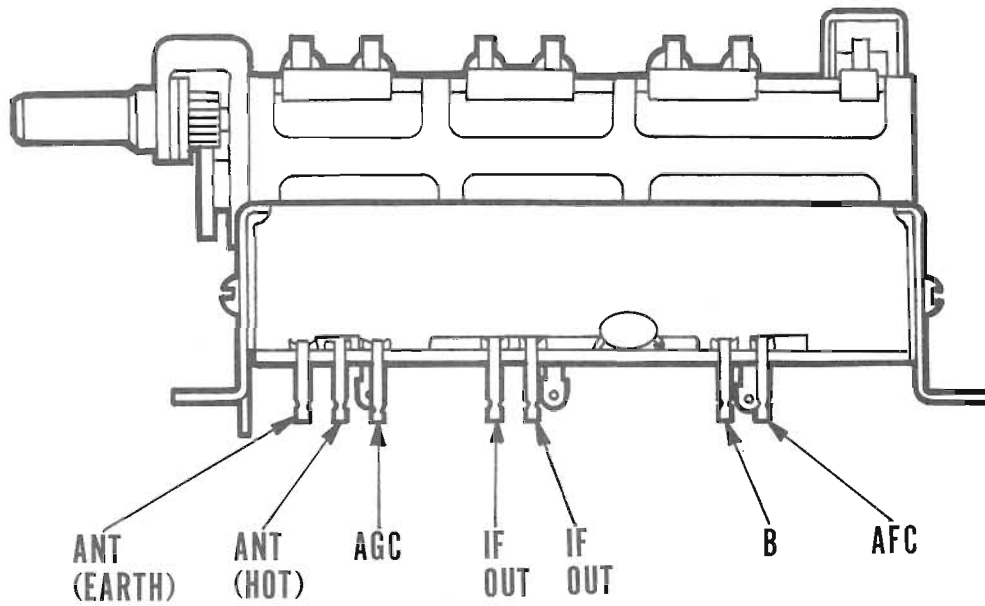
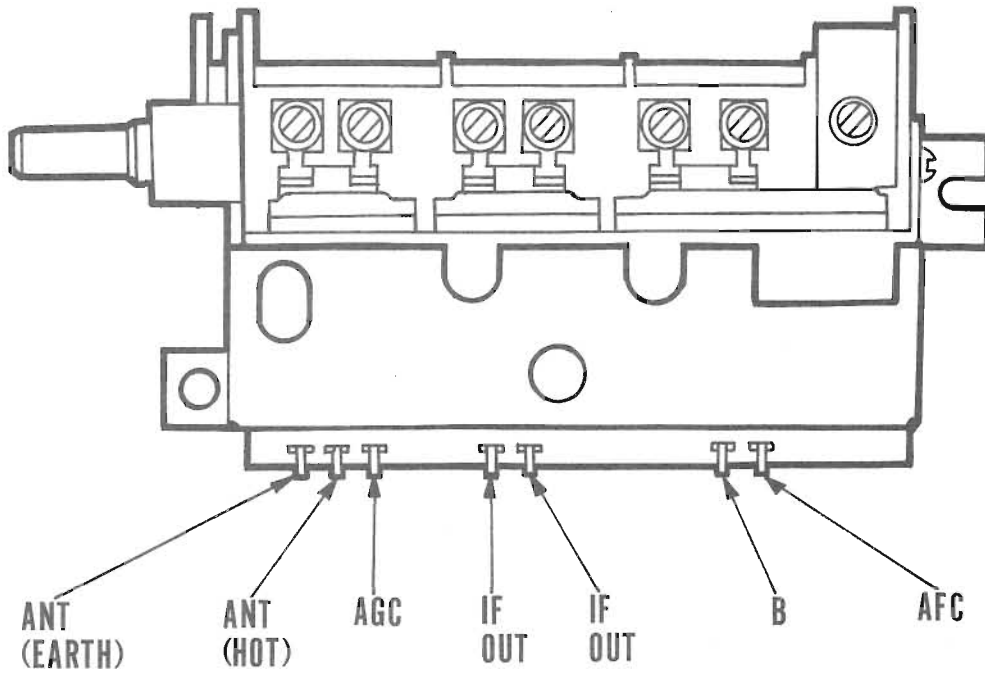
Symptom	Cause and Remedy
	<p>J) Defective capacitor C202, C208 or C222. Replace the defective capacitor.</p> <p>K) Defective transistor TR101, TR102, TR103 or coil L101, L104 of tuner front-end. Replace the defective component.</p> <p>L) Faulty lead-in. Repair or replace the lead in.</p>
12) Poor multiplex separation.	<p>A) Improper adjustment. Readjust T201, VR301 and VR303a, b. (Refer to MPX ALIGNMENT on page 11.)</p> <p>B) Defective transistor TR301, TR302, TR303 or IC IC301, IC302 of Turner Board 0036. Replace the defective component.</p> <p>C) Variable resistor VR301 defective. Replace the variable resistor.</p> <p>D) Variable resistor VR303a, b defective. Replace the defective variable resistor.</p>
13) Stereo indicator lamp does not light.	<p>A) Defective indicator lamp PL9. Replace the lamp.</p> <p>B) Improper adjustment of VR301 and VR302 of 0036 TUNER BOARD. Make readjustment. (Refer to MPX ALIGNMENT on page 11.)</p> <p>C) Defective IC301 or R835 of 0036 TUNER BOARD. Replace defective component.</p>
14) FM volume not sufficient.	<p>A) If volume both L and R channels not enough: Front End defective, or faulty IFT T201 or diode D207, D208 of 0036 TUNER BOARD or faulty C313, IC301 or IC302 of 0036 TUNER BOARD. Locate and replace the defective component.</p> <p>B) If sound of one channel not enough: Defective IC302 of 0036 TUNER BOARD. Replace the IC.</p>
15) AM does not operate.	<p>A) Damaged IC401 of Tuner Board 0036. Replace.</p> <p>B) Defective Coil L401, T401 or Ceramic Filter CF401 of 0036 Tuner Board. Replace the defective component.</p> <p>C) Selector switch S1 defective. Repair or replace the switch.</p> <p>D) Defective Tuning Gang. Replace.</p>



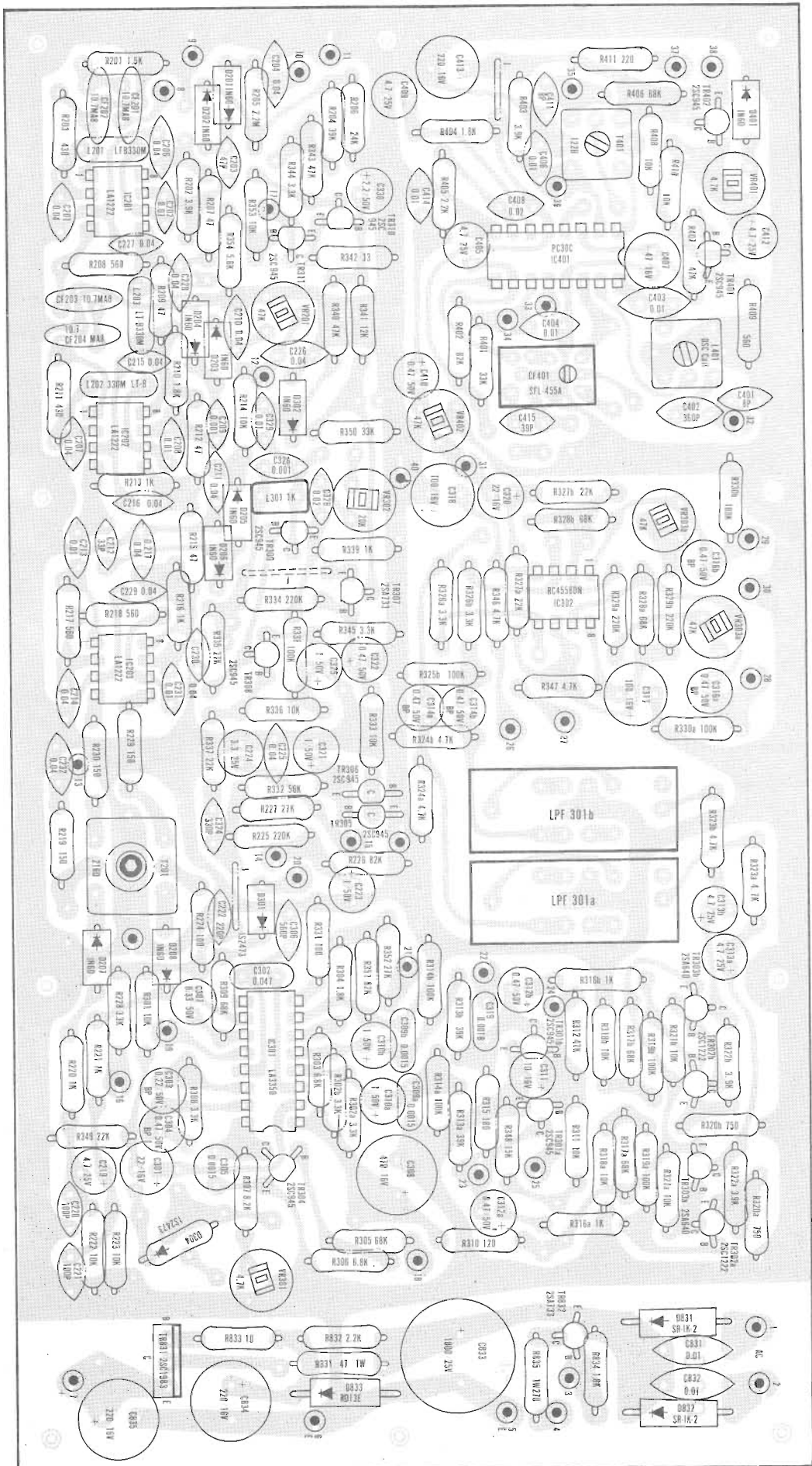
Symptom	Cause and Remedy
	E) Damaged AM bar antenna. Repair or replace bar antenna.
16) LOUDNESS has no effect.	A) Defective LOUDNESS switch S5. Replace the switch. B) Defective C758, C759 or R765. Replace defective component. C) Defective VOLUME control VR551. Replace.
17) STEREO-MONO not effective.	A) Defective MONO switch S6. Replace the switch.
18) TAPE-MONITOR not effective.	A) Defective TAPE MONITOR switch S2. Replace the switch. B) Poor contact in TAPE input jacks. Repair or replace the jack.
19) BASS control has no effect.	A) VR902 defective. Replace. B) Defective C905, C906, R911, R912, R913 of 9025 Tone Amplifier Board. Replace defective component.
20) TREBLE control has no effect.	A) VR901 defective. Replace. B) Defective C904, R908 or R909 of 9025 Tone Amplifier Board. Replace the defective component.
21) Excessive noise with PHONO (MAG) input.	A) Faulty TR501, TR502, TR503 or TR504. Replace the faulty transistor. B) Faulty R501, R503, R506, C501 or C505. Replace the faulty component.
22) Noisy VOLUME control.	A) Defective VR551. Replace the variable resistor. B) Defective capacitor C505 or C901. Replace the defective capacitor.
23) SIGNAL meter not functioning.	A) Defective meter. Replace the meter. B) In case of FM reception, C209, C210, D203, D204, D205 or D206 defective. Replace the defective component. C) In case of AM reception, R407, R408, R409, R410 or TR401 defective. Replace the defective component.

Symptom	Cause and Remedy
24) TUNING meter not functioning.	A) Defective meter. Replace the meter. B) In case of FM reception, R227, C224 or C225 defective. Replace the defective component. Note: In case of AM reception, the meter does not function.
25) QUADRO not effective.	A) Defective switch S17. Replace the switch.
26) SUBSONIC filter has no effect.	A) Defective switch S7. Replace the switch. B) Defective capacitor C752, C753 or C754. Replace the defective capacitor.
27) High-Filter has no effect.	A) Defective switch S8. Replace the switch. B) Defective C755, C756, TR751 or TR752. Replace the defective component.
28) DOLBY Noise Reduction System has no effect.	A) DOLBY NR switch S4 defective. Repair or replace the switch. B) IC IC701 defective. Replace the IC.

