ELECTRICAL CHECKS AND ADJUSTMENTS

EQUIPMENT REQUIRED

1. Test Tape
2. 8Ω 10W resistor
3. Audio Oscillator
4. Oscilloscope
5. AC-VTVM
6. Weighted Noise Filter
7. Unweighted Noise Filter
8. Capacitive Probe
9. Reproduce Alignment tape (Ampex No. 31321-01)
10. Reel of blank tape

PRELIMINARY INSTRUCTIONS

Preset the recorder in the following manner for all tests and head alignment unless otherwise specified.

All outputs will be taken from the left and right SOURCE AND TAPE OUT. All inputs will be through the left and right LINE IN jacks. All shields must be in place for noise and cross-talk measurements.

The weighted and unweighted noise filters, when called for, are to be inserted between the AC-VTVM and the termination of 100 K ohm load.

1. Clean and demagnetize all heads and guides.
2. Turn power switch to "ON" position.
3. Adjust the Record Level controls fully up.
4. Set the Speed Selector control to 7-1/2 ips.
5. Set the filter switch to "OFF".
6. Set the SOURCE TAPE switch to the SOURCE position for all recording functions.

Set the mode Selector switch to the STEREO TAPE position for tape playback functions.

PLAY HEAD AZIMUTH ALIGNMENT

1. Thread the recorder with the reproduce alignment test tape, Ampex P/N 31321-04 (¼ track, 7-1/2 ips).
2. Connect an AC-VTVM to the left Source and Tape Out jack.
3. Adjust Azimuth screw (A1) for maximum reading on VTVM.

RECORD HEAD AZIMUTH ALIGNMENT

Make sure playhead is aligned and gain adjustment made, if necessary, before proceeding with record head alignment.

1. Preset the recorder as described in the preliminary instructions.
2. Thread the recorder with a reel of blank or bulk erased tape, preferably the same tape the customer is using.
3. Set the SOURCE/TAPE switch to the SOURCE position.
4. Connect an Audio Oscillator (15kHz) to the left LINE IN jack.
5. Connect an AC-VTVM to the left TAPE AND SOURCE OUT JACK.
6. Adjust the oscillator output for a 0dB (operating level) indication on the channel (1) Record Level Meter. While observing the VTVM, decrease this reading down 20dB.
7. Depress the Record button while advancing the FUNCTION SELECTOR to PLAY.
8. Monitor the output of the Playback head on the VTVM while recording the 15kHz tone by changing the source/tape switch to the tape position.
9. Adjust azimuth screw "A2" (Figure 27) of the Record head for a maximum output as monitored by the playback head on the AC VTVM.
10. Repeat the previous steps for Channel 2 using the right channel jack.
11. If the two channels do not peak at the same point (in step 10), center the azimuth adjustment between peaks.

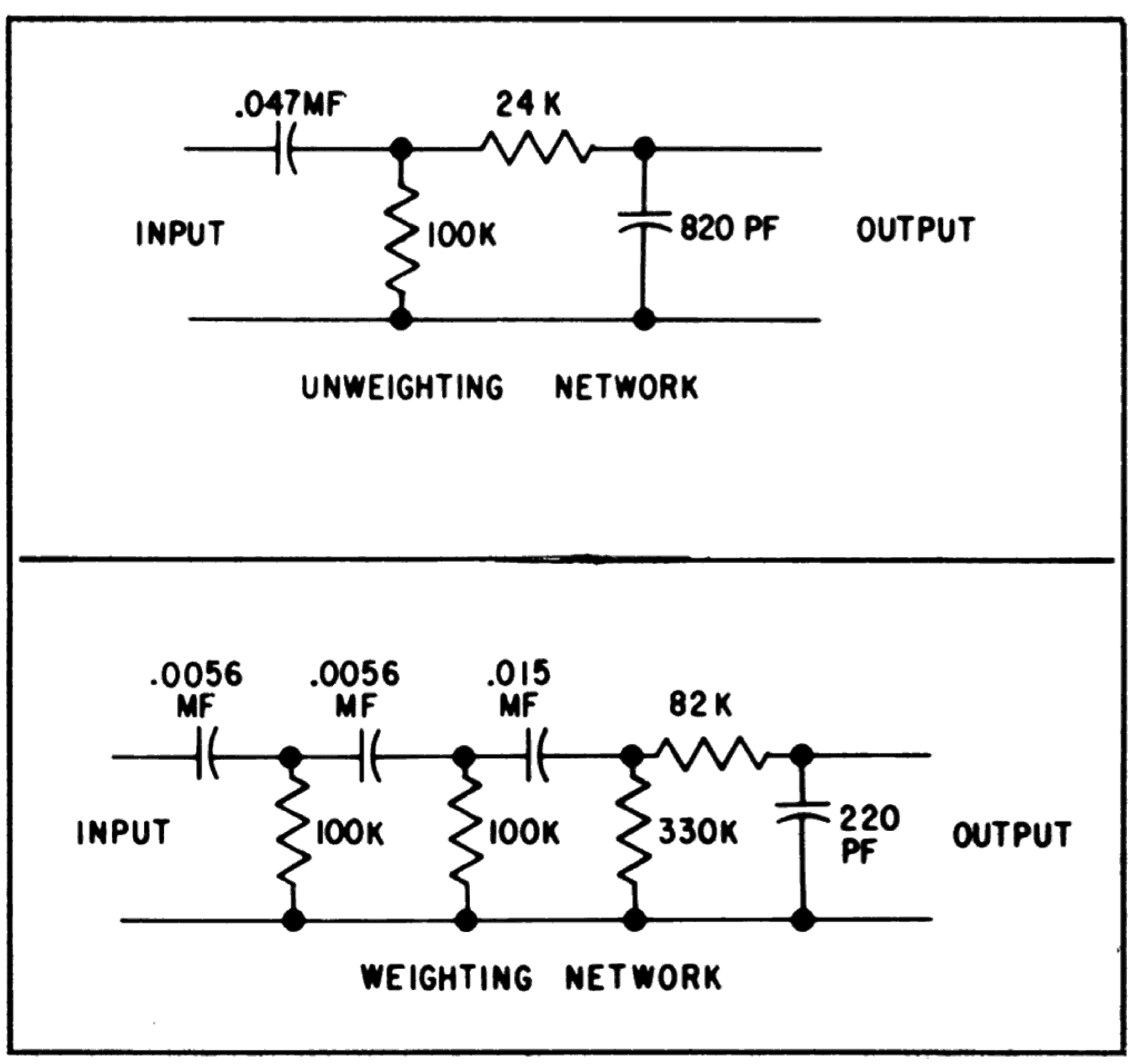
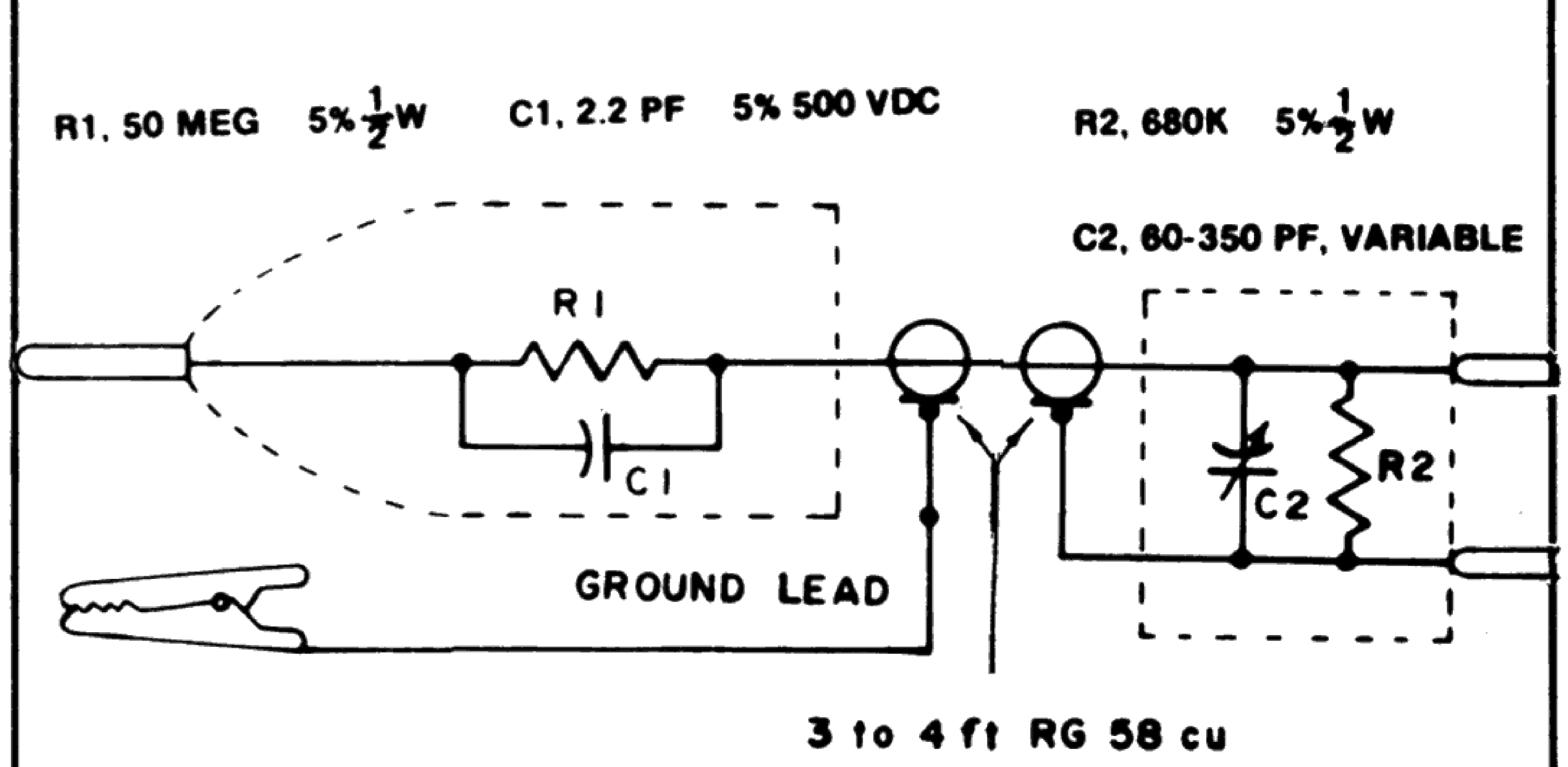


Figure 24. Network Construction



CALIBRATION

1. Set audio oscillator for a 1V., 93 KHz signal.
2. Connect the probe in series with the oscillator output and A.C. VTVM.
3. Adjust capacitor C2 for a .01V indication on the A.C. VTVM

Figure 25. Probe Construction

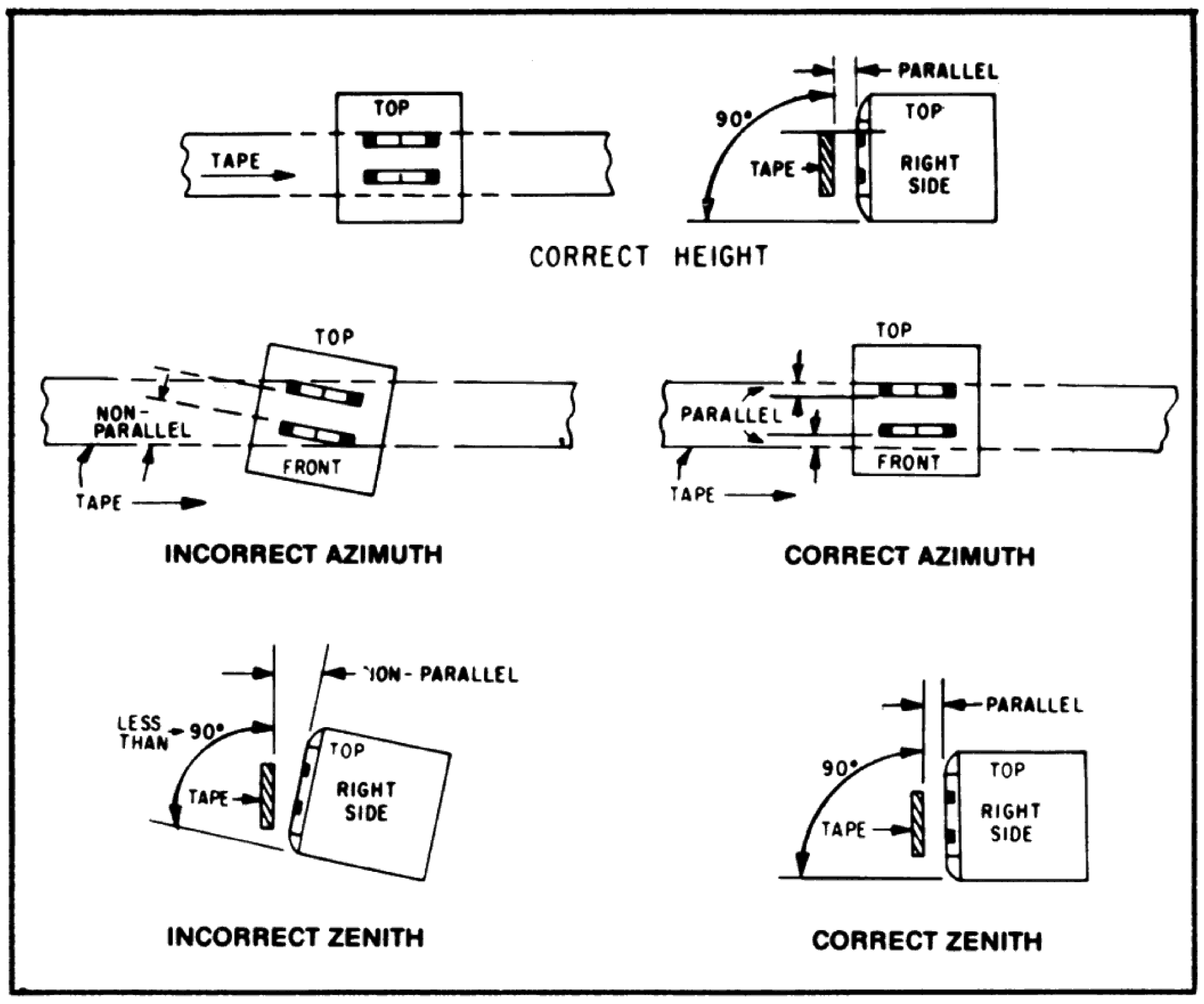


Figure 26. Visual Alignment

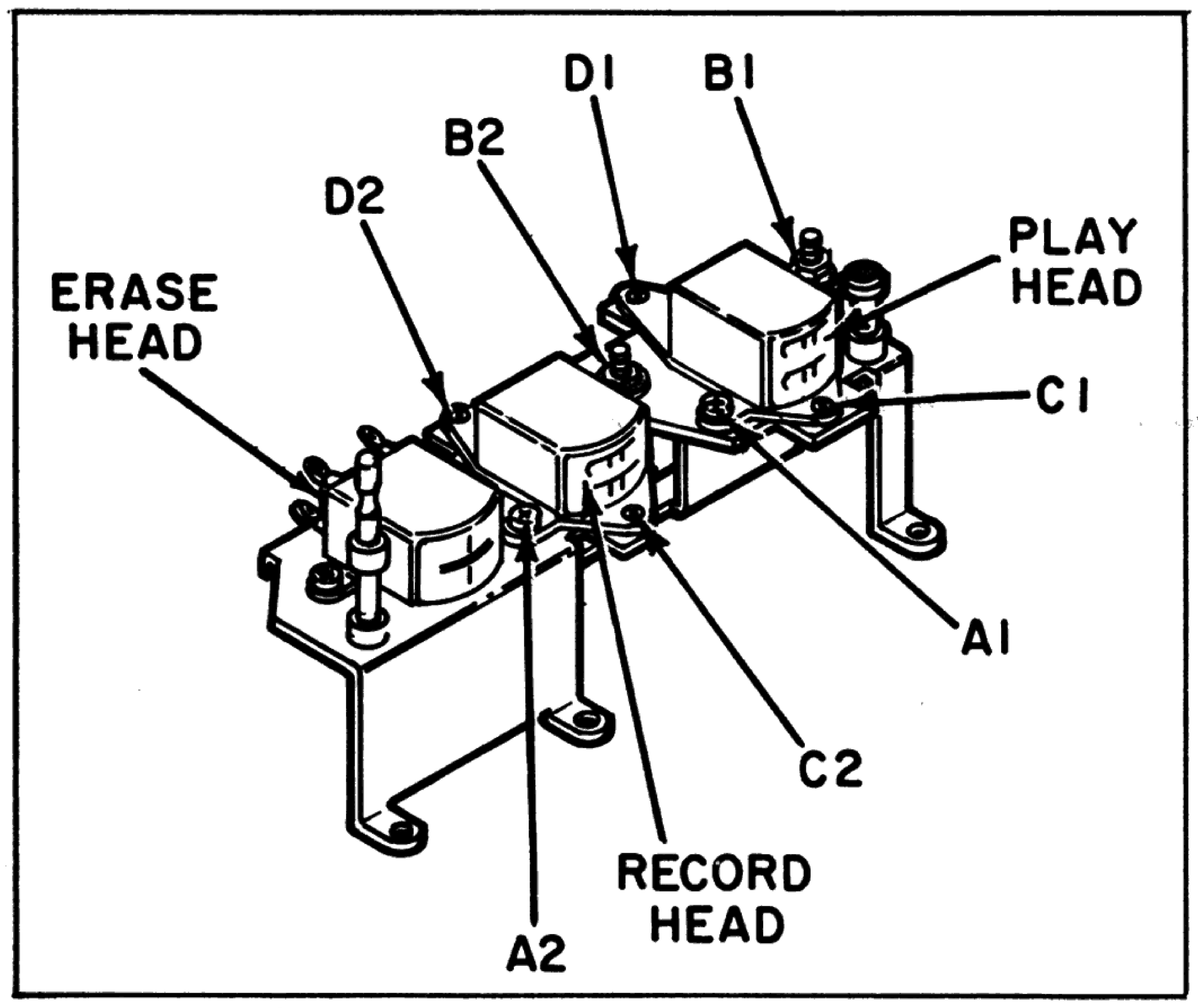


Figure 27. Head Adjustment Locations

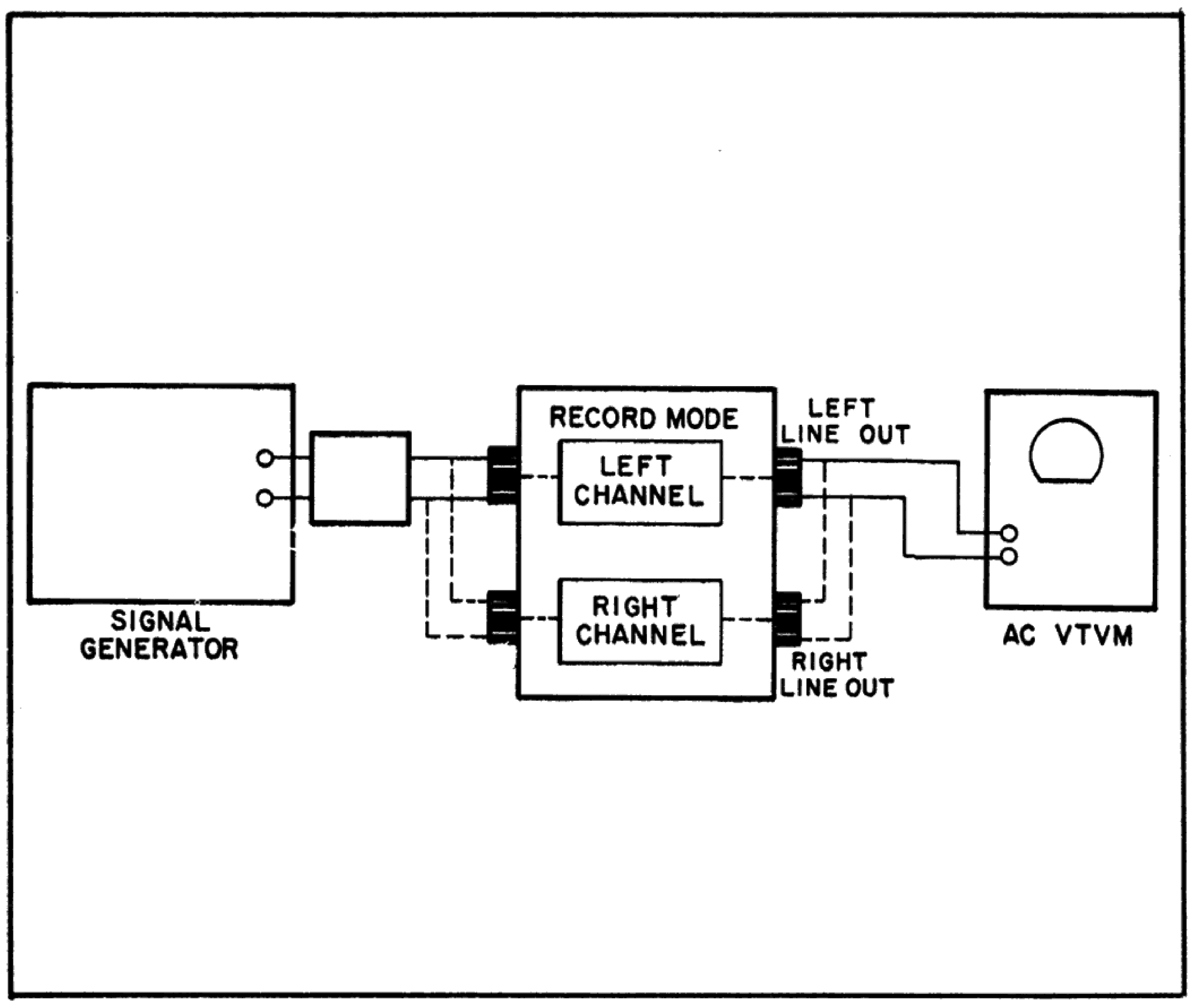


Figure 28. Test Set Up

ERASE HEAD ALIGNMENT AFTER REPLACEMENT

1. Follow the erase head replacement with a visual alignment as illustrated in Figure 26.
2. Erase head height is adjusted with shims of different thickness.
3. Perform the "Signal-to-Noise Ratio at Peak Record Level" test.

HEAD REPLACEMENT PROCEDURE

1. When it becomes necessary to replace a head, remove the head cover and cover plate assemblies.
2. Remove the screws retaining the defective head to the head bridge.
3. Unsolder all four wires from the defective erase head, or remove plug from record and/or play head. Make a drawing identifying the exact terminal from which each individual wire was removed.
4. Using a low wattage soldering iron, resolder the wires to the proper terminals of the replacement erase head, or reconnect plug to record and/or play head.