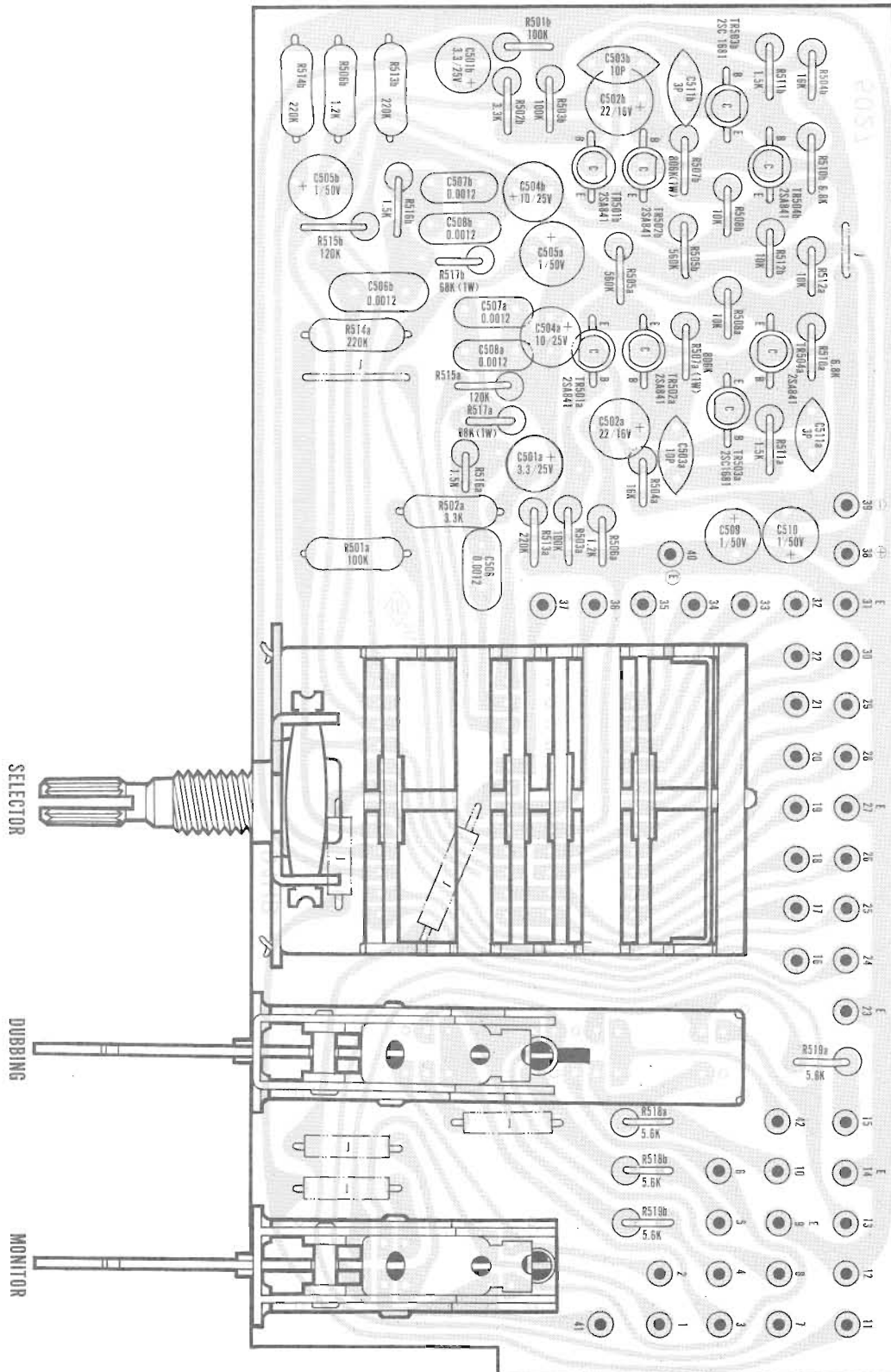
# 8. TUNER FRONT-END



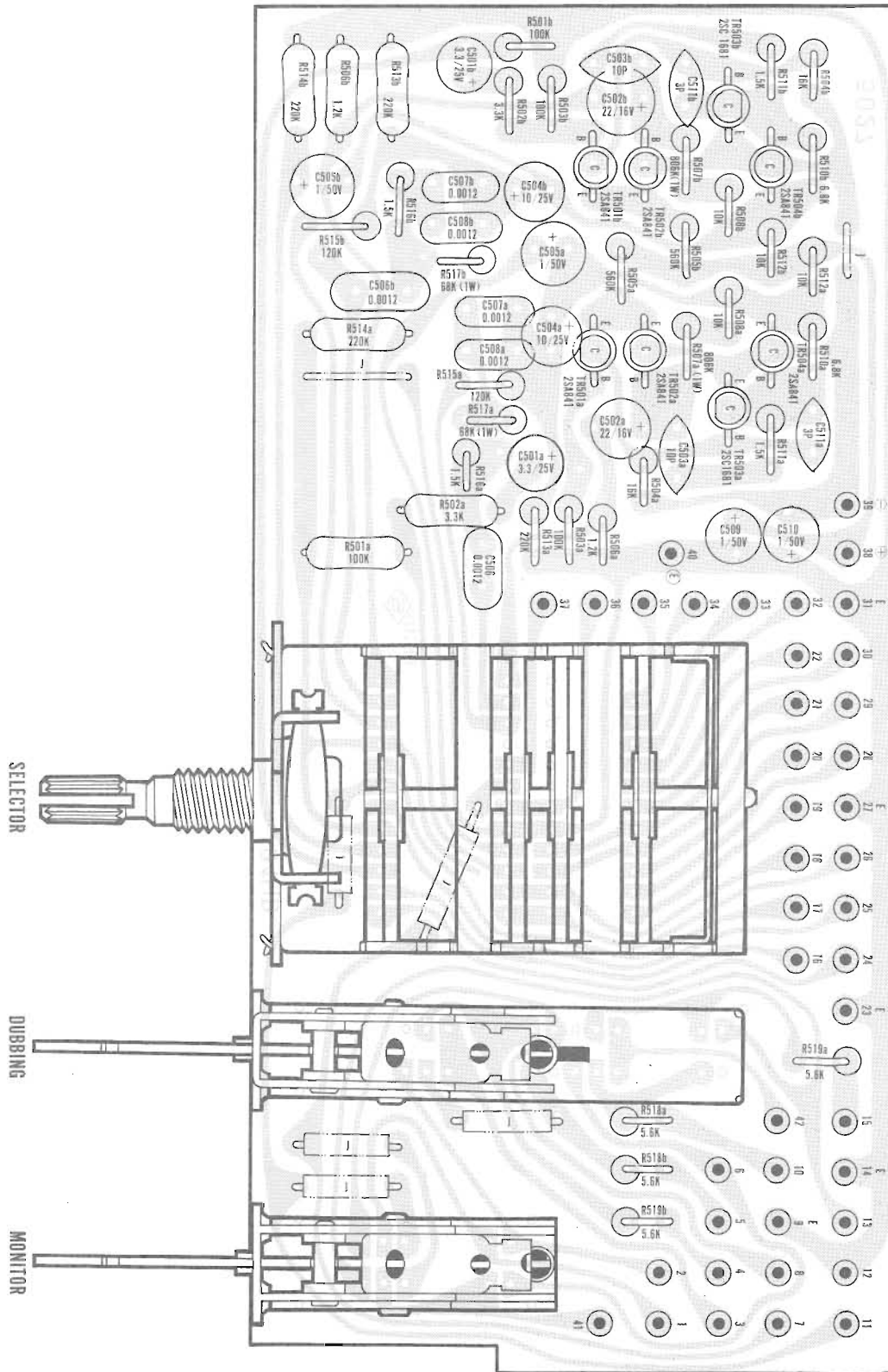
# 9. 0036 TUNER BOARD



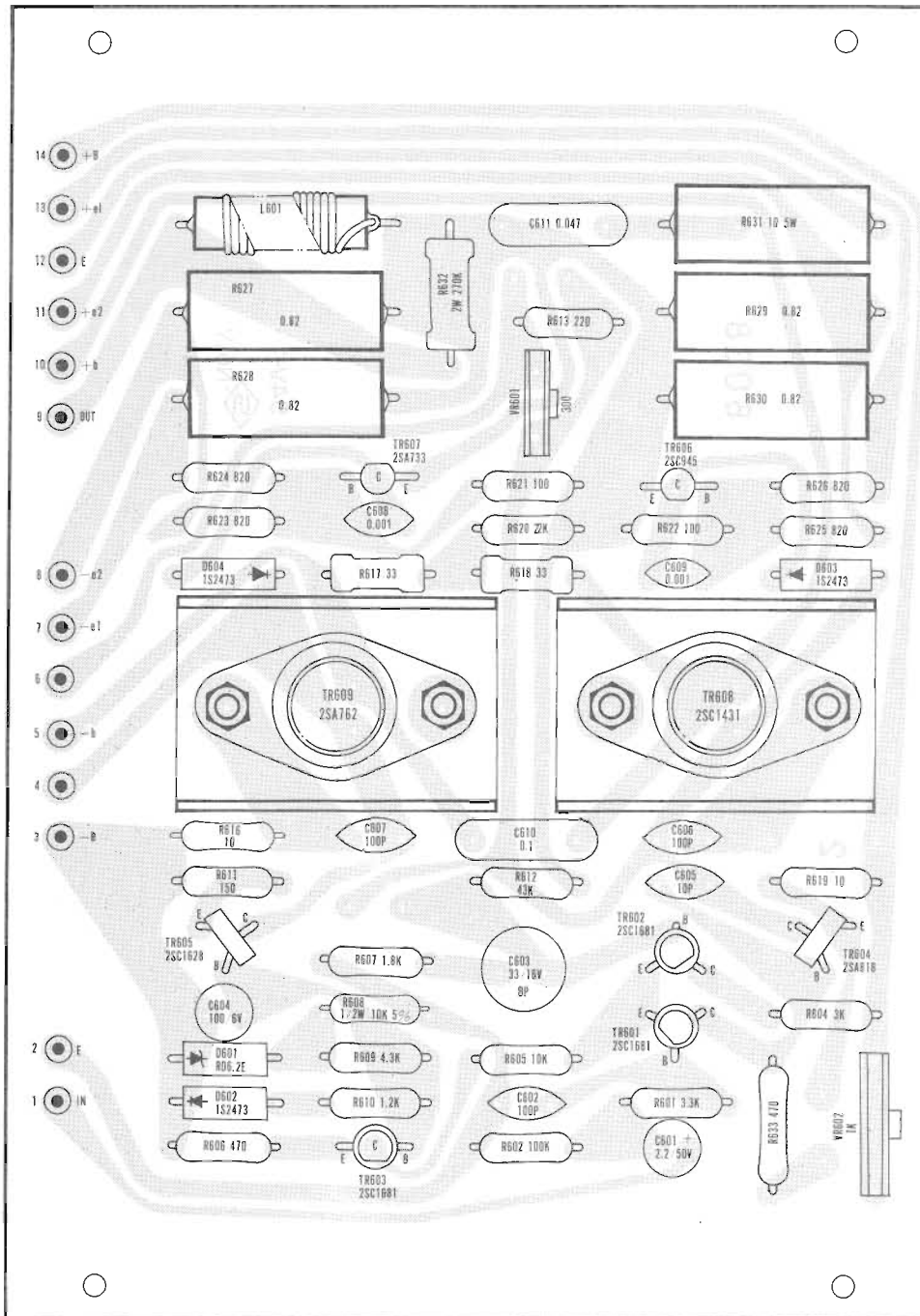
# 10. 5027 PRE-AMPLIFIER BOARD



# 10. 5027 PRE-AMPLIFIER BOARD



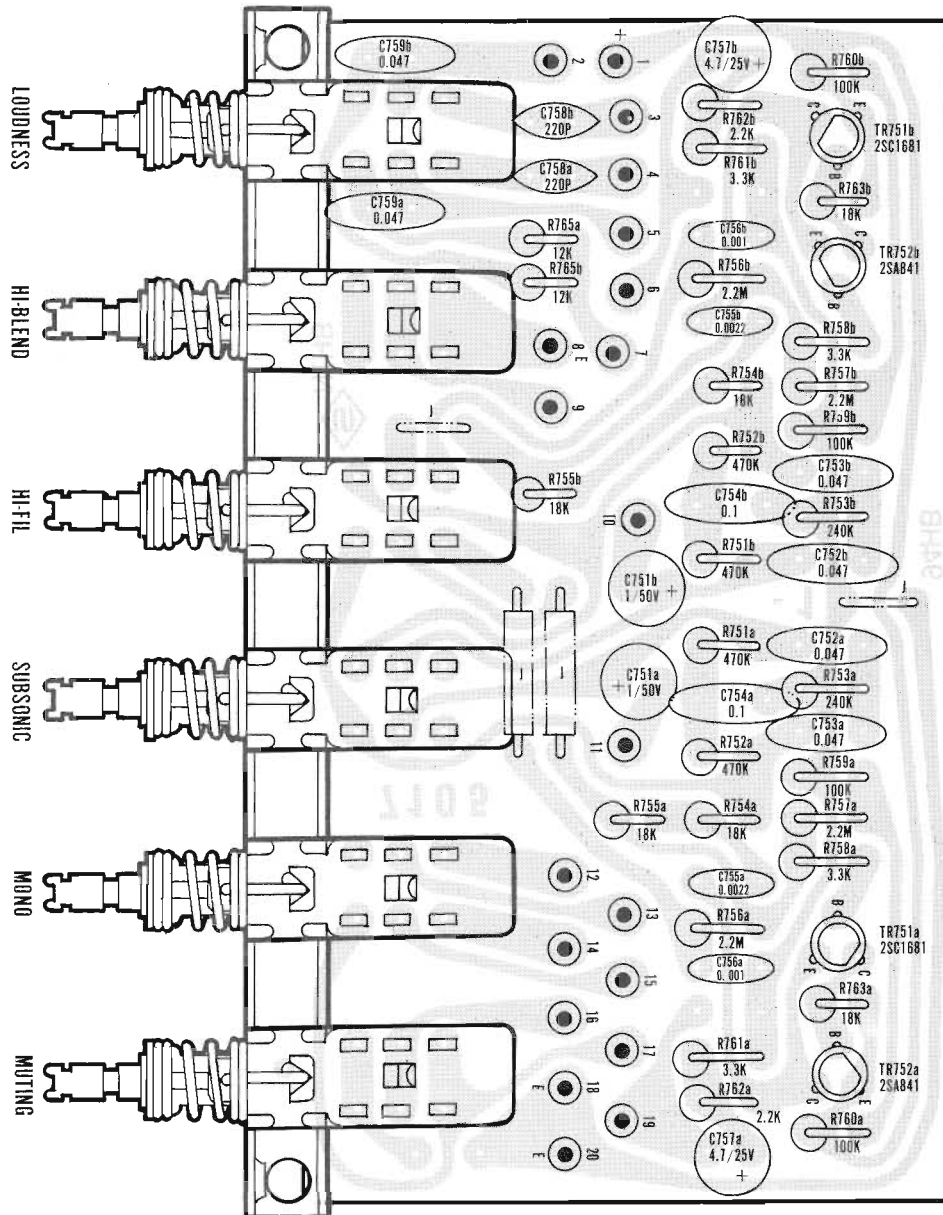
# 11. 6038 MAIN AMPLIFIER BOARD



VR601  
10V ADJUST

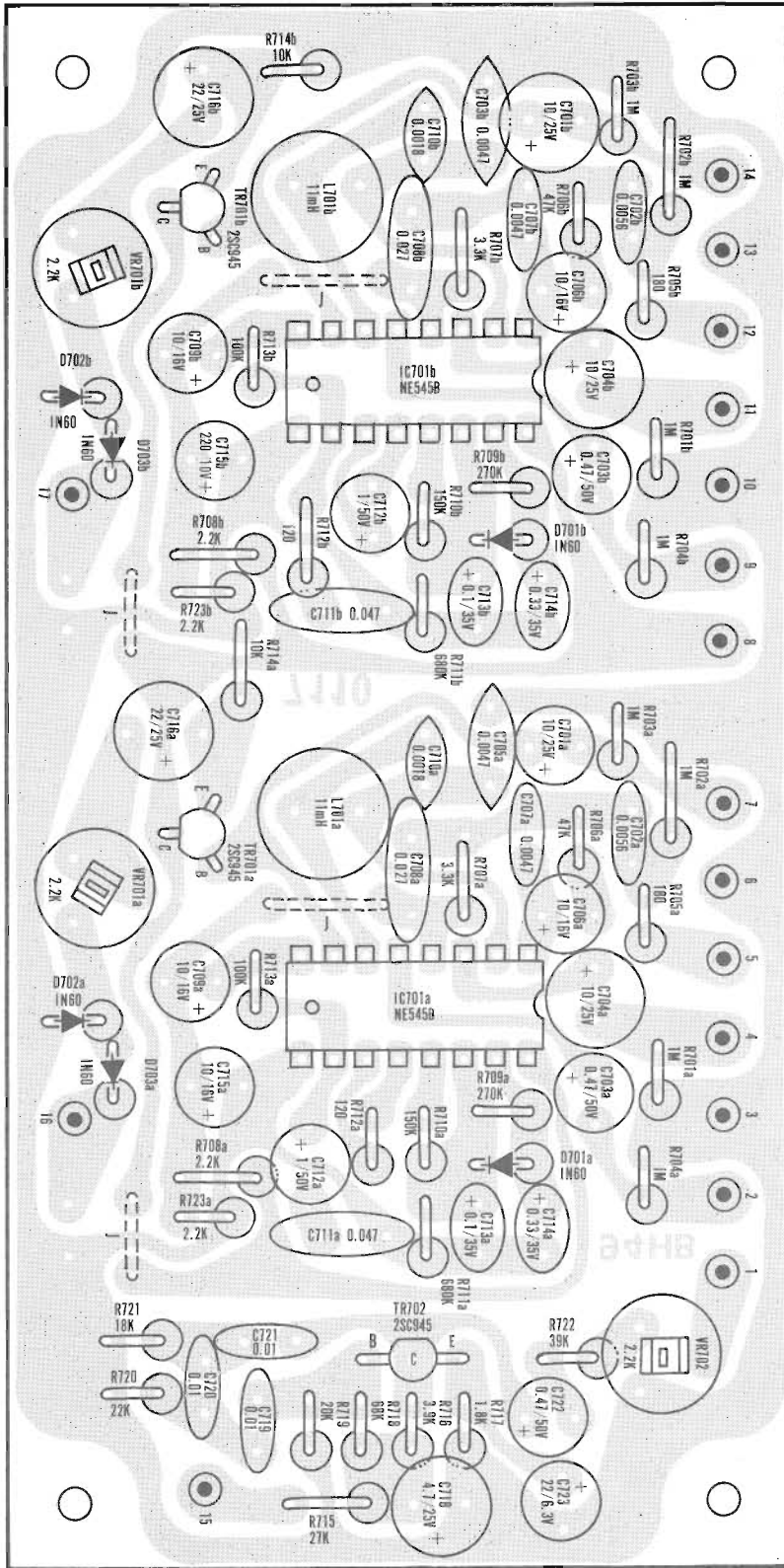
VR602  
DC OFFSET  
ADJUST

# 12. 7105 SWITCH BOARD

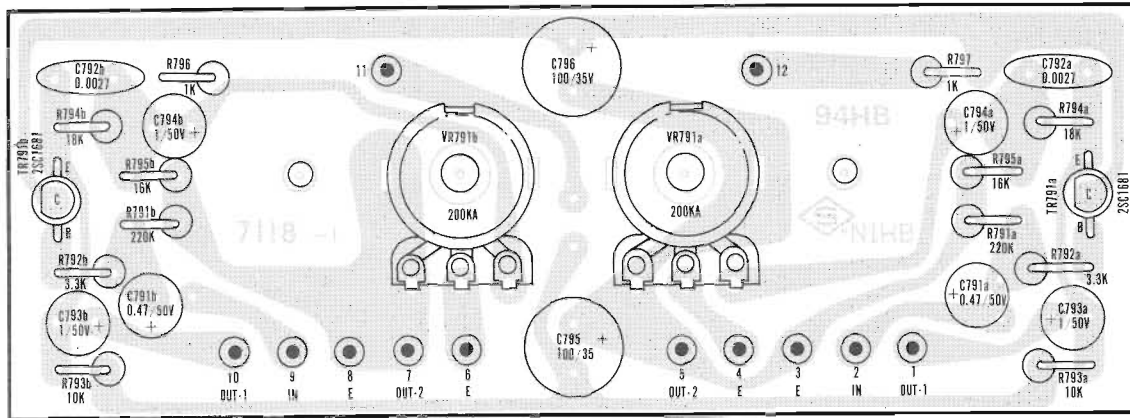




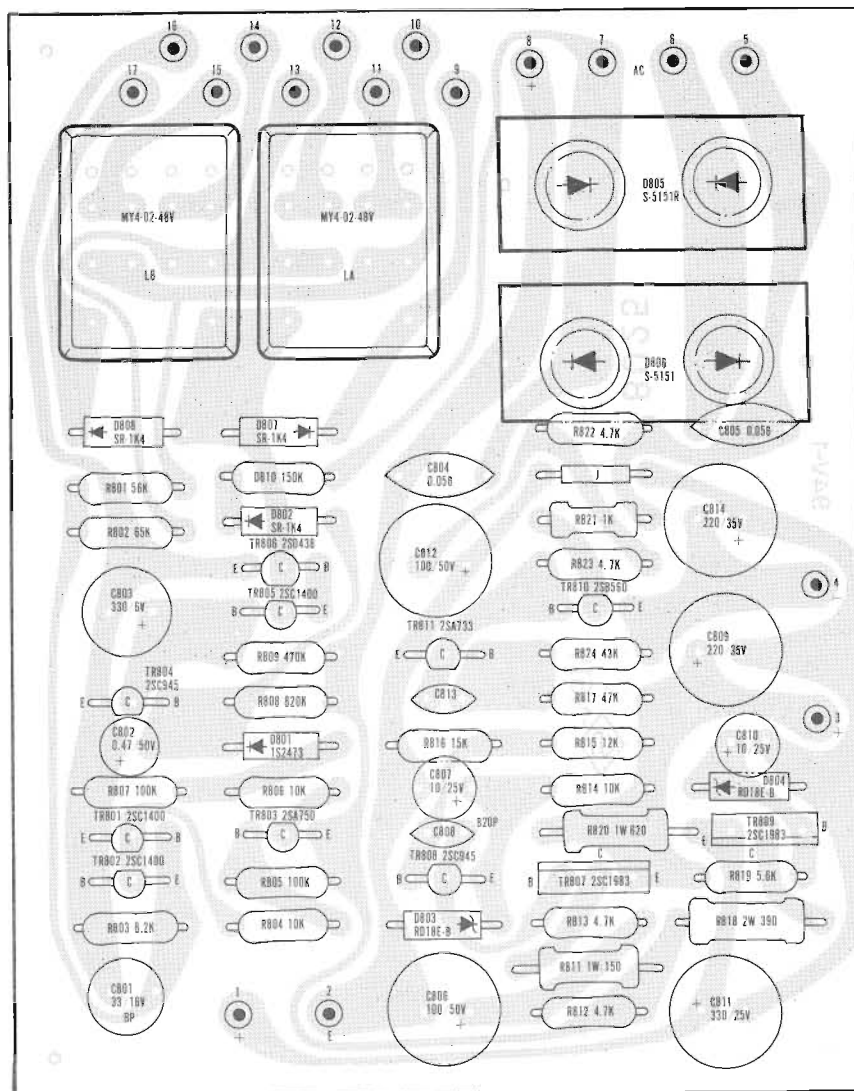
# 13. 7110 DOLBY NR BOARD



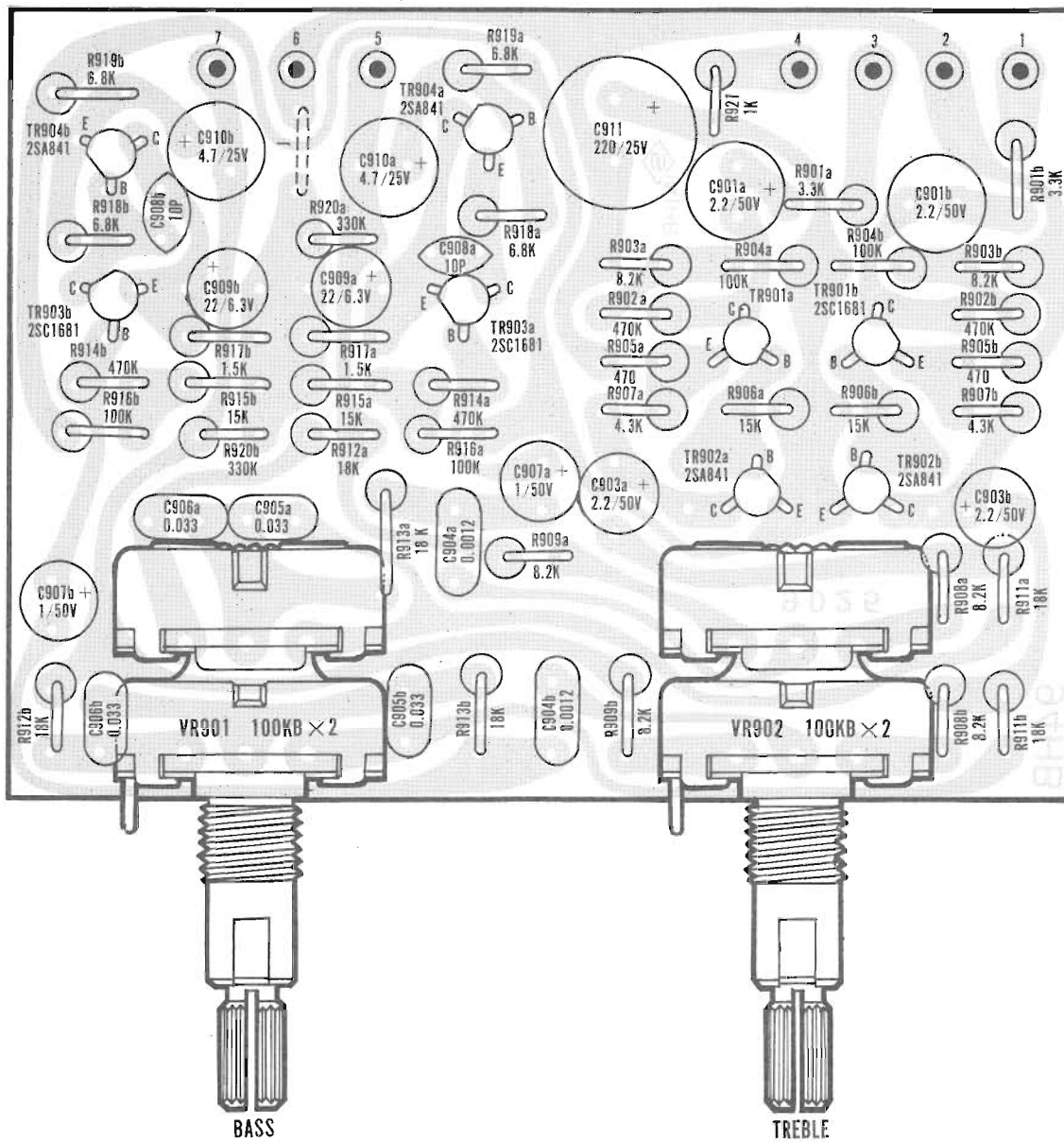
# 14. 7118 DOLBY FM CALIBRATION BOARD



# 15. 8025 POWER SUPPLY BOARD



# 16. 9025 TONE AMPLIFIER BOARD



# 17. ELECTRICAL PARTS LIST

CAPACITORS				Ref. No.	Value (F)	Voltage (V)	Material
Ref. No.	Value (F)	Voltage (V)	Material				
				C314a,b	0.47 $\mu$	50	"
				C315	Not Used		
C201	0.04 $\mu$	25	Ceramic	C316a,b	0.47 $\mu$	50	Electrolytic
C202	0.01 $\mu$	"	"	C317	100 $\mu$	16	Electrolytic
C203	47P	50	"	C318	"	"	"
C204	0.04 $\mu$	25	"	C319	1800P	50	Polyester
C205	"	"	"	C320	22 $\mu$	16	Electrolytic
C206	"	"	"	C321	1 $\mu$	50	Electrolytic
C207	"	"	"	C322	0.47 $\mu$	"	"
C208	0.01 $\mu$	"	"	C323	Not Used		
C209	0.001 $\mu$	"	"	C324	330P	50	Ceramic
C210	0.04 $\mu$	"	"	C325	1 $\mu$	"	Electrolytic
C211	"	"	"	C326	0.001 $\mu$	25	Ceramic
C212	33P	50	"	C327	Not Used		
C213	0.01 $\mu$	25	"	C328	0.02 $\mu$	25	Ceramic
C214	0.04 $\mu$	"	"	C329	0.01 $\mu$	"	"
C215	"	"	"	C330	2.2 $\mu$	50	Electrolytic
C216	"	"	"				
C217	"	"	"	C401	8P	50	Ceramic
C218	"	"	"	C402	360P	"	"
C219	4.7 $\mu$	"	Electrolytic	C403	0.01 $\mu$	25	"
C220	100P	50	Ceramic	C404	0.01 $\mu$	"	"
C221	"	"	"	C405	4.7 $\mu$	"	Electrolytic
C222	220P	"	"	C406	0.01 $\mu$	"	Ceramic
C223	1 $\mu$	"	Electrolytic	C407	47 $\mu$	16	Electrolytic
C224	3.3 $\mu$	25	"	C408	0.02 $\mu$	25	Ceramic
C225	0.04 $\mu$	"	Ceramic	C409	4.7 $\mu$	25	Electrolytic
C226	"	"	"	C410	0.47 $\mu$	50	"
C227	"	"	"	C411	8P	"	Ceramic
C228	"	"	"	C412	4.7 $\mu$	25	Electrolytic
C229	"	"	"	C413	220 $\mu$	16	"
C230	"	"	"	C414	0.01 $\mu$	25	Ceramic
C231	0.01 $\mu$	25	Ceramic	C415	39P	50	"
C232	0.04 $\mu$	"	"				
				C501a,b	3.3 $\mu$	25	Electrolytic
C251	0.04 $\mu$	25	Ceramic	C502a,b	22 $\mu$	16	"
C252	47 $\mu$	6.3	Electrolytic	C503a,b	10P	500	Ceramic
				C504a,b	10 $\mu$	25	Electrolytic
C301	22 $\mu$	16	Electrolytic	C505a,b	1 $\mu$	50	"
C302	0.047 $\mu$	50	Polyester	C506a,b	0.0022 $\mu$	"	Polypropylene
C303	0.22 $\mu$	"	Electrolytic	C507a,b	0.0012 $\mu$	"	"
C304	0.47 $\mu$	"	"	C508a,b	0.0012 $\mu$	"	"
C305	1500P	"	Polystyrene	C509	1 $\mu$	"	Electrolytic
C306	560P	"	Ceramic	C510	1 $\mu$	"	"
C307	0.33 $\mu$	"	Electrolytic	C511a,b	3P	500	Ceramic
C308	480 $\mu$	16	Electrolytic				
C309a,b	15000P	50	Polyester	C601a,b	2.2 $\mu$	50	Electrolytic
C310a,b	1 $\mu$	"	Electrolytic	C602a,b	100P	500	Ceramic
C311	10 $\mu$	16	"	C603a,b	33 $\mu$	16	Electrolytic
C312a,b	0.47 $\mu$	50	"	C604a,b	100 $\mu$	6	"
C313a,b	4.7 $\mu$	25	Electrolytic	C605a,b	10P	500	Ceramic

Ref. No.	Value (F)	Voltage (V)	Material	Ref. No.	Value (F)	Voltage (V)	Material
C606a,b	100P	500	Ceramic	C804	0.056 $\mu$	50	Polyester
C607a,b	"	"	"	C805	"	"	"
C608a,b	0.001 $\mu$	50	"	C806	100 $\mu$	"	Electrolytic
C609a,b	"	"	"	C807	10 $\mu$	25	"
C610a,b	Not Used			C808	820P	"	Ceramic
C611a,b	0.047 $\mu$	50	Ceramic	C809	220 $\mu$	35	Electrolytic
C612a,b	5P	"	"	C810	10 $\mu$	25	"
C701a,b	10 $\mu$	25	Electrolytic	C811	330 $\mu$	25	"