CAUTION

To prevent possible damage to the replacement head, do not hold the soldering iron to the erase head terminals for more than a few seconds.

5. Install the new head assembly. Be sure the mounting spring is re-installed to allow for head alignment.
6. Utilizing a short length of leader tape (approximately 18" semi-transparent), make up a tape loop and place it in the tape path of the head bridge assembly.
7. Visually align the head(s). Note that the upper track of the Play, Record and Erase heads (Fig. 26) line up with the top edge of the tape. See figure 27 for adjustment locations. The three head screws and nut must be adjusted equally for proper height and zenith (erase head only has 2 screws).
8. Refer to Head Alignment after replacement.

PLAY HEAD ALIGNMENT AFTER REPLACEMENT

1. Thread the recorder with the reproduce alignment test tape, Ampex P/N 31321-04 (¼ track, 7-1/2 ips).
2. Advance the test tape to the first tone, 3kHz.
3. Connect an AC VTVM to the left source and tape out jack.
4. Play the tone and adjust A1, B1, and C1 (Figure 27) for equal maximum output of the VTVM.
5. Place Function switch to Pause to stop tape movement; connect the AC VTVM to the right LINE OUT jack.
6. Play the 3kHz tone again and check the right channel output. It should be peaked to ±2dB of the left channel output.

7. Repeat steps 2 through 4 and readjust A1, B1, C1, and D1. If the two channels do not peak at the same point, center the adjustment.
8. Adjust Azimuth.

RECORD HEAD ALIGNMENT AFTER REPLACEMENT

Make sure playhead is aligned before proceeding with record head alignment.

1. Preset the recorder as described in the preliminary instructions.
2. Thread the recorder with a reel of blank or bulk erased tape, preferably the same tape the customer is using.
3. Set the SOURCE/TAPE switch to the SOURCE position.
4. Connect an Audio Oscillator (3kHz) to the left LINE IN jack.
5. Connect an AC VTVM to the left TAPE AND SOURCE OUT JACK.
6. Adjust the oscillator output for a 0dB (operating level) indication on the channel (1) Record Level Meter.
7. Set the SOURCE/TAPE switch to the TAPE position.
8. Depress the RECORD button while advancing the FUNCTION SELECTOR to PLAY.
9. Monitor the output of the Playback head on the VTVM while recording the 3kHz tone.
10. Adjust A2, B2, C2, and D2 (Figure 27) of the Record head for a maximum output as monitored by the playback head on the AC VTVM.
11. Repeat the previous steps for Channel 2 using the right channel jack.
12. If the two channels do not peak at the same point (in step 10), center the adjustment.

BIAS AND ERASE VOLTAGE MEASUREMENTS

Check and adjust the bias and erase voltages whenever an Erase or Record head, or bias circuit component, has been replaced. Procedure:

1. Use the capacitor voltage divider probe (Figure 25) and an AC VTVM to check the bias and erase voltages. (Probe use is optional.)
2. Apply the capacitive probe to the junction of R76 and VR8, adjust control VR8 (left channel) for 20V bias reading. (The reading will have to be multiplied by 100 as the probe has a 100/1 attenuation).
3. Repeat step 2 using the junction between R176 and VR108 for the right channel.
4. Apply the capacitive probe to the collector of Q5 (left channel). The bias should not exceed 1.5V at this point.
5. Repeat step 4 at the collector of Q105 for the right channel.
6. Apply the capacitive probe to junction of L3, C160, and C60; use chassis for common. The minimum erase voltage at this point should be 60V.
   For reference purposes, the bias frequency is nominally 95kHz.

GAIN ADJUSTMENT

1. Remove the cabinet. Refer to Figure 29 for location of adjustment.
2. Preset the recorder as described in the preliminary instructions. Perform this test with the unit in the horizontal position.
3. Thread the recorder with the reproduce alignment test tape, Ampex P/N 31321-01 (full track, 7-1/2 ips).
4. Turn the Record Level controls to the minimum counter-clockwise position.
5. Set the Mode Selector switch to the STEREO TAPE position.
6. Advance the test tape to the last tone on the tape, (700 Hz, recorded at 0db operating level).
7. Connect an AC VTVM to the left SOURCE and TAPE OUT jack.
8. Play the tape, the VU meters on the tape deck should read 0dB.
9. If not, adjust the playback calib. control VR6.
10. Check the MONITOR out indication on the VTVM. It should be *0dB.*
11. Connect the VTVM to the right SOURCE AND TAPE OUT jack.
12. Repeat steps 8, 9 and 10 while adjusting VR106 for the right channel.

RECORD CALIBRATE

1. Remove the mechanism from the cabinet.
2. Place unit in horizontal position so circuit board is accessible.

NOTE

Before proceeding with the Record Calibrate alignment, check and complete the "GAIN ADJUSTMENT" procedures.

3. Preset the recorder as described in the preliminary instructions.
4. Thread recorder with a reel of blank or bulk erased tape (Scotch Recording Tape, Type "190").
5. Place Mode Selector switch in MONO 1 position.
6. Connect an Audio Ascillator (700 Hz) to the left LINE IN jack.
7. Connect an AC VTVM to the left SOURCE AND TAPE OUT jack.
8. Depress the Record button and hold depressed while advancing the FUNCTION SELECTOR to PLAY.
9. Adjust the oscillator output for a 0dB reading on channel (1) VU meter.
10. Place the SOURCE TAPE switch in the TAPE position. Check CH1 AC VTVM for "0"dB output, if not, adjust VR5.
11. Check channel (1) VU meter again, reading must be

OdB. If not, adjust the channel (1) Rec. Meter Calib. control (VR7) for 0 dB.

12. Rotate the Mode Selector switch to the STEREO TAPE position.
13. VTVM reading should be within 2 dB of the reading observed in step 10 of the "GAIN ADJUSTMENT" procedures. This reading should also be within 2 dB of the reading in step 11.
14. Repeat 5 through 13 using the right LINE IN jack and MONO 2 position to record on the right channel. Adj VR105 for record output and VR107 for record meter calibration.

BIAS LEAKAGE

1. Preset the recorder as described in the preliminary instructions.
2. Depress Record Button while advancing the FUNCTION selector to PLAY, set MODE selector to STEREO.
3. Place SOURCE TAPE switch in SOURCE position.
4. Connect an AC VTVM to the left SOURCE AND TAPE OUT jack.
5. Check VTVM reading for the left channel.
6. Connect the VTVM to the right SOURCE AND TAPE OUT jack.
7. Check VTVM reading for the right channel.

The maximum level allowed is -17dB per channel.

NOISE AND ERASURE AT PEAK RECORD LEVEL

1. Preset the recorder as described in the preliminary instructions.
2. Thread recorder with a reel of blank or bulk erased tape.
3. Place SOURCE TAPE switch in SOURCE position.
4. Connect an Audio Oscillator (500 Hz) to the left LINE IN jack. Adjust the oscillator output for 0 dB (operating level) on channel (1) Record Level Meter.
5. Connect the AC VTVM to the left LINE OUT (SOURCE AND TAPE OUT) jack.
6. Check AC VTVM indication; then, adjust the oscillator output for a 7 dB increase. (This is peak record level.)
7. Set MODE SELECTOR to MONO 1. Depress RECORD button while advancing FUNCTION SELECTOR to PLAY.
8. Record the 500 Hz tone for approximately 20 seconds.
9. Rewind the tape to the beginning of the recorded portion of the 500 Hz tone.
10. Move the Record Level controls fully down (OFF).
11. Depress the Record button, move the FUNCTION SELECTOR to PLAY and erase the 500 Hz tone.
12. Rewind the tape to the beginning of the erased 500 Hz tone.
13. Insert the weighted noise filter in series with the AC VTVM input (see Fig. 24).
14. Place Mode Selector switch in STEREO position.
15. Play back the erased 500 Hz tone and note AC VTVM reading.
16. Replace the weighted noise filter with the unweighted noise filter.
17. Repeat step 15.
18. Repeat the procedures for the right channel using the right LINE IN and right SOURCE AND TAPE OUT jacks.
19. The noise measured at the SOURCE AND TAPE OUT jacks shall be at least: weighted -52 dB; unweighted -44 dB.
20. The weighted noise while playing back an unrecorded (bulk erased) portion of the tape shall be at least -57 dB.

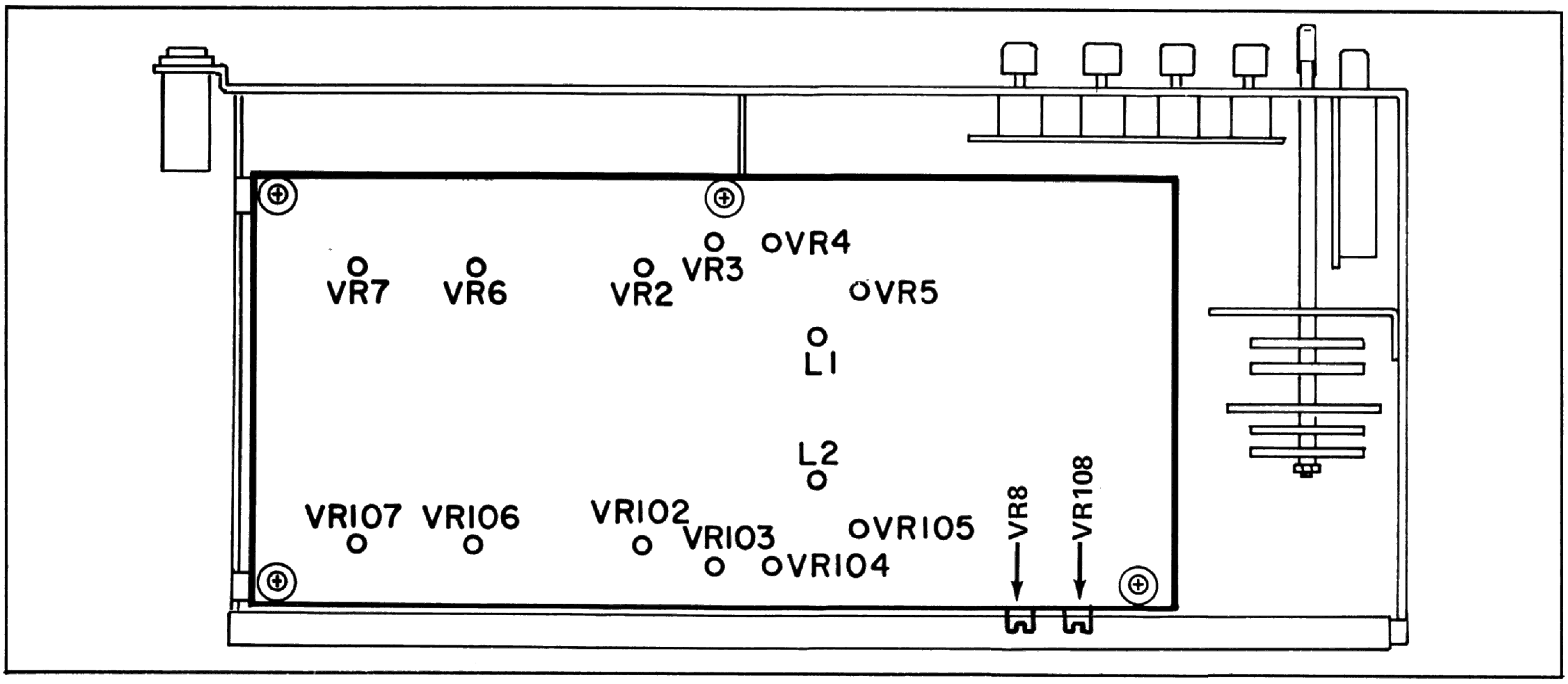


Figure 29. Adjustment Locations

PLAYBACK FREQUENCY RESPONSE

1. Preset the recorder as described in the preliminary instructions.
2. Thread recorder with the reproduce alignment test tape, Ampex P/N 31321-01 (full track, 7-1/2 ips.). Use this tape for all 3 speeds.
3. Place Mode Selector switch in STEREO TAPE position.
4. Connect an AC VTVM to the left SOURCE AND TAPE OUT jack.
5. Advance the test tape to the second tone on the tape.
6. Adjust the azimuth of the play head for maximum output on the meter. A1 Fig. 27.
7. Connect the AC VTVM to the right SOURCE AND TAPE OUT jack.
8. Repeat step 5 & 6.
9. If both channels do not peak at the same point, center the azimuth adjustment between the peaks.
10. Rewind the test tape to the beginning of the 700 Hz reference tone. Note output reading.
11. Play the remaining tones and check output for the levels in Table 3.