C702a,b	5600P	50	Polyester	C812	100 $\mu$	50	"
C703a,b	0.47 $\mu$	50	Electrolytic	C813	820P	25	Ceramic
C704a,b	10 $\mu$	25	"	C814	220 $\mu$	35	Electrolytic
C705a,b	0.0047 $\mu$	25	Ceramic	C831	0.001 $\mu$	500	Ceramic
C706a,b	10 $\mu$	16	Electrolytic	C832	"	"	"
C707a,b	4700P	50	Polyester	C833	1000 $\mu$	25	Electrolytic
C708a,b	0.027 $\mu$	"	"	C834	220 $\mu$	16	"
C709a,b	10 $\mu$	16	Electrolytic	C835	"	"	"
C710a,b	1800P	50	Polyester	C851	18000 $\mu$	63	Electrolytic
C711a,b	0.047 $\mu$	"	"	C852	"	"	"
C712a,b	1 $\mu$	50	Electrolytic	C901a,b	2.2 $\mu$	50	Electrolytic
C713a,b	0.1 $\mu$	35	Tantalume	C902a,b	Not Used		
C714a,b	0.33 $\mu$	"	"	C903a,b	2.2 $\mu$	50	Electrolytic
C715a,b	220 $\mu$	10	Electrolytic	C904a,b	1200P	"	Polyester
C716a,b	22 $\mu$	25	"	C905a,b	0.033 $\mu$	"	"
C717a,b	Not Used			C906a,b	"	"	"
C718	4.7 $\mu$	25	Electrolytic	C907a,b	1 $\mu$	50	Electrolytic
C719	0.01 $\mu$	50	Polyester	C908a,b	10P	50	Ceramic
C720	"	"	"	C909a,b	22 $\mu$	6.3	Electrolytic
C721	Not Used			C910a,b	4.7 $\mu$	25	"
C722	0.47 $\mu$	50	Electrolytic	C911	220 $\mu$	"	"
C723	22 $\mu$	6.3	"				
C751a,b	1 $\mu$	50	Electrolytic	<b>CERAMIC FILTERS</b>			
C752a,b	0.047 $\mu$	"	Polyester	Ref. No.	Description	Mfr's Part No.	
C753a,b	"	"	"	CF201	SFE 10.7 MA8	35300012	
C754a,b	0.1 $\mu$	"	"	CF202	"	"	
C755a,b	2200P	"	"	CF203	"	"	
C756a,b	1000P	"	"	CF204	"	"	
C757a,b	4.7 $\mu$	25	Electrolytic	CF401	SFL-455A	35300016	
C758a,b	220P	50	Ceramic				
C759a,b	0.047 $\mu$	"	Polyester				
C791a,b	0.47 $\mu$	50	Electrolytic				
C792a,b	2700P	"	Polyester				
C793a,b	1 $\mu$	"	Electrolytic				
C794a,b	"	"	"				
C795	100 $\mu$	35	"				
C796	"	"	"				
C801	33 $\mu$	16	Electrolytic				
C802	0.47 $\mu$	50	"				
C803	330 $\mu$	6	"				

## DIODES

Ref. No.	Type No.	Manufacturer	Mfr's Part No.
	ITT410		
D201	1N60P	UNISON	30600011
D202	"	"	"
D203	"	"	"
D204	"	"	"
D205	"	"	"
D206	"	"	"
D207	"	"	"
D208	"	"	"
D301	1S2473	Toyo Electronics	30600410
D302	1N60P	UNISON	30600011
D303	1S2473	Toyo Electronics	30600410
D304	"	"	"
D401	1N60P	UNISON	30600011
D601a,b	RD6.2E	NEC	30600691
D602a,b	1S2473	Toyo Electronics	30600410
D603a,b	"	"	"
D604a,b	"	"	"
D605a,b	STV-3H	Sanken	30600881
D701a,b	1N60	UNISON	30600010
D702a,b	"	"	"
D703a,b	"	"	"
D801	1S2473	Toyo Electronics	30600410
D802	SR-1K2	UNISON	30600540
D803	RD-18E	NEC	30600630
D804	"	"	"
D805	S5151R	Toshiba	30600902
D806	S5151	"	30600901
D807	SR-1K2	UNISON	30600540
D808	"	"	"
D831	SR-1K2	UNISON	30600540
D832	"	"	"
D833	RD13E	NEC	30600332

<b>INTEGRATED CIRCUITS</b>					
Ref. No.	Type No.	Manufacturer	Mfr's Part No.	Substitute	
				Type No.	Manufacturer
IC201	LA1222	Sanyo	30900340		
IC202	"	"	"		
IC203	"	"	"		
IC301	LA3350	Sanyo	30900310		
IC302	RC4558DN	JRC	30900360		
IC401	$\mu$ PC30C	NEC	30900350		
IC701a,b	NE545B	SIGNETICS	30900330		

<b>RELAYS</b>		
Ref. No.	Description	Mfr's Part No.
K1a,b	A Speakers Protection Relay	82000040
K2a,b	B Speakers Protection Relay	82000040

<b>COILS</b>		
Ref. No.	Description	Mfr's Part No.
L201	Inductor LT-B330M	35500090
L202	"	"
L203	"	"
L301	Inductor 144HY-102K	35500150
L401	OSC Coil 415L	35504156
L451	AM Bar Antenna Coil	35400441
L601a,b	Choke Coil	35500170
L701a,b	Inductor 11mH	35500270

<b>FILTERS</b>		
Ref. No.	Description	Mfr's Part No.
LF301a,b	L.P.F. 190BLR-3154-N	35000040

METERS		
Ref. No.	Description	Mfr's Part
M1	SIGNAL Meter 200 $\mu$ A	60200016
M2	TUNING Meter $\pm$ 100 $\mu$ A	60100017

RESISTORS				Ref. No.	Value (F)	Voltage (V)	Material
Ref. No.	Value (ohm)	Wattage (W)	Material				
R201	1.5K	$\frac{1}{4}$	Carbon	R309	68K	$\frac{1}{4}$	Carbon
R202	3.9K	"	"	R310	120	"	"
R203	430	"	"	R311	10K	"	"
R204	39K	"	"	R312	47K	"	"
R205	2.2M	"	"	R313a,b	39K	"	"
R206	24K	"	"	R314a,b	100K	"	"
R207	47	"	"	R315	180K	"	"
R208	560	"	"	R316a,b	1K	"	"
R209	47	"	"	R317a,b	68K	"	"
R210	1.8K	"	"	R318a,b	10K	"	"
R211	430	"	"	R319a,b	100K	"	"
R212	47	"	"	R320a,b	750	"	"
R213	1K	"	"	R321a,b	10K	"	"
R214	10K	"	"	R322a,b	3.9K	"	"
R215	47	"	"	R323a,b	4.7K	"	"
R216	1K	"	"	R324a,b	"	"	"
R217	560	"	"	R325a,b	100K	"	"
R218	"	"	"	R326a,b	3.3K	"	"
R219	150	"	"	R327a,b	22K	"	"
R220	1K	"	"	R328a,b	68K	"	"
R221	"	"	"	R329a,b	220K	"	"
R222	10K	"	"	R330a,b	100K	"	"
R223	"	"	"	R331	100	"	"
R224	100	"	"	R332	56K	"	"
R225	220K	"	"	R333	10K	"	"
R226	82K	"	"	R334	220K	"	"
R227	43K	"	"	R335	27K	"	"
R228	3.3K	"	"	R336	10K	"	"
R229	150	"	"	R337	22K	"	"
R230	"	"	"	R338	100K	"	"
R301	10K	$\frac{1}{4}$	Carbon	R339	1K	"	"
R302a,b	3.3K	"	"	R340	12K	"	"
R303	6.8K	"	"	R341	"	"	"
R304	1.8K	"	"	R342	33	"	"
R305	68K	"	"	R343	47K	"	"
R306	6.8K	"	"	R344	3.3K	"	"
R307	8.2K	"	"	R345	"	"	"
R308	3.3K	"	"	R346	4.7K	"	"
				R347	"	"	"
				R348	15K	"	"
				R349	22K	"	"



Ref. No.	Value (ohm)	Wattage (W)	Material	Ref. No.	Value (ohm)	Wattage (W)	Material
R350	33K	¼	Carbon	R608a,b	10K	½	Metal Oxide
R351	82K	"	"	R609a,b	4.3K	¼	Carbon
R352	27K	"	"	R610a,b	1.2K	"	"
R353	10K	"	"	R611a,b	150	"	"
R354	5.6K	"	"	R612a,b	43K	¼	Carbon
R401	33K	¼	Carbon	R613a,b	220	"	"
R402	82K	"	"	R614a,b	100	"	"
R403	3.9K	"	"	R615a,b	Not Used		
R404	1.8K	"	"	R616a,b	10	¼	Carbon
R405	2.2K	"	"	R617a,b	33	"	"
R406	68K	"	"	R618a,b	"	"	"
R407	47K	"	"	R619a,b	10	"	"
R408	10K	"	"	R620a,b	2.2K	"	"
R409	560	"	"	R621a,b	100	"	"
R410	10K	"	"	R622a,b	"	"	"
R411	220	"	"	R623a,b	820	"	"
R501a,b	100K	¼	Carbon	R624a,b	"	"	"
R502a,b	3.3K	"	"	R625a,b	"	"	"
R503a,b	100K	"	"	R626a,b	"	"	"
R504a,b	16K	"	"	R627a,b	0.82	5	Wire Wound
R505a,b	560K	"	"	R628a,b	"	"	"
R506a,b	1.2K	"	"	R629a,b	"	"	"
R507a,b	806K	½	Metal	R630a,b	"	"	"
R508a,b	10K	¼	Carbon	R631a,b	3	2	Metal
R509a,b	Not Used			R632a,b	27	"	"
R510a,b	6.8K	¼	Carbon	R633a,b	470	¼	Carbon
R511a,b	"	"	"	R651	470	2	Metal Oxide
R512a,b	10K	"	"	R652	5	10	Wire Wound
R513a,b	220K	"	"	R701a,b	1M	¼	Carbon
R514a,b	"	"	"	R702a,b	"	"	"
R515a,b	120K	"	"	R703a,b	"	"	"
R516a,b	1.6K	"	"	R704a,b	"	"	"
R517a,b	68K	½	Metal	R705a,b	180	"	"
R518a,b	5.6K	"	"	R706a,b	47K	"	"
R519a,b	"	"	"	R707a,b	3.3K	"	"
R551a,b	5.6K	¼	Carbon	R708a,b	2.2K	"	"
R591a,b	150K	¼	Carbon	R709a,b	270K	"	"
R592a,b	"	"	"	R710a,b	150K	"	"
R601a,b	3.3K	¼	Carbon	R711a,b	680K	"	"
R602a,b	100K	"	"	R712a,b	120	"	"
R603a,b	Not Used			R713a,b	100K	"	"
R604a,b	3K	¼	Carbon	R714a,b	10K	"	"
R605a,b	10K	"	"	R715	27K	"	"
R606a,b	470	"	"	R716	3.9K	"	"
R607a,b	1.8K	"	"	R717	1.8K	"	"
				R718	68K	"	"
				R719	20K	"	"
				R720	22K	"	"

Ref. No.	Value (ohm)	Wattage (W)	Material	Ref. No.	Value (ohm)	Wattage (W)	Material
R721	18K	¼	Carbon	R823	4.7K	¼	Carbon
R722	39K	"	"	R824	43K	"	"
R723a,b	2.2K	"	"	R851	33	¼	Carbon
R751a,b	470K	¼	Carbon	R831	47	1	Metal Oxide
R752a,b	"	"	"	R832	2.2K	¼	Carbon
R753a,b	240K	"	"	R833	10	"	"
R754a,b	18K	"	"	R834	1.8K	"	"
R755a,b	"	"	"	R835	270	1	Metal Oxide
R756a,b	2.2M	"	"	R901a,b	3.3K	¼	Carbon
R757a,b	"	"	"	R902a,b	470K	"	"
R758a,b	3.3K	"	"	R903a,b	"	"	"
R759a,b	100K	"	"	R904a,b	100K	"	"
R760a,b	"	"	"	R905a,b	470	"	"
R761a,b	3.3K	"	"	R906a,b	15K	"	"
R762a,b	2.2K	"	"	R907a,b	4.3K	"	"
R763a,b	18K	"	"	P908a,b	8.2K	"	"
R764a,b	Not Used	"	"	R909a,b	"	"	"
R765a,b	12K	¼	Carbon	R910a,b	Not Used	"	"
R791a,b	220K	¼	Carbon	R911a,b	18K	¼	Carbon
R792a,b	3.3K	"	"	R912a,b	"	"	"
R793a,b	10K	"	"	R913a,b	"	"	"
R794a,b	18K	"	"	R914a,b	470K	"	"
R795a,b	16K	"	"	R915a,b	15K	"	"
R796	1K	"	"	R916a,b	100K	"	"
R797	"	"	"	R917a,b	1.5K	"	"
R801	56K	¼	Carbon	R918a,b	6.8K	"	"
R802	"	"	"	R919a,b	"	"	"
R803	8.2K	"	"	R920a,b	330K	"	"
R804	10K	"	"	R921	1K	"	"
R805	100K	"	"				
R806	10K	"	"				
R807	100K	"	"				
R808	820K	"	"				
R809	470K	"	"				
R810	150K	"	"				
R811	150	1	Metal Oxide				
R812	4.7K	¼	Carbon				
R813	"	"	"				
R814	10K	"	"				
R815	12K	"	"				
R816	15K	"	"				
R817	47K	"	"				
R818	390	2	Metal Oxide				
R819	5.6K	¼	Carbon				
R820	620	1	Metal Oxide				
R821	1K	¼	Carbon				
R822	4.7K	"	"				

SWITCHES			TRANSFORMERS		
Ref. No.	Description	Mfr's Part No.	Ref. No.	Description	Mfr's Part No.
S1	SELECTOR	27100126	T201	IFT 216D	35702164
S2	TAPE MONITOR	27600024	T401	RF Coil 122B	35501222
S3	TAPE DUBBING	27600025	T851	Power Transformer	35900197
S4	DOLBY NR	27100127			
S5	LOUDNESS	27200078			
S6	MONO	"			
S7	SUBSONIC FILTER	"			
S8	HIGH FILTER	"			
S9	DOLBY NR 400Hz TONE	27200079			
S10	HIGH BLEND	27200078			
S11	DOLBY NR METER	27200079			
S12	MUTING	27200078			
S13	NORMAL-SEPARATED	27300008			
S14	POWER ESB-791	27200077			
S15a,b	THERMAL PROTECTOR	30700170			
S16	THERMAL PROTECTOR (Inside of Power Transformer)				
S17	SPEAKERS	27100125			