REF. SIGNAL	TAPE SPEED	PLAYBACK RESPONSE CHARACTERISTICS	Line Out
700 Hz	7-1/2 ips	250 Hz to 15kHz	±3dB
		100 Hz	±4dB-0dB
		50 Hz	±3dB-1dB
350 Hz	3-3/4 ips	50 Hz to 7.5kHz	±3dB
250 Hz	1-7/8 ips	62.5 Hz to 3.75kHz	±4dB

Table 3. Playback Response

OVERALL RECORD–PLAY FREQUENCY RESPONSE

1. Preset the recorder as described in the preliminary instructions.
2. Thread recorder with a reel of blank or bulk erased tape. Scotch Recording Tape, Type "190".
3. Place MODE SELECTOR switch in STEREO position.
4. Connect an Audio Oscillator (1 kHz) to the LINE INPUT jacks. Adjust the oscillator output for 0 dB (operating level) on the channel (1) Record Level METERS. The tape/source switch should be in the SOURCE position.
5. Connect an AC VTVM to the left SOURCE AND TAPE OUT jack.
6. Decrease the oscillator output by 20dB.
7. Depress the Record Button, and move FUNCTION SELECTOR to PLAY position.
8. Record each of the frequencies listed on Table 4 (for each speed). The recording can be monitored at the source and tape output as it is being made by changing the tape/source switch to the TAPE position.
9. See Table 5 for proper frequency response at the speed being tested.
10. Repeat the previous steps for the right channel.

NOTE

If the high frequency end is out of tolerance, and the azimuth setting of the play and record heads is correct, readjust the bias setting. See Figure 29 for location of bias adj. controls VR8 - VR108 and test points. The final bias setting must be between V min. and V max. At 7-1/2 ips, a 1 volt bias reduction increases the 15 kHz frequency response about 1 dB.

	TEST TAPE SPEED		
	7-1/2 ips	3-3/4 ips	1-7/8 ips
TEST FREQUENCIES	1 KHz	1 KHz	1K
	500 Hz	350 Hz	5K
	15K	8K	4
	12K	7.5K	3
	10K	5K	2.5
	5K	500 Hz	500 Hz
	2.5K	250 Hz	250 Hz
	250 Hz	200 Hz	200 Hz
	100 Hz	100 Hz	100 Hz
	80 Hz	80 Hz	50 Hz
	70 Hz	70 Hz	
	50 Hz	50 Hz	
	25 Hz	25 Hz	

Table 4. Recording a Test Tape

Ref Freq	Tape Speed	Overall Response Characteristic
1 KHz	7-1/2	70 Hz to 15 KHz ±4dB
1 KHz	3-3/4	50 Hz to 7.5 KHz +3dB - 5dB
1 KHz	1-7/8	50 Hz to 3 KHz ±6dB
500 Hz	7-1/2	50 Hz to 15 KHz ±3dB
		25 Hz to 50 Hz +3dB - 6dB
350 Hz	3-3/4	50 Hz to 7.5 KHz ±3dB
		25 Hz to 50 Hz +3dB - 6dB

Table 5. Overall Response

CROSS TALK (STEREO)

1. Preset the recorder as described in the preliminary instructions.
2. Thread recorder with a reel of blank or bulk erased tape.
3. Place Mode Selector switch in STEREO position.
4. Ground the right LINE IN jack.
5. Connect an Audio Oscillator (1 KHz) to the left LINE IN jack. Adjust the oscillator for 0 dB (operating level) on the Channel (1) Record Level Meter.
6. Depress the Record button while moving the FUNCTION SELECTOR to PLAY.
7. Record 1 KHz tone for approximately 20 seconds.
8. Stop tape motion and ground the left LINE IN jack. Repeat steps 5, 6 and 7 using the right LINE IN jack and the Channel (2) Record Level Meter.
9. Remove the leads from the LINE IN jacks and rewind the tape.
10. Connect an AC VTVM with a weighted noise filter in series with the input to the left SOURCE AND TAPE OUT jack.
11. Play tape and note VTVM reading for both the unrecorded and recorded portion of the left channel.
12. Rewind the tape and repeat step 11 using the right LINE OUT jack.
13. Repeat step 11 for the right channel.
14. Channel separation in Table 6. Figure 30 provides an example of the separation between channels.

CROSS TALK (MONO)

1. Preset the recorder as described in the preliminary alignment procedures.
2. Thread the recorder with a reel of blank of bulk erased tape.
3. Set SOURCE/TAPE switch to SOURCE position and the MODE selector to MONO 1.
4. Ground the right LINE IN jack.
5. Connect an Audio Oscillator (1 kHz) to the left LINE IN jack. Adjust the oscillator output for 0 dB (operating level) on the Channel (1) Record Level meter.
6. Depress Record button while moving the FUNCTION SELECTOR to PLAY.
7. Record 1 kHz tone for approximately 20 seconds.
8. Stop tape motion and reverse the LINE IN leads. Ground the left LINE IN jacks.
9. Repeat steps 5, 6 and 7 using the right LINE IN jack, channel (2) VU meter and MONO 2 Mode.
10. Stop tape motion and remove the leads from the LINE IN jacks.
11. Rewind the tape to the beginning of the first recorded 1 kHz tone.
12. Set Mode Selector switch to STEREO TAPE position.
13. Connect AC VTVM (with weighted noise filter in series with the input) to the left SOURCE AND TAPE OUT jack.
14. Play tape and check VTVM reading for both the unrecorded and recorded portion of the left channel.
15. Rewind the tape and repeat step 13 using the right SOURCE AND TAPE OUT jack.
16. Repeat step 14 and check reading for the right channel.
17. See Table 6 for separation between channels. Figure 30 provides an example for separation between channels.

Mode	Separation
MONO	35dB
STEREO	43dB

Table 6. Separation

NOISE (STATIC TEST)

1. Turn the unit ON.
2. Place the Record Level controls fully OFF (down).
3. Set the Mode Selector switch to the STEREO position.
4. Manually engage the tape switch.
5. Insert an unweighted noise filter in series with an AC VTVM input (see Fig. 28).
6. Connect the AC VTVM to the left OUT jack; check reading.
7. Connect the VTVM to the right SOURCE AND TAPE OUT jack; check reading.
8. Remove the unweighted noise filter and insert the weighted noise filter in series with the AC VTVM.
9. Repeat steps 6 and 7.
10. Maximum noise allowed using the unweighted noise filter is -45 dlm.
11. Maximum noise allowed using the weighted noise filter is -65 dlm.