TRANSISTORS					
Ref. No.	Type No.	Manufacturer	Mfr's Part No.	Substitute	
				Type No.	Manufacturer
TR101	3SK45	Hitachi		3SK59	Toshiba
TR102	3SK45	"		3SK59	"
TR103	SE3001	Teledyne		2SC1342	Hitachi
TR301a,b	2SC945	NEC	30201031	2SC536	Sanyo
TR302a,b	2SC1222	"	30200662	2SC1681	Toshiba
TR303a,b	2SA640	"	30000241	2SA841	"
TR304	2SC945	"	30201031	2SC536	Sanyo
TR305	"	"	"	"	"
TR306	"	"	"	"	"
TR307	2SA733	"	30000423	2SA678	Sony
TR308	2SC945	"	30201031	2SC536	Sanyo
TR309	"	"	"	"	"
TR310	"	"	"	"	"
TR311	"	"	"	"	"
TR401	2SC945	NEC	30201031	2SC536	Sanyo
TR402	"	"	"	"	"
TR501a,b	2SA841	Toshiba	30000442	2SA640	NEC
TR502a,b	"	"	"	"	"
TR503a,b	2SC1681	"	30201133	2SC1400	"
TR504a,b	2SA841	"	30000442	2SA750	"

## TRANSISTORS

Ref. No.	Type No.	Manufacturer	Mfr's Part No.	Substitute	
				Type No.	Manufacturer
TR601a,b	2SC1400	NEC	30201191	2SC1681	Toshiba
TR602a,b	"	"	"	"	"
TR603a,b	2SC1681GR	Toshiba	30201133	2SC1400	NEC
TR604a,b	2SA914	Matsushita	30000461	2SA818	Toshiba
TR605a,b	2SC1953	"	30201181	2SC1628	"
TR606a,b	2SC945	NEC	30201031	2SC536	Sanyo
TR607a,b	2SA733	"	30000423	2SA678	Sony
TR608a,b	2SC1431	Sony	30201201	2SC1161	NEC
TR609a,b	2SA762	"	30000481	2SA653	"
TR610a,b	2SD427	Toshiba	30300270	2SD388A(2)	"
TR611a,b	"	"	"	"	"
TR612a,b	2SB557	"	30100061	2SB541A	"
TR613a,b	"	"	"	"	"
TR701a,b	2SC945	NEC	30201031	2SC536	Sanyo
TR702	"	"	"	"	"
TR751a,b	2SC1681	Toshiba	30201133	2SC1400	NEC
TR752a,b	2SA841	"	30000443	2SA750	"
TR791a,b	2SC1681BL	Toshiba	30201132	2SC1400	NEC
TR801	2SC1400	NEC	30201191	2SC1681	Toshiba
TR802	"	"	"	"	"
TR803	2SA750	"	30000471	2SA841	"
TR804	2SC945L	"	30201031	2SC536	Sanyo
TR805	2SC1400	"	30201191	2SC1681	Toshiba
TR806	2SD438	Sanyo	30300250	2SC1509	Matsushita
TR807	2SC1983	Sanken	30201211	2SD330	Sanyo
TR808	2SC945L	NEC	30201031	2SC536	"
TR809	2SC1983	Sanken	30201211	2SD330	"
TR810	2SB560	Sanyo	30100041	2SA777	Matsushita
TR811	2SA733	NEC	30000423	2SA678	Sony
TR831	2SC1983	Sanken	30201211	2SD330	Sanyo
TR832	2SA733	NEC	30000423	2SA678	Sony
TR901a,b	2SC1681	Toshiba	30201133	2SC1400	NEC
TR902a,b	2SA841	"	30000443	2SA750	"
TR903a,b	2SC1681	"	30201133	2SC1400	"
TR904a,b	2SA841	"	30000443	2SA750	"

## VARIABLE RESISTORS

Ref. No.	Description	Mfr's Part No.
VR201	FM Meter Level 47 K $\Omega$ /B	28100003
VR301	PLL VCO 4.7 K $\Omega$ /B	28100002
VR302	FM Muting Level 20 K $\Omega$ /B	28100005
VR303a,b	FM Separation 47 K $\Omega$ /B	28100003
VR401	AM Meter Level 4.7 K $\Omega$ /B	28100002
VR402	AM Output Level 4.7 K $\Omega$ /B	28100003
VR551a,b,c,d	VOLUME & BALANCE 200 K $\Omega$ /B 10 K $\Omega$ /MN	28000120
VR601a,b	Bias Control 300 $\Omega$ /B	28100090
VR602a,b	DC Balance Control 1 K $\Omega$ /B	28100089
VR701a,b	Meter Level 2.2 K $\Omega$ /B	28100088
VR702	400Hz Tone Output Control 2.2 K $\Omega$ /B	28100088
VR791a,b	FM DOLBY CAL 200 K $\Omega$ /A	28000123
VR792a,b	DOLBY PLAY CAL 200 K $\Omega$ /A	28000122
VR793a,b	DOLBY REC LEVEL 200 K $\Omega$ /A	28000122
VR901a,b	TREBLE 100 K $\Omega$ /B	28000121
VR902a,b	BASS 100 K $\Omega$ /B	"

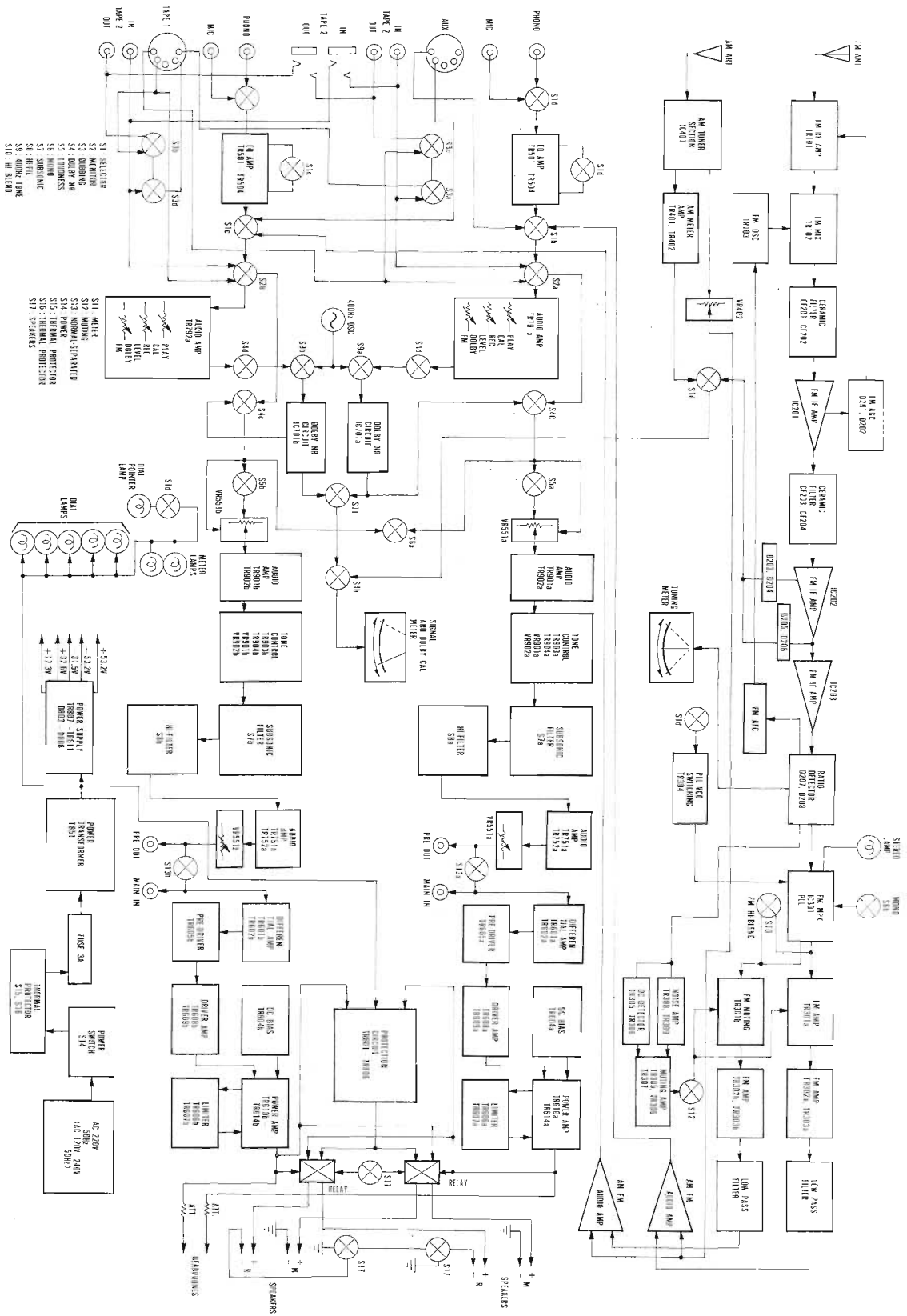
## PRINTED WIRING BOARDS (ASSEMBLED)

Ref. No.	Description	Mfr's Part No.
0036	Tuner Front-End	95021001
5027	Tuner Board	97003610
6038	Pre-Amplifier Board	97502710
7105	Main Amplifier Board	97603820
7110	Switch Board	97710510
7118	DOLBY NR Board	97711010
8025	DOLBY FM Cal. Board	97711810
9025	Power Supply Board	97802510
7112	Tone Amplifier Board	97902510
7113	Dial Lamp Board	97711210
	Meter Lamp Board	97711310

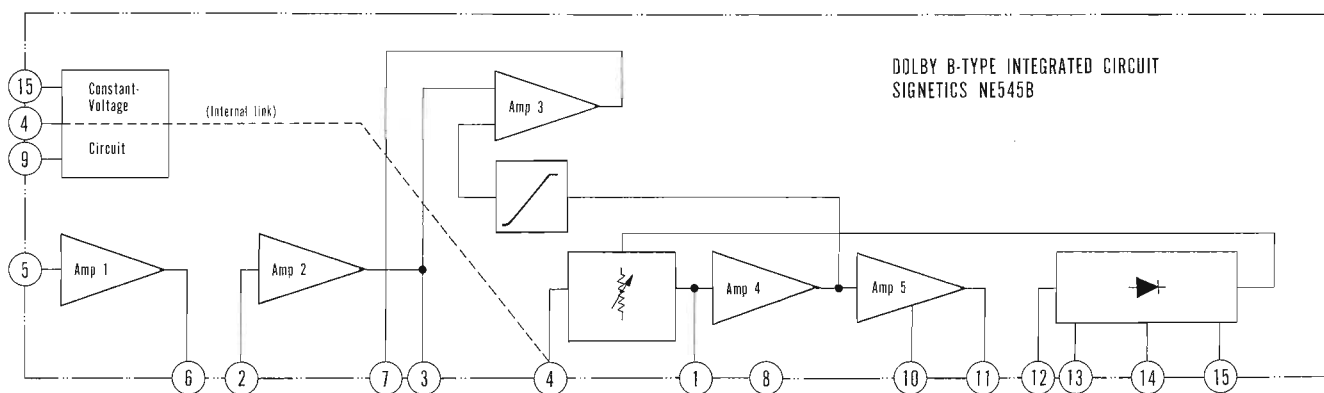
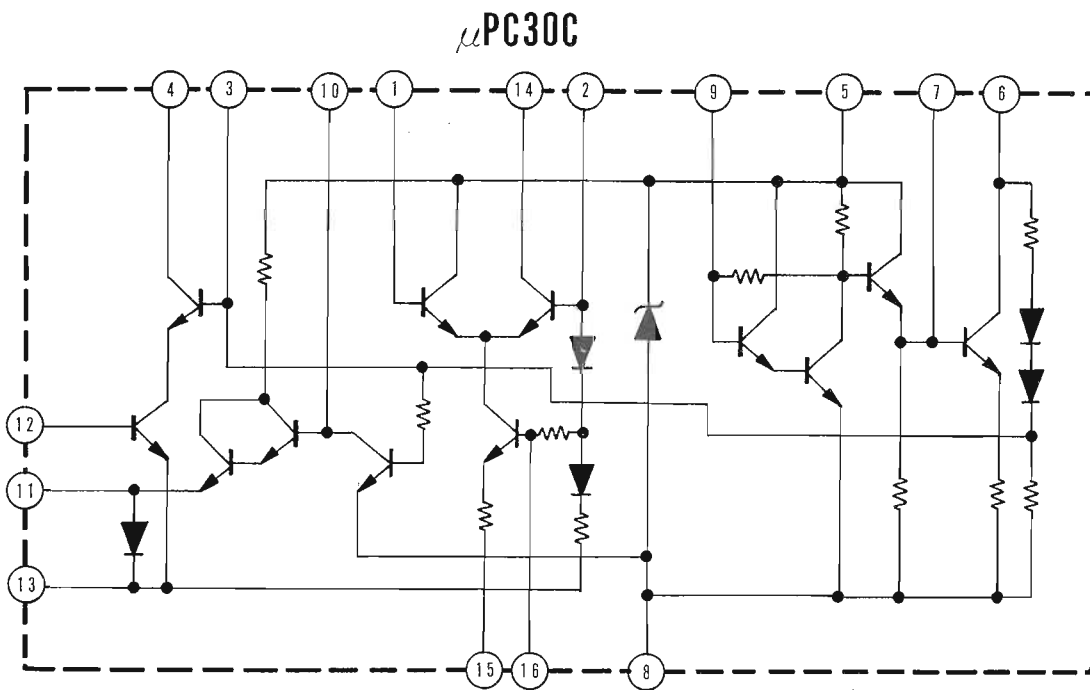
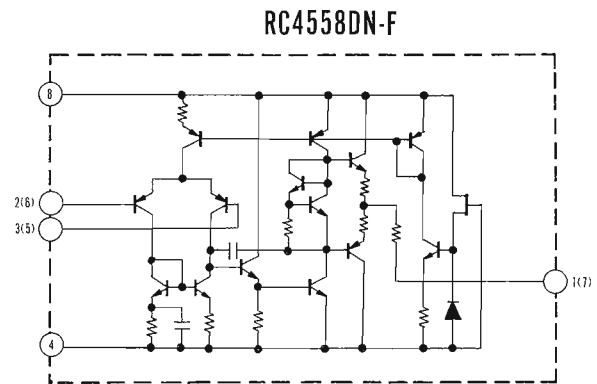
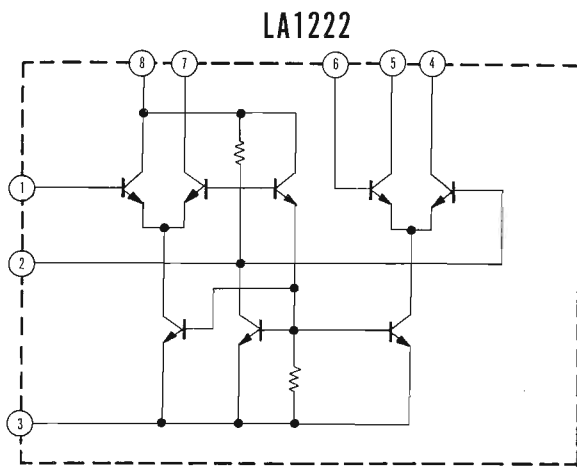
# 18. MISCELLANEOUS PARTS LIST

MISCELLANEOUS PARTS LIST			Ref. No.	Description	Mfr's Part No.
Ref. No.	Description	Mfr's Part No.			
1	Wire Wrap Pin	19043001	47	Meter Filter	84241001
2	Jumper Wire	92000001	48	Tuner Front-End	95021001
3	Tapping Screw M3x6	40130061	49	Nut for Pulley Shaft	63268001
4	Screw M3x15	40330151	50	Dial Drum	21008003
5	Binding Head Tapping Screw M3x8	40630081	51	Terminal Strip 2P1L2P	51040004
6	Heat Sink A	15071001	52	Terminal Strip 2P1L3P1L2P	51072002
7	Heat Sink B	15072001	53	Terminal Strip 1L2P	51045004
8	Flat Washer M3	42120321	54	Ground Lug	63319001
9	Tapping Screw M3x12	40130121	55	Flat Washer M5	42120521
10	Back Panel	11170001	56	Spring Washer M5	42250541
11	Speaker Terminal	53042930	57	Nut M5	61115010
12	4P Phono Jack	33040740	58	Printed Wiring Board Support	84232001
13	AM Bar Antenna Holder	63030001	59	Tapping Screw M3x12 Black	40130125
14	Metal Bracket for AM Bar Antenna	63026003	60	Binding Head Tapping Screw M3x6	40630065
15	Screw M4x45	40340451	61	Binding Head Tapping Screw M4x8	40640081
16	Lock Nut M4	40000030	62	Spring Coil for Dial Drum	19045001
17	Cord Strain Relief SR4K4	74035001	63	Binding Head Tapping Screw M3x8	40630081
18	AC Cord with Plug	62010006	64	Lock Washer M3	42380331
19	Fuseholder S-N2250	34047001	65	Glass Cloth Tubing	31601190
20	5P DIN Jack X-I3306	34057001	66	Front Panel Assembly	10187004
21	7P Phono Jack	33070240	67	Tuning Knob	29225001
22	Mic Jack	33031400	68	Knob for VOLUME, TREBLE(L) & BASS(L)	29211001
23	Antenna Terminals	53043130	69	Knob for BALANCE, TREBLE(R) & BASS (R)	29212002
24	Terminal Strip 2P1L2P	51040004	70	Knob for SELECTOR, SPEAKERS & DOLBY NR	29215001
25	Cord Stopper SR5P4	74045001	71	Knob for PLAY CAL & REC LEVEL	29226001
26	Phono Ground Terminal	53012300	72	Push Switch Button A	29227001
27	Nut M3	41113010	73	Push Switch Button B	29216001
28	Spring Washer	42250341	74	Lever Switch Knob	29217001
29	Binding Head Screw M3x8 Black	40430085	75	Metal Enclosure	70020001
30	Power Fuse 2.5A T	38444225	76	Bottom Plate	05046001
31	Balun Transformer	35500060	77	Plastic foot	84233001
32	Flat Washer M4	42120421	78	Binding Head Tapping Screw M4x15	40640151
33	Tuning Shaft Assembly	23045001	79	Binding Head Screw M4x10	40440105
34	Headphone Jack	33031300	80	Lock Washer M4 Black	42280438
35	Stereo Indicator Lamp	37008034	81	Shield Case	09056001
36	Dial Lamp House	08052001	82	Nylon Washer	42400017
37	Dial Pointer Assembly	25041001	83	Dipole Antenna	62120001
38	Plastic Pulley	84085001	84	Binding Head Tapping Screw M3x8	40630085
39	Pulley Shaft E	24003001			
40	Pulley Shaft G	24004002			
41	Dial Scale Glass	20090001			
42	Dial Lamp Diffuser	84235001			
43	Metal Clamper for Dial Scale	63322001			
44	Rubber for Dial Scale	74116001			
45	Light Shield Sponge	74118001			
46	Light Shield Fiber	73202001			