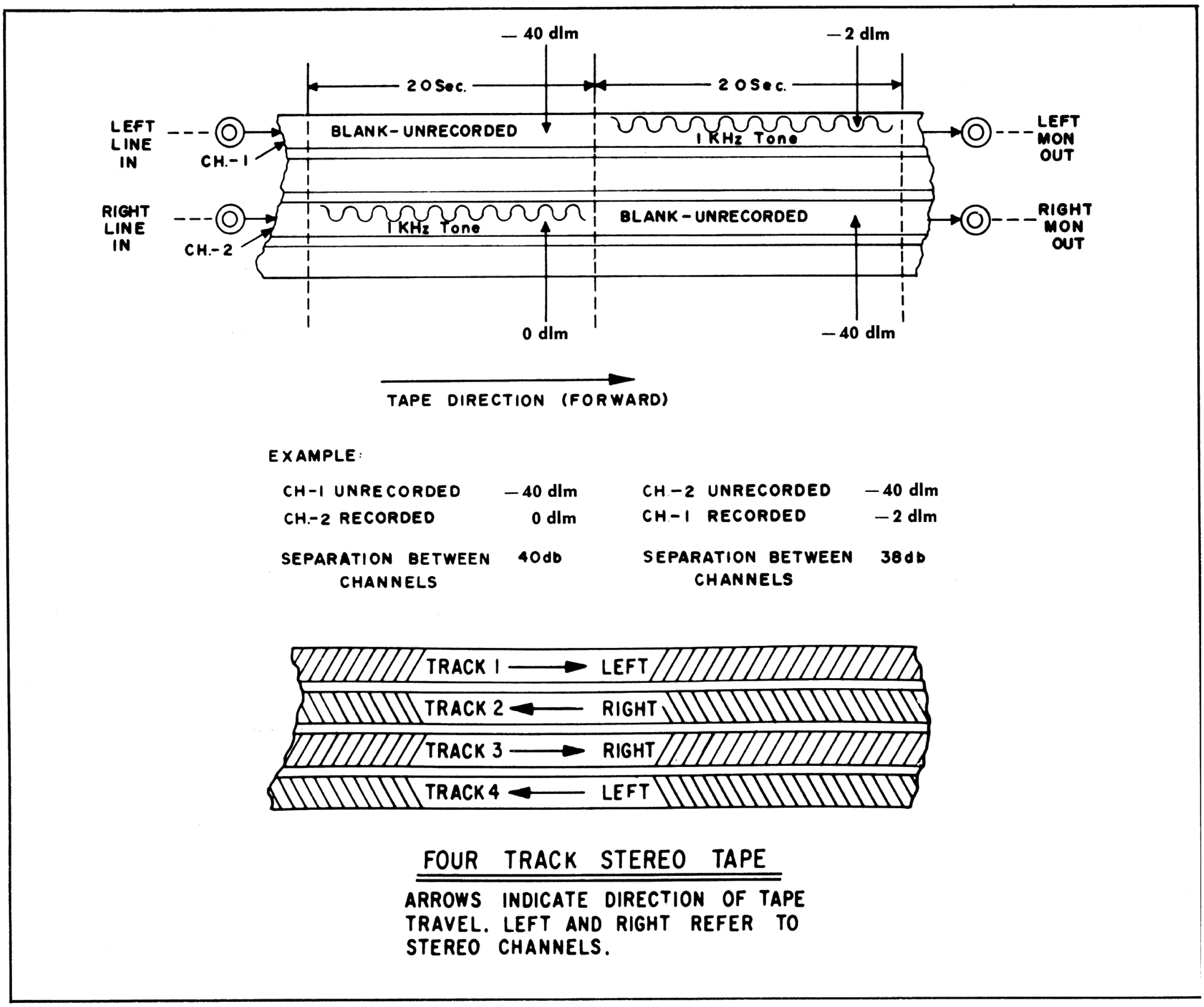


Figure 30. Channel Separation

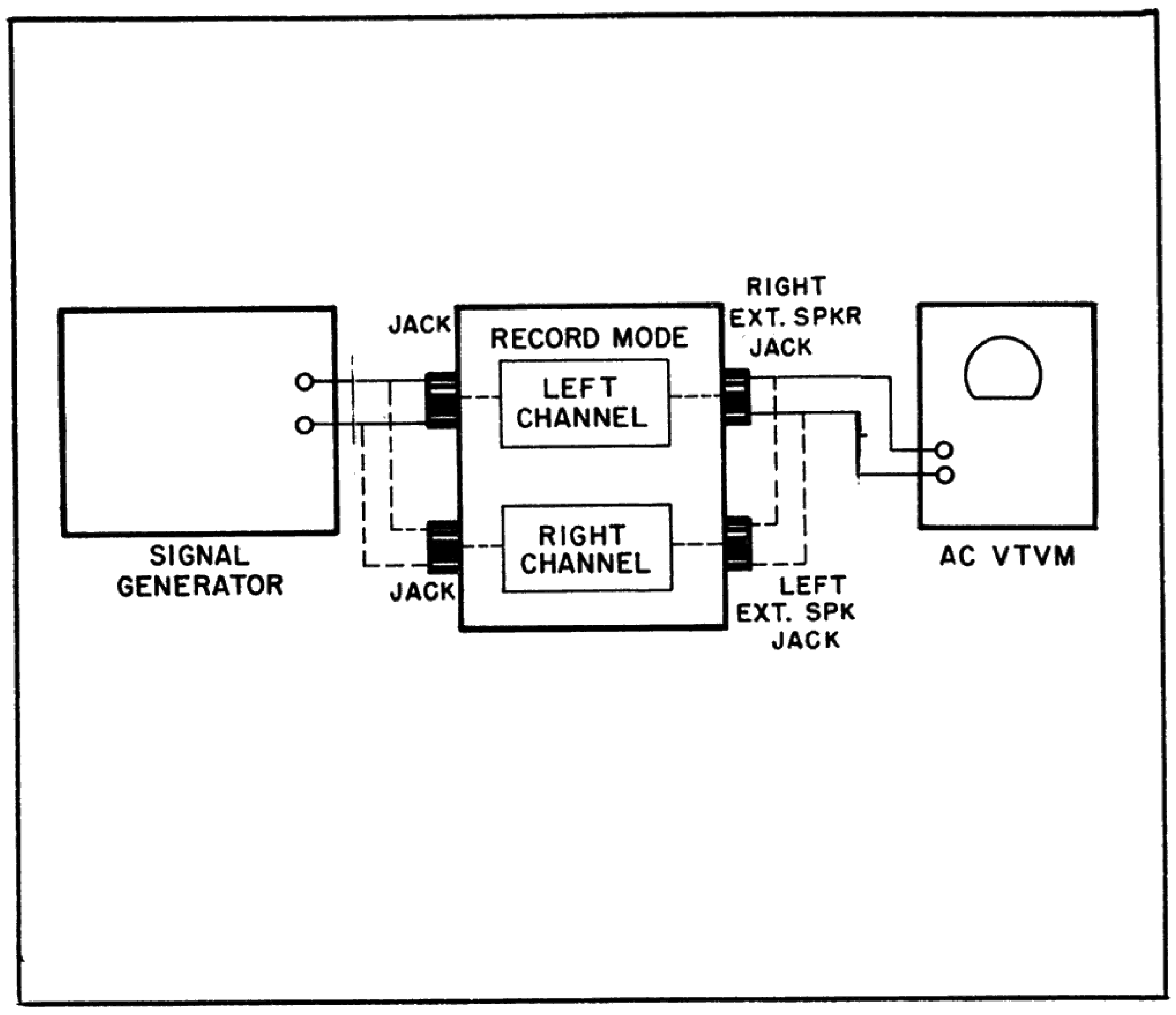


Figure 31. Test Set Up

Transistor	Element C	B	E	Transistor	Element C	B	E
Q1				Q102			
Q2				Q103			
Q3				Q104			
Q4				Q105			
Q5				Q106			
Q6				Q107			
Q7				Q108			
Q8				Q109			
Q9				Q110			
Q10				Q111			
Q11				Q201			
Q101				Q202			
				Q203			

Table 7. Transistor Voltages

*Not available at time of printing, will be published as Servic Bulletin.

PARTS LIST

Parts for the AX-50 may be ordered from:

Ampex Service Company
Service Parts Department
2201 Estes Avenue
Elk Grove Village, Illinois 60007

1. Order by part number and description as listed in this manual.
2. For mechanical parts, refer to the exploded view, locate the required part and reference number. Refer to the Mechanical Parts List and order by Ampex part number listed for the reference number. All mechanical parts that do not have a part number (NA) are part of an assembly and are listed for reference only.
3. Electrical part numbers can be found by locating the parts on the schematic and then referring to the Electrical Parts List for the part number. No Ampex part numbers are assigned to standard resistors or capacitors; these can be purchased locally.
4. If a part is not found in this manual, order by model number give serial number and a complete description of the part including color if applicable.

MECHANICAL PARTS

REF. NO.	PART NO.	DESCRIPTION
001	7911352-01	Escutcheon Plate Assy.
002	7911353-01	Volume Sheet
003	7911354-01	Record Lamp Window
004	7911355-01	Panel
005	7911356-01	End Bell
006	7911357-01	End Bell
007	7911358-01	Microphone Window
008	7911557-01	Nut 4.0 Hex
009	7911359-01	Switch Button Assy.
010	7911360-01	Switch Plate Assy.
011	7910365-01	Scw 3.0 x 6 R HD Tap XREC
012	7911361-01	Panel Ring
013	7911558-01	Wsh. 4.3 x 8.5 x .5 EXT L W
014	7911362-01	Panel Cover
015	7911559-01	Scw 4.0 x 6 Set Scw Slot
016	7911363-01	Plastic Plate Switches 10x17
017	7911560-01	Scw 3.0 x 30 Bind Hd XREC
018	7911561-01	Wsh 3.3 x 6.0 x .5 flat bk
019	7911364-01	Caution Label
020	7911365-01	Ring Spring
021	7911366-01	Fastener
022	7910451-01	Wsh 3.1 x 5.9 x .7 sp/lk
023	7910470-01	Nut - 3mm
024	7911367-01	Cabinet
025	7910546-01	Wsh 3.3 x 6.0 x .5 ft.
026	7911562-01	Scw 4.0 x 10 Pan Hd XREC
027	7910435-01	Wsh 4.5 x 8.0 x .5 ft.
028	7910368-01	Wsh 4.1 x 7.6 x 1.0 Sp/Lk
029	7911368-01	Head Cover Assy.
030	7911369-01	Record Button
031	7911370-01	Button Spring
032	7911371-01	Speed Select Knob
033	7911372-01	Function Knob
034	7911373-01	Mode Knob Assy.
035	7911374-01	Volume Knob Assy.
036	7911375-01	Escutcheon Holder
037	7911563-01	Washer Nylon
038	7911564-01	Washer Nylon
039	7911376-01	Fastener Collar
040	7911565-01	Scw 4.0 x 35 Bind Hd Blk
041	7911566-01	Washer 4.0 Spec Bk
042	7911377-01	Shaft Holder Assy.
043	7911378-01	4P Synchronous Motor
044	7911379-01	Motor Mounting Bracket
045	7910434-01	Scw 4.0 x 8 pan hd XREC
046	7911568-01	WSH 4.0 Small
047	7911380-01	Scw 3.0 x 8 Tap XREC
048	7911381-01	Cap Cover
049	7911382-01	Take Up Reel Shaft
050	7911383-01	Rewind Reel Shaft
051	7911384-01	Function Cam Assy.
052	7911385-01	Oil Sheet
053	7911386-01	Brake Spring
054	7911387-01	Chassis Holder Assy.
055	7911833-01	Chassis Holder Assy.
056	7911389-01	Function Bar Assy.
057	7911390-01	Function Bar, Metal
058	7910573-01	Scw 4.0 x 6 Pan Hd XREC
059	7911391-01	Tape Speed Over Arm (Cam Slide)
060	7911569-01	Washer 8.1 x 12.0
061	7911392-01	Chassis Holder Assy 2
062	7911570-01	Wsh Fiber
063	7911393-01	Wsh Fiber
064	7911571-01	E Ring 4.0MM
065	7911572-01	Wsh 8.1 x 12.0
066	7910515-01	E Ring - 5mm
067	7911394-01	Record Arm Assy.
068	7911395-01	P Idler Lever Spring
069	7911396-01	Brake Lever Assy.
070	7911397-01	Spring
071	7911398-01	Brake Lever Assy.
072	7911400-01	Spring
073	7911401-01	Record Cam Assy.
074	7911573-01	Scw 4.0 x 6 set Scw Slot
075	7911402-01	F Idler Function Arm Assy.
076	7911403-01	F Idler Lever Assy.
077	7911404-01	F Plate Assy.
078	7911405-01	Idler Wheel
079	7911574-01	Washer Nylon
080	7911406-01	Idler Oil Washer
081	7911407-01	Idler Cap
082	7911408-01	Felt
083	7911409-01	Spring
084	7911575-01	Washer Fiber
085	7911410-01	Spring
086	7911411-01	Record Idler Lever Assy.
087	7911412-01	Record Idler Assy.
088	7911413-01	Record Idler Washer
089	7911414-01	Back Tension Assy
090	7910450-01	Scw 3.0 x 4 Pan Hd XREC
091	7911415-01	Spring
092	7911416-01	Play Idler Lever Assy.
093	7911417-01	Play Idler
094	7911567-01	Washer Nylon
095	7910439-01	E Ring - 3mm
096	7911418-01	Idler Cap
097	7911419-01	Play Idler Spring
098	7911420-01	Change Over Spring
099	7911421-01	Tape Spd Change Detent and lock lever Assy.
100	7911422-01	Spring
101	7911423-01	Tape Spd Change Arm Assy.
102	7911424-01	Spring
103	7911425-01	Play Arm Function Plate