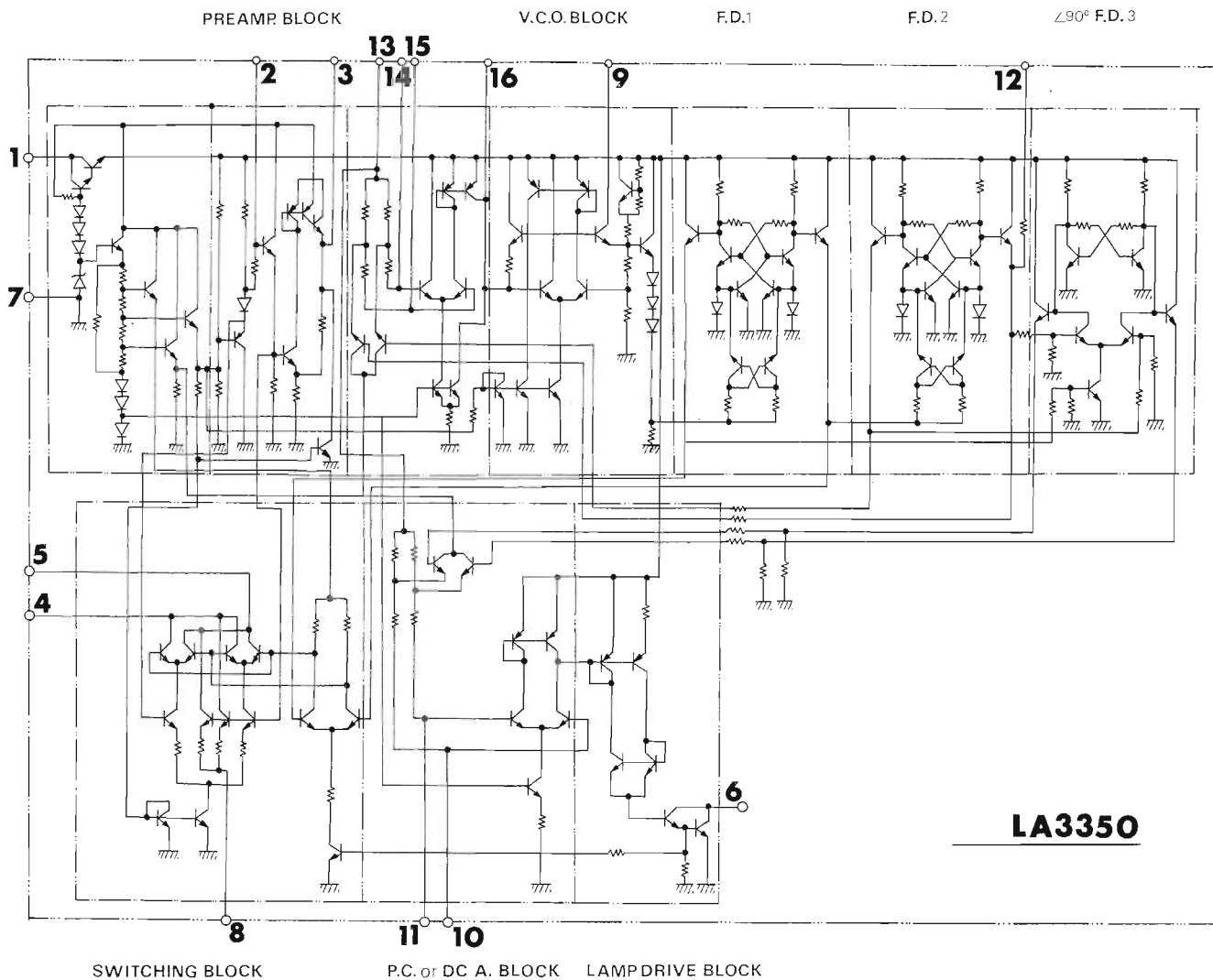
# 19. BLOCK DIAGRAM



# 20. INTERNAL VIEW OF INTEGRATED CIRCUIT



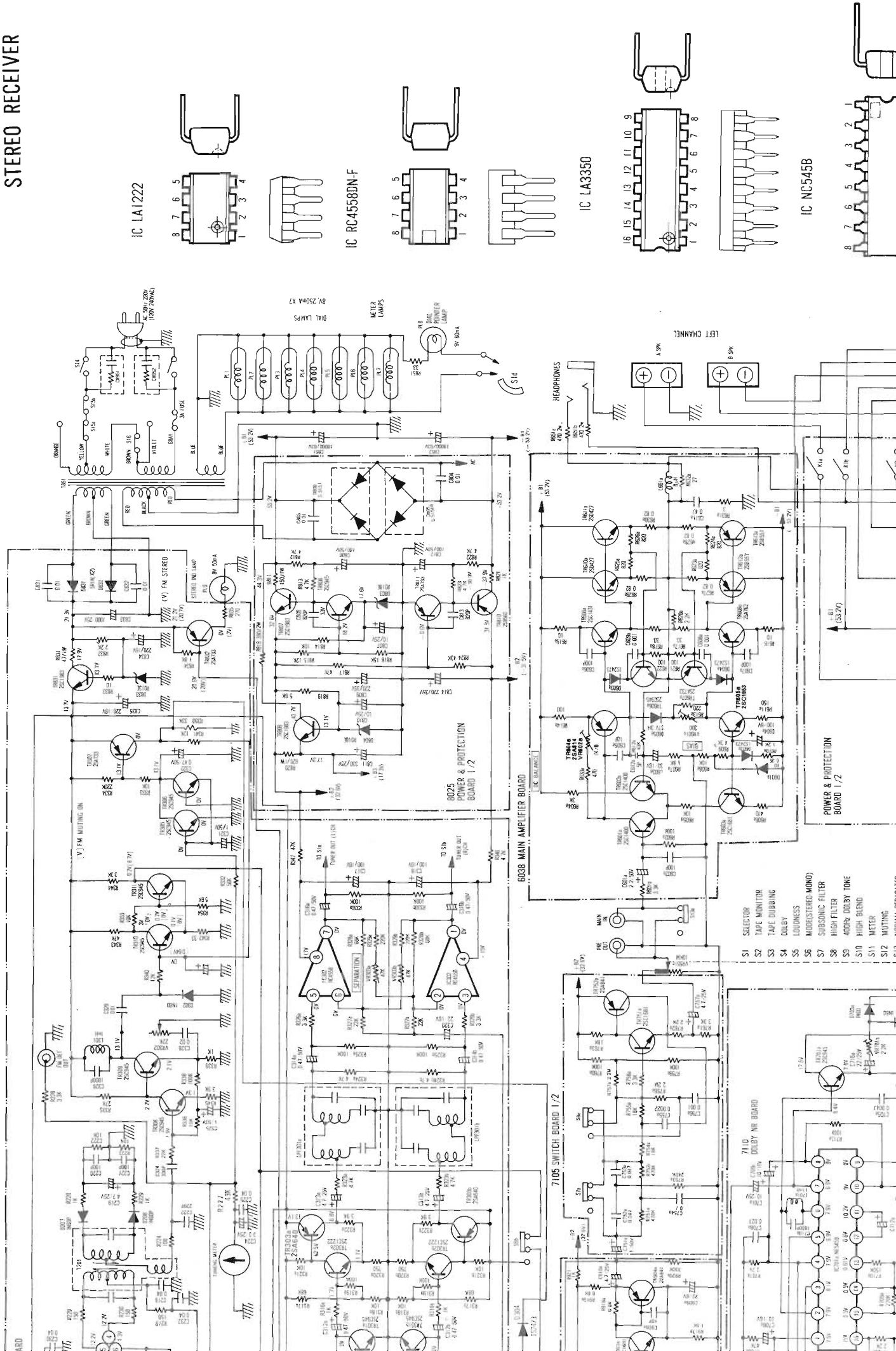




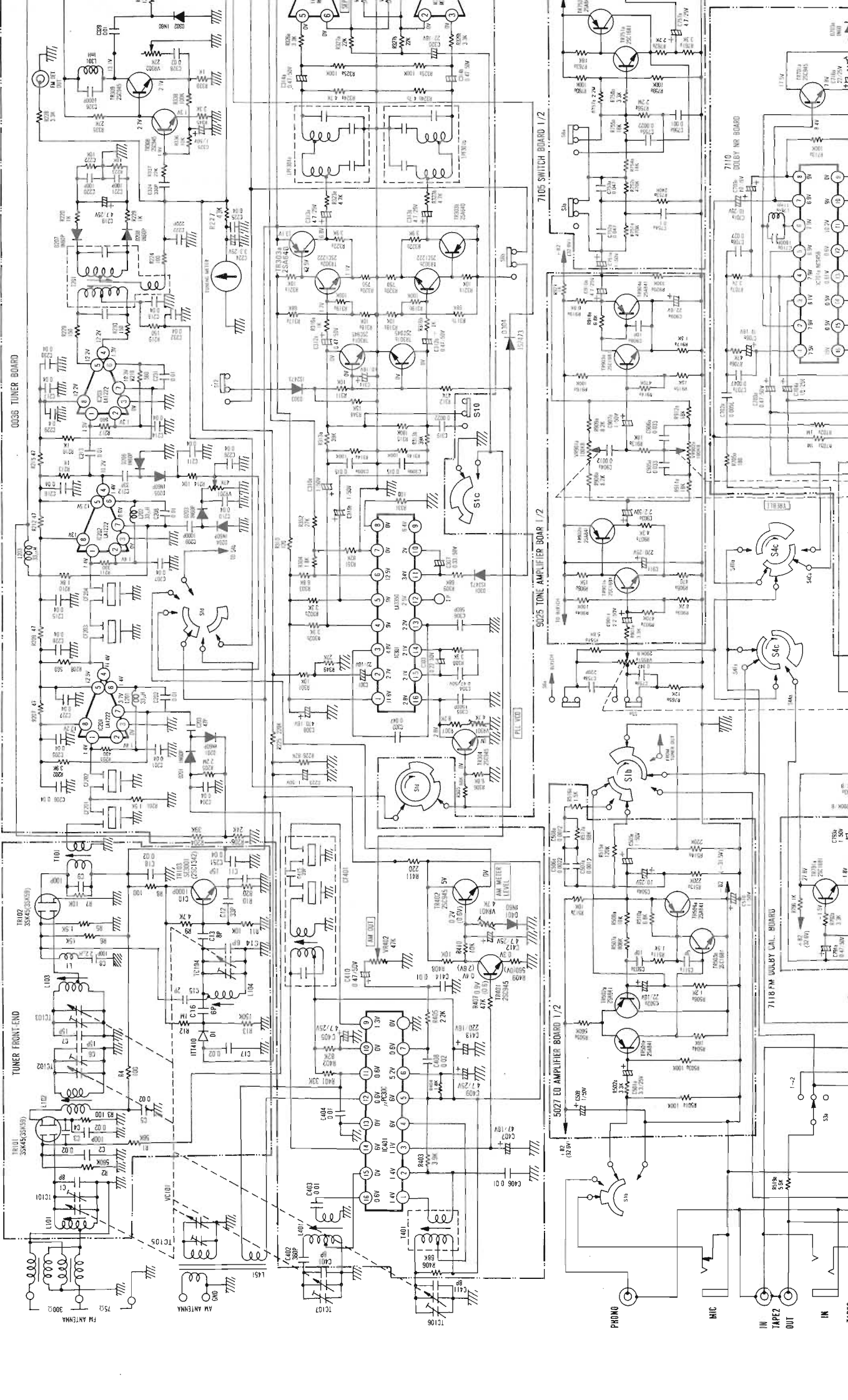
**LA3350**

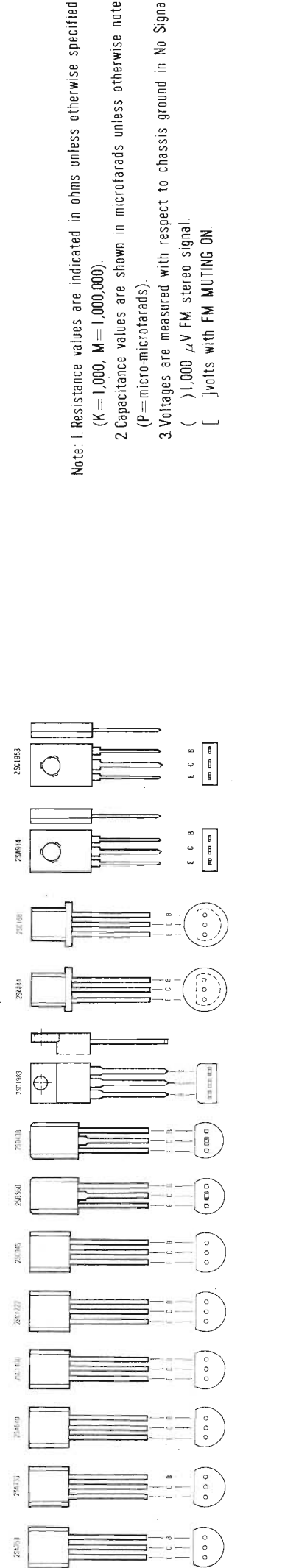
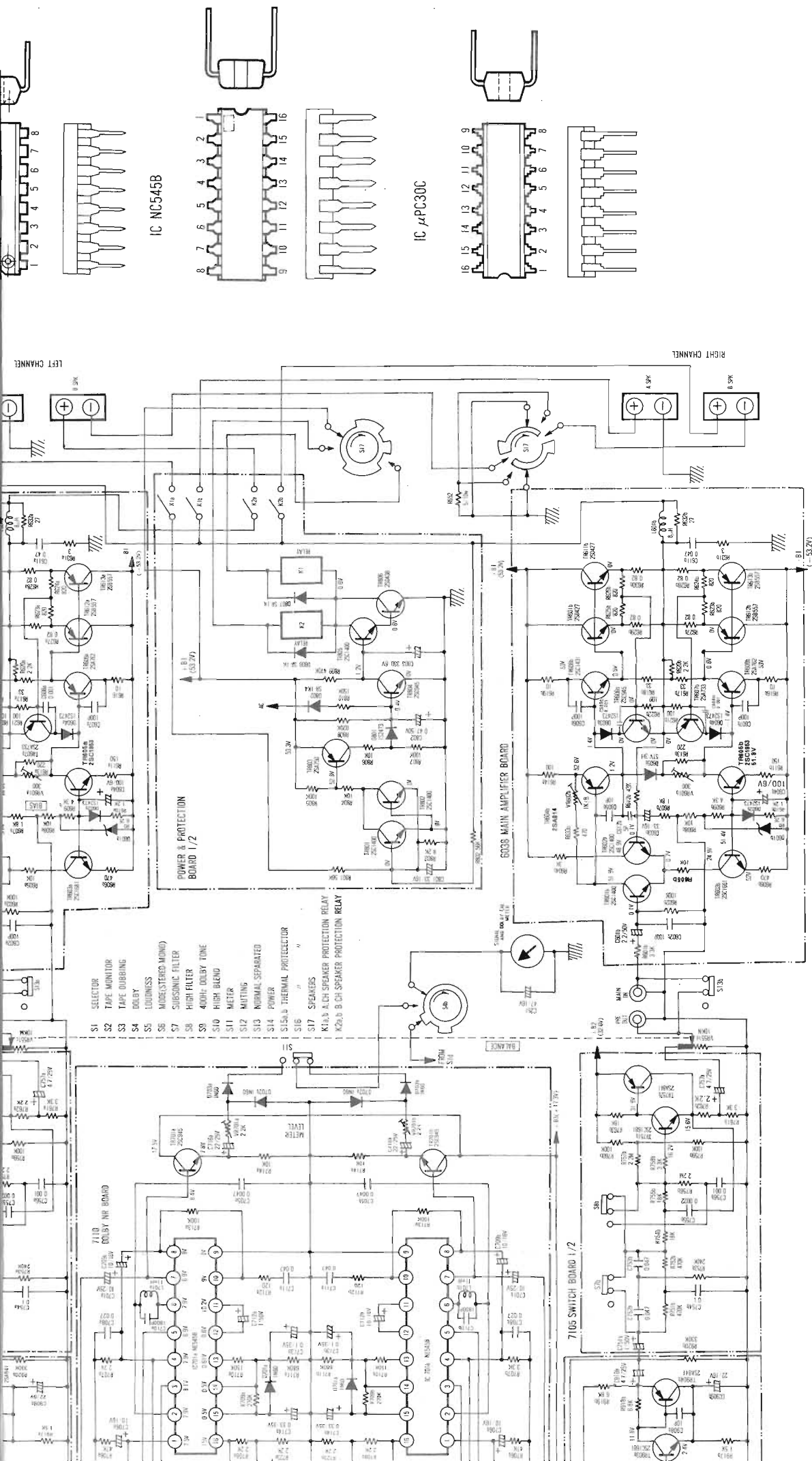
# SCHEMATIC DIAGRAM

# NAD-300 STEREO RECEIVER



# SCHEMATIC DIAGRAM





Note: 1. Resistance values are indicated in ohms unless otherwise specified  
 (K = 1,000, M = 1,000,000)  
 2. Capacitance values are shown in microfarads unless otherwise noted  
 (P = micro-microfarads)  
 3. Voltages are measured with respect to chassis ground in No Signal.  
 ( ) 1,000 μV FM stereo signal.  
 [ ] volts with FM MUTING ON.