REF. NO.	PART NO.	DESCRIPTION
104	7911426-01	Spring
105	7911427-01	Record Holder Assy.
106	7911428-01	Tape Speed Change-Over Holder
107	7911429-01	Tape Spd Change-Over Cam Assy.
108	7911430-01	Tape Spd Change-Over Supporter
109	7911431-01	Motor Pulley
110	7911432-01	Rewind Reel Sub Assy.
111	7911433-01	Rewind Pulley
112	7911534-01	Washer
113	7911535-01	Washer
114	7911434-01	Spring
115	7911435-01	Snap
116	7911436-01	Take Up Disk Sub Assy.
117	7911437-01	Take Up Pulley Assy.
118	7911438-01	Spring
119	7911439-01	Coupling Washer
120	7911536-01	E Ring 10.0mm
121	7911440-01	Take Up Pulley
122	7911441-01	Spring
123	7911442-01	Take Up Collar
124	7911537-01	Washer Nylon
125	7911538-01	Washer Fiber
126	7911539-01	Scw Special
127	7911443-01	Reel Holder Assy.
128	7911444-01	Counter Holder
129	7911445-01	Counter Assy.
130	7911540-01	Scw 3.0 x 8 Pan Hd XREC
131	7911446-01	Counter Pulley
132	7911447-01	Rewind Washer
133	7911448-01	Counter Belt
134	7911449-01	Counter Belt
135	7911450-01	Oil Stopper
136	7911451-01	Sub Chassis Assy.
137	7911452-01	Flywheel Brake Felt
138	7911453-01	Tape Guide 1
139	7911454-01	Tape Guide 2
140	7911541-01	Scw 2.6 x 6 Pan Hd XREC
141	7911542-01	Nut 2.6 Hex
142	7911455-01	Head Adjust Spring
143	7911543-01	Washer 2.9 x 5.0 x .5 Flat
144	7911456-01	Record Head
145	7911457-01	Play Head
146	7911458-01	Erase Head
147	7911459-01	Tape Lifter Plate Assy.
148	7911544-01	Washer 3.3 x 6.0 x .5 Flat
149	7911551-01	Scw 3.0 x 5 pan hd XREC
150	7911460-01	Tape Guide Shaft
151	7911461-01	Tape Pressure Plate Assy.
152	7911462-01	Felt Ring
153	7910444-01	Scw 2.0 x 8 Pan Hd XREC
154	7910416-01	Wsh 2.1 x 4.4 x .5 sp/lk
155	7911545-01	Scw 2.6 x 10 Pan Hd XREC
156	7911463-01	Shifter Arm Assy.
157	7911546-01	Washer Sp/Lk
158	7911464-01	Spring Collar
159	7911547-01	Wsh Flat
160	7911465-01	Wsh
161	7911466-01	Flywheel Assy
162	7911467-01	Felt
163	7911468-01	Ball
164	7911469-01	Flywheel Washer
165	7911470-01	Oil Cap
166	7911471-01	Shut Off Assy.
167	7911472-01	Oil Washer
168	7910473-01	Washer Fiber
169	7911473-01	Fidler Stopper
170	7911474-01	Rewind Belt
171	7911475-01	Pressure Roller
172	7911476-01	Pressure Roller Spring
173	7911477-01	6P Terminal
174	7911478-01	Staple
175	7911479-01	Panel Holder 1
176	7911480-01	Panel Holder 2
177	7911481-01	Holder
178	7911482-01	Shield Holder Assy.

REF. NO.	PART NO.	DESCRIPTION
179	7911483-01	Cover Sheet
180	7911484-01	Switch Holder
181	7911548-01	Scw 2.6 x 14 Bind Hd XREC
182	7910884-01	Felt
183	7911485-01	R Switch Cover
184	7911486-01	Holder
185	7911487-01	UL Cover Assy.
186	7910539-01	Scw 3.0 x 6 Pan Hd XREC
187	7911488-01	P Idler Lever Spring
188	7911489-01	Amp Holder 8
189	7911490-01	Level Meter Cushion
190	7911491-01	Jack I.D. Plate
191	7911492-01	Jack Holder
192	7911549-01	Scw 3.0 x 8 Bind Hd Blk
193	7911493-01	Bush Sheet Assy.
194	7910382-01	SCW 3.0 x 6 XREC W SP/LK
195	7911494-01	Switch Shaft
196	7911495-01	Switch Collar
197	7911550-01	Wsh 2.9 x 5.0 x .5 Flat
198	7910469-01	Wsh 2.7 x 6.3 x .6 SP/LK
199	7911496-01	Holder Bar
200	7911552-01	Scw 3.0 x 8 Bind Hd XREC
201	7911497-01	Chassis Cover
202	7911553-01	Scw 3.5 x 6 Tap XREC
203	7911498-01	Power Cord
204	7910427-01	Bushing
205	7911499-01	Flywheel Supporter
206	7911500-01	Scw XREC
207	7911501-01	Lock Nut
208	7911502-01	Ball Supporter
209	7911503-01	Amp Upper Plate Assy.
210	7910885-01	Switch Plate Assy.
211	7911504-01	Head Socket
212	7911506-01	Lamp Cushion
213	7910886-01	Fan (Motor)
214	7911506-01	Volume Cover
215	7911507-01	Micro Switch Holder
216	7911508-01	Switch Cushion
217	7911509-01	Chassis Holder
208	7910457-01	Scw 2.6 x 16 Pan Hd XREC
219	7911554-01	Wsh Fiber
220	7911510-01	Insulating Sheet
221	7910392-01	Scw 2.6 x 4 XREC W SP/LK
222	7911555-01	Scw 3.0 x 6 Pan Hd XREC
223	7911511-01	Ball Supporter
224	7911512-01	Ball 4mm
225	7911513-01	C.B. Holder
226	7911514-01	Connector Socket
227	7911515-01	Wsh 7.0
228	7911516-01	Jack Shield Plate
229	7911517-01	Guide Piece
230	7911518-01	Wsh Fiber
231	7911519-01	ZP Terminal
232	7911520-01	Cushion
233	7910574-01	Bind Screw - 3mm x 6mm
234	7911556-01	Wsh Fiber
235	7911521-01	Amp Holder A
236	7911522-01	Lock Arm

MISC. COMPONENTS NOT ILLUSTRATED

REF. NO.	PART NO.	DESCRIPTION
	7010050-01	Recorder Packed For Sale
	7690049-01	7 In. Empty Reel
	*7710016-38	Poly Bag - Recorder
	*7710016-39	Poly Bag - Owners Manual
	*7710016-42	Polybag - Line Cord
	*7710016-43	Poly Bag Patch Cords
	7720047-01	Recorder Mounted in Base
	7730233-01	Stereo Patch Cords 3 ft.
	*7880357-15	Individual Sale Carton
	*7880358-15	Export Carton
	*7880359-15	Shipping Sleeve
	*7880428-01	Pad Top W/3 Styrofoam Blocks

REF. NO.	PART NO.	DESCRIPTION
	*7880429-01	Styrofoam Corners Inner
	*7880429-02	Styrofoam Corner
	7890233-01	Owners Manual
	7890241-01	Warranty Card

*Not available as service parts, listed for reference only.

ELECTRICAL PARTS

CAPACITORS

NOTE: ALL CAPACITORS ARE IN MF, ±20% UNLESS OTHERWISE NOTED

REF. NO.	DIELECTRIC TYPE	VALUE/VOLTAGE
C1	Electrolytic	33, 25V
C2	Ceramic	330pf, 50V
C3	Electrolytic	4.7, 50V
C4	Polyester Film	0.001, ±10%
C5	Ceramic	150pf, 50V
C6	Electrolytic	33, 6.3V
C7	Electrolytic	1, 16V
C8	Electrolytic	100, 25V
C9	Polyester Film	0.001, ±10%
C10	Polyester Film	0.001, ±10%
C11	Electrolytic	1, 16V
C12	Polyester Film	0.0068, ±10%
C13	Polyester Film	0.022, ±10%
C14	Polyester Film	0.033, ±10%
C15	Ceramic	82pf, 50V
C16	Polyester Film	0.068, ±10%
C18	Electrolytic	1, 25V
C19	Electrolytic	100, 10V
C20	Electrolytic	100, 25V
C21	Polyester Film	0.001, ±10%
C22	Electrolytic	1, 25V
C23	Polyester Film	0.0068, ±10%
C24	Polyester Film	0.01, ±10%
C25	Polyester Film	0.047, ±10%
C26	Ceramic	330pf, 50V
C27	Ceramic	82pf, 50V
C28	Polyester Film	0.047, ±10%
C31	Electrolytic	3.3, 25V
C32	Electrolytic	4.7, 50V
C33	Ceramic Disc	27pf, ±10%
C34	Polyester Film	0.001, ±20%
C35	Electrolytic	3.3, 25V
C36	Polyester Film	0.001, ±10%
C37	Polyester Film	0.01, ±10%
C38	Polyester Film	0.0033, ±10%
C39	Polyester Film	0.047, ±10%
C40	Polyester Film	0.022, ±10%
C41	Polyester Film	0.047, ±10%
C42	Ceramic Disc	120pf, 50V
C43	Electrolytic	100, 6.3V
C44	Electrolytic	3.3, 25V
C45	Ceramic Disc	510pf, 50V
C46	Electrolytic	100, 25V
C47	Electrolytic	1, 16V
C48	Ceramic	150pf, 50V
C49	Electrolytic	47, 16V
C50	Polyester Film	0.0015
C51	Polyester Film	0.001, ±20%
C52	Electrolytic	220, 25V
C53	Ceramic	150pf, 50V
C55	Electrolytic	10, 25V
C56	Polyester Film	0.01, ±10%
C57	Electrolytic	4.7, 50V
C58	Electrolytic	220, 25V
C59	Electrolytic	220, 25V
C60	Ceramic Disc	100pf, 500V
C61	Polyestrol	3000pf, 50V
C62	Electrolytic	3.3, 25V
C101	Electrolytic	33, 25V
C102	Ceramic	330pf, 50V
C103	Electrolytic	4.7, 50V
C104	Polyester Film	0.001, ±10%
C105	Ceramic	150pf, 50V
C106	Electrolytic	33, 6.3V
C107	Electrolytic	1, 16V
C108	Electrolytic	100, 25V
C109	Polyester Film	0.001, ±10%
C110	Polyester Film	0.001, ±10%
C111	Electrolytic	1, 16V
C112	Polyester Film	0.0068, ±10%
C113	Polyester Film	0.022, ±10%
C114	Polyester Film	0.033, ±10%
C115	Ceramic	82pf, 50V
C116	Polyester Film	0.068, ±10%
C118	Electrolytic	1, 25V
C119	Electrolytic	100, 10V
C120	Electrolytic	100, 25V
C121	Polyester Film	0.001, ±10%
C122	Electrolytic	1, 25V
C123	Polyester Film	0.0068, ±10%
C124	Polyester Film	0.01, ±10%
C125	Polyester Film	0.047, ±10%
C126	Ceramic	330pf, 50V
C127	Ceramic	82pf, 50V
C128	Polyester Film	0.047, ±10%
C131	Electrolytic	3.3, 25V
C132	Electrolytic	4.7, 50V
C133	Ceramic Disc	27pf, ±10%
C134	Polyester Film	0.001, ±20%
C135	Electrolytic	3.3, 25V
C136	Polyester Film	0.001, ±10%
C137	Polyester Film	0.047, ±10%
C138	Polyester Film	0.0033, ±10%
C139	Polyester Film	0.047, ±10%
C140	Polyester Film	0.022, ±10%
C141	Polyester Film	0.047, ±10%
C142	Ceramic Disc	120pf, 50V
C143	Electrolytic	100, 6.3V
C144	Electrolytic	3.3, 25V
C145	Ceramic Disc	510pf, 50V
C146	Electrolytic	100, 25V
C147	Electrolytic	1, 16V
C148	Ceramic	150pf, 50V
C149	Electrolytic	47, 16V
C150	Polyester Film	0.0015
C151	Polyester Film	0.001, ±20%
C152	Electrolytic	220, 25V
C153	Ceramic	150pf, 50V
C155	Electrolytic	10, 25V
C156	Polyester Film	0.01, ±10%
C157	Electrolytic	4.7, 50V
C158	Electrolytic	220, 25V
C159	Electrolytic	220, 25V
C160	Ceramic Disc	100pf, 500V
C161	Polyestrol	3000pf, 50V
C162	Electrolytic	3.3, 25V
C201	Electrolytic	100, 25V
C202	Electrolytic	470, 25V
C203	Electrolytic	470, 25V
C204	Polystyrol	1200pf
C205	Polystyrol	2000pf
C206	Polystyrol	2000pf

REF. NO.	DIELECTRIC TYPE	VALUE/VOLTAGE
C207	Polystyrol	4700pf
C208	Electrolytic	33, 25V
C209	Metalized	2.5, 300V
C210	Paper	0.047, ±20%, 400V

CIRCUIT BOARDS

REF. NO.	PART NO.	DESCRIPTION
X1	7911524-01	Pre Amp Assy.
X2	7911525-01	Switch Assy.

DIODES

REF. NO.	PART NO.	DESCRIPTION
D1	7852782-01	1N34A
D2	7852782-01	1N34A
D3	7810873-01	V06A
D4	7910873-01	V06A
D5	7910873-01	V06A
D6	7910873-01	V06A
D7	7852782-01	1N34A
D8	7852782-01	1N34A

LAMPS

REF. NO.	PART NO.	DESCRIPTION
I1	7911526-01	Pilot Lamp

JACKS

REF. NO.	PART NO.	DESCRIPTION
J1	7911527-01	Jack Panel Assy.
J4	7911528-01	Mic Jack
J8	7911528-01	Mic Jack
J9	7911529-01	Headphone Jack

REF. NO.	PART NO.	DESCRIPTION

COILS

REF. NO.	PART NO.	DESCRIPTION
L1	7911530-01	Equalization
L2	7911530-01	Equalization
L3	7911531-01	Bias Oscillator

METERS

REF. NO.	PART NO.	DESCRIPTION
M1	7911532-01	VU Meter
M2	7911533-01	VU Meter

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q1	7914001-01	2SC458 (C) LG
Q2	7914003-01	2SC458 (B) LG
Q3	7914003-01	2SC458 (B) LG
Q4	7910586-01	2SC458 (C)
Q5	7910586-01	2SC458 (C)
Q6	7914001-01	2SC458 (C) LG
Q7	7914003-01	2SC458 (B) LG
Q8	7914001-01	2SC458 (C) LG
Q9	7914007-01	2SC458 (B)
Q10	7914002-01	2SC984 (B)
Q11	7914002-01	2SC984 (B)
Q101	7914001-01	2SC458 (C) LG
Q102	7914003-01	2SC458 (B) LG
Q103	7914003-01	2SC 458 (B) LG
Q104	7910586-01	2SC458 (C)
Q105	7910586-01	2SC458 (C)
Q106	7914001-01	2SC458 (C) LG
Q107	7914003-01	2SC458 (B) LG
Q108	7914001-01	2SC458 (C) LG
Q109	7914007-01	2SC458 (B)
Q110	7914002-01	2SC984 (B)
Q111	7914002-01	2SC984 (B)
Q201	7914004-01	2SC984 (C)
Q202	7914004-01	2SC984 (C)
Q203	7914005-01	2SC370 (C)

RESISTORS

¼W Carbon film
All Resistors are in ohms, ±10%, unless otherwise specified.

REF. NO.	VALUE/TOLERANCE
R1	330k, ±5%
R2	5.6k, ±5%
R4	47k
R5	1k, ±5%
R6	4.7k, ±5%
R7	330k
R8	18k
R9	6.8k
R10	100, ±5%
R11	1.2k
R12	10k, ±5%
R14	15k, ±5%
R15	4.7k, ±5%
R16	12k, ±5%
R17	330, ±5%
R18	4.7k, ±5%
R19	180k
R20	470
R21	18k, ±5%
R22	22k, ±5%
R23	4.7k, ±5%
R24	82
R25	1.5k
R26	22k
R27	82k
R28	15k

REF. NO.	VALUE/TOLERANCE
R29	6.8k
R30	1.8k
R31	68
R32	3.3k
R33	180
R36	47k
R37	560, ±5%
R38	82k, ±5%
R39	1.8k, ±5%
R40	3.9k, ±5%
R41	8.2k, ±5%
R42	27k, ±5%
R43	150k, ±5%
R44	150k, ±5%
R45	27k, ±5%
R46	1.8k
R47	56
R48	39k
R49	390k
R50	1k
R54	2.2k
R55	220k
R56	12k, ±5%
R57	47, ±5%
R58	1.2k
R59	180k

REF. NO.	VALUE/TOLERANC
R60	6.8k
R61	22
R62	1.5k
R63	10k, ±5%
R64	470
R65	330
R66	10k, ±5%
R67	4.7k, ±5%
R68	1.2k, ±5%
R69	330, Comp.
R70	22
R71	68k, ±5% Comp.
R72	68k, ±5% Comp.
R73	68k, ±5% Comp.
R74	3.3k, ±5% Comp. ½W
R75	1k
R76	33k, Comp. ½W
R101	330k, ±5%
R102	5.6k, ±5%
R104	47k
R105	1k, ±5%
R106	4.7k, ±5%
R107	330k
R108	18k
R109	6.8k
R110	100, ±5%
R111	1.2k
R112	10k, ±5%
R114	15k, ±5%
R115	4.7k, ±5%
R116	12k, ±5%
R117	330, ±5%
R118	4.7k, ±5%
R119	180k
R120	470
R121	18k, ±5%
R122	22k, ±5%
R123	4.7k, ±5%
R124	82
R125	1.5k
R126	22k
R127	82k
R128	15k
R129	6.8k
R130	1.8k
R131	68
R132	3.3k
R133	180
R136	47k
R137	560, ±5%
R138	82k, ±5%
R139	1.8k, ±5%
R140	3.9k, ±5%
R141	8.2k, ±5%
R142	27k, ±5%
R143	150k, ±5%
R144	150k, ±5%
R145	47k, ±5%
R146	1.8k
R147	56
R148	39k
R149	390k
R150	1k
R154	2.2k
R155	220k

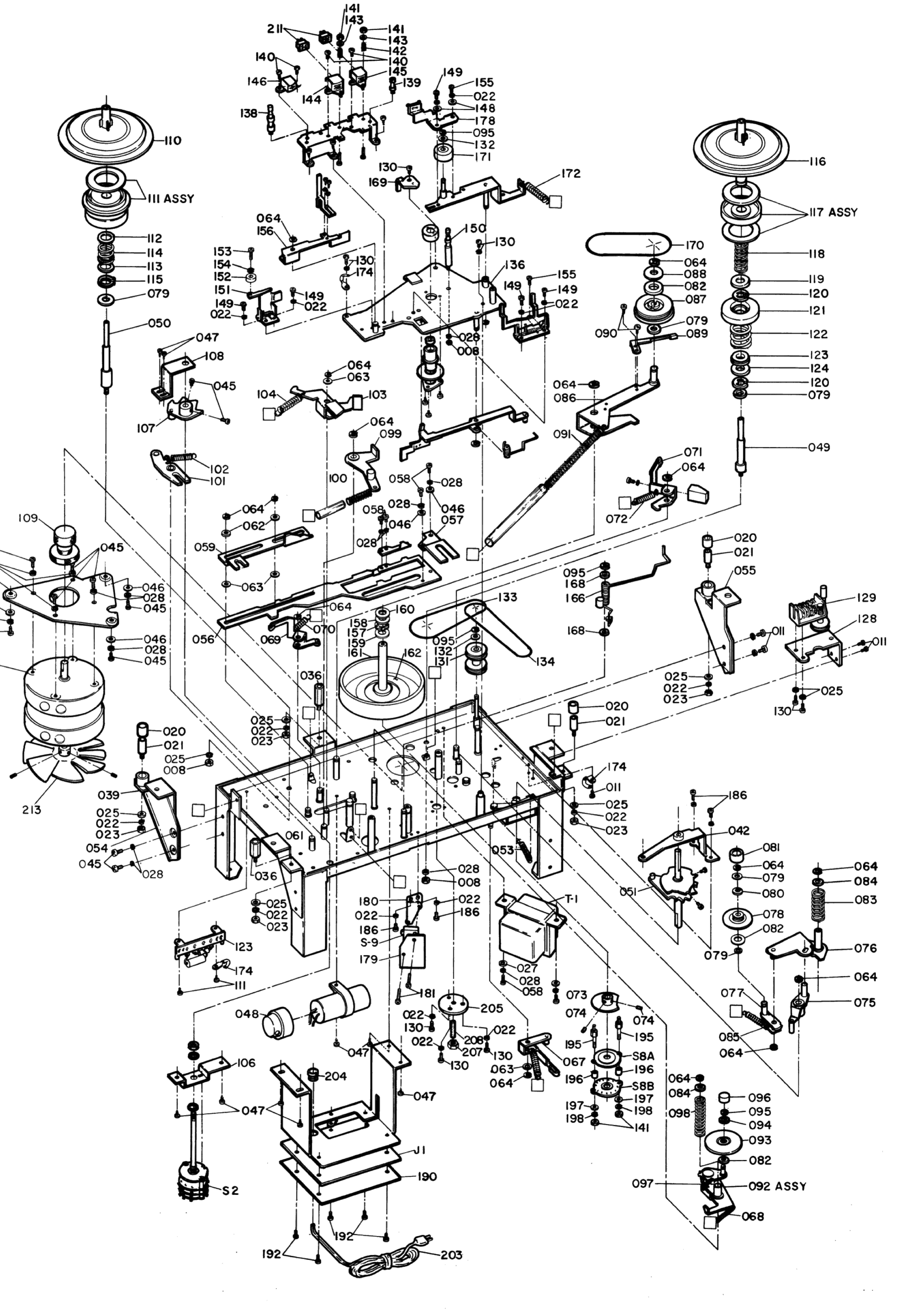
REF. NO.		VALUE/TOLERANCE
R156		12k, ±5%
R157		47, ±5%
R158		1.2k
R160		6.8k
R161		22
R162		1.5k
R163		10k, ±5%
R164		470
R165		330
R166		10k, ±5%
R167		4.7k, ±5%
R168		1.2k, ±5%
R169		330, Comp.
R170		22
R171		68k, ±5%, Comp.
R172		68k, ±5%, Comp.
R173		68k, ±5%, Comp.
R174		3.3k, ±5%, Comp., ½W
R175		1k
R176		33k, ½W Comp.
R201		1.2k
R202		56
R203		56
R204		22k
R205		22k
R206		22
R207		56, ½W, Comp.
R208		56, ½W, Comp.
R209		56, ½W, Comp.
R210		2.2m, ½W, Comp.
VR1	7911586-01	Slide Volume 10k ohms
VR2	7911587-01	Semi variable 5k ohms
VR3	7911587-01	Semi variable 5k ohms
VR4	7911587-01	Semi variable 5 k ohms
VR5	7911589-01	Semi variable 10k ohms
VR6	7911590-01	Semi variable 2k ohms
VR7	7911589-01	Semi variable 10k ohms
VR8	7911591-01	Semi variable 330k ohms
VR101	7911589-01	Slide volume 10k ohms
VR102	7911587-01	Semi variable 5k ohms
VR103	7911587-01	Semi variable 5k ohms
VR104	7911587-01	Semi variable 5k ohms
VR105	7911589-01	Semi variable 10k ohms
VR106	7911590-01	Semi variable 2k ohms
VR107	7911589-01	Semi variable 10k ohms
VR108	7911591-01	Semi variable 330k ohms
VR201	7911588-01	Slide volume 10k ohms

SWITCHES

REF. NO.	PART NO.	DESCRIPTION
S1	7911576-01	Play/Record
S2	7011578-01	Speed Selector
S3	7911579-01	Mono/Stereo
S4	7911580-01	Input Selector
S5	7911581-01	Echo
S6	7911582-01	S with S (sound with sound)
S7	7911581-01	S on S (sound on sound)
S8A	7911583-01	Muting
S9	7910456-01	Motor
S10	7911577-01	ON/OFF

TRANSFORMER

T1	7911585-01	Power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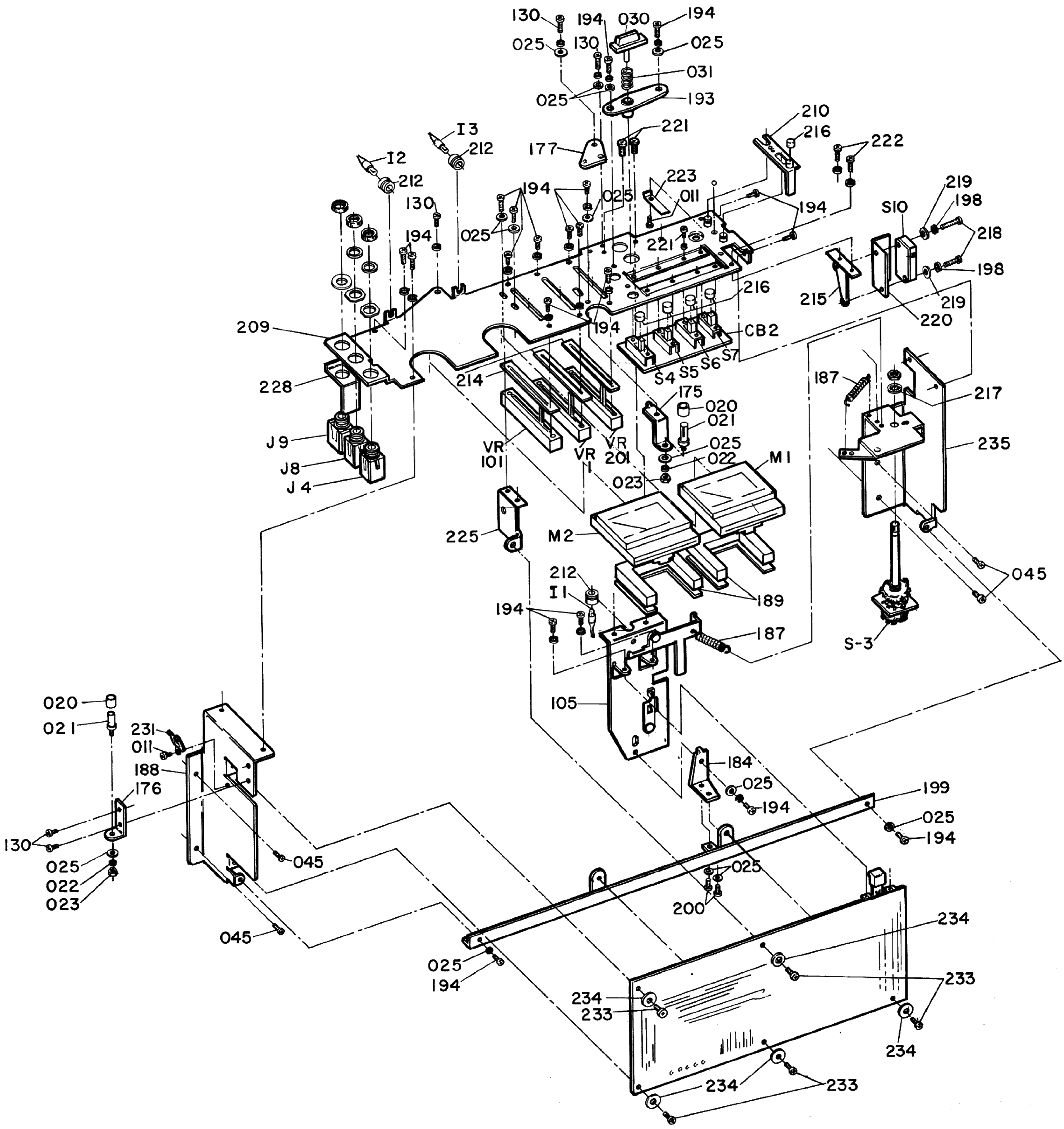
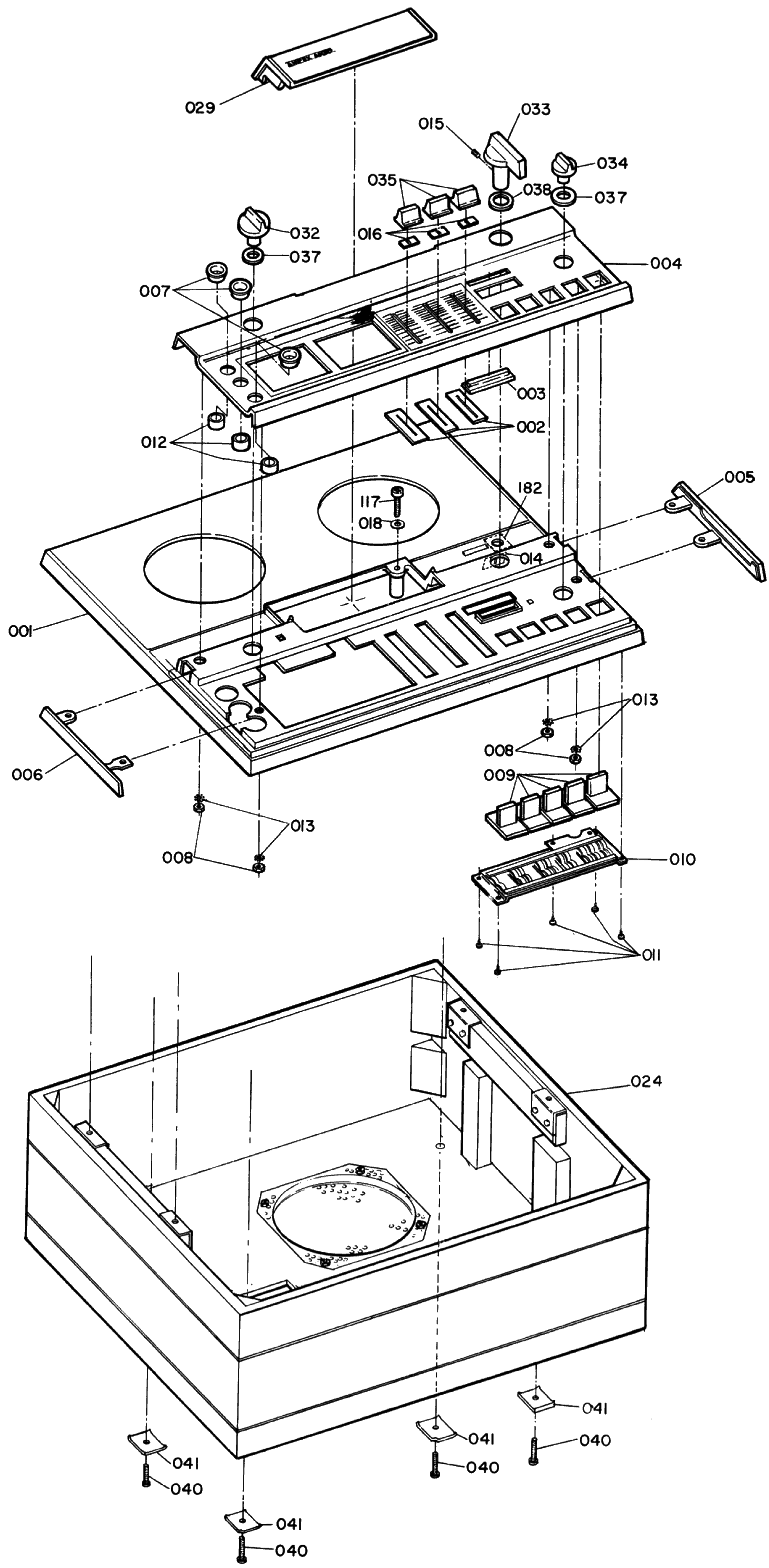
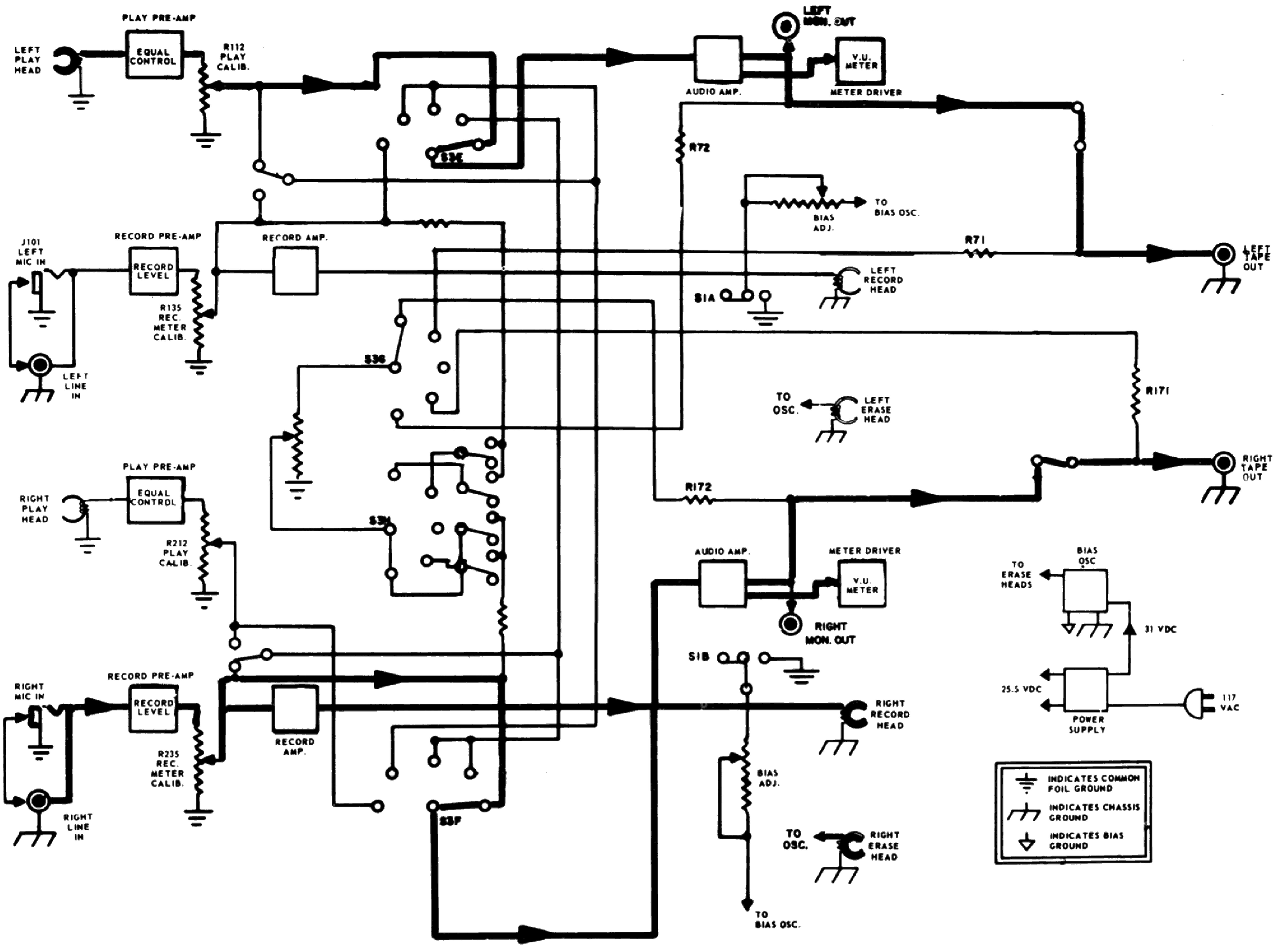
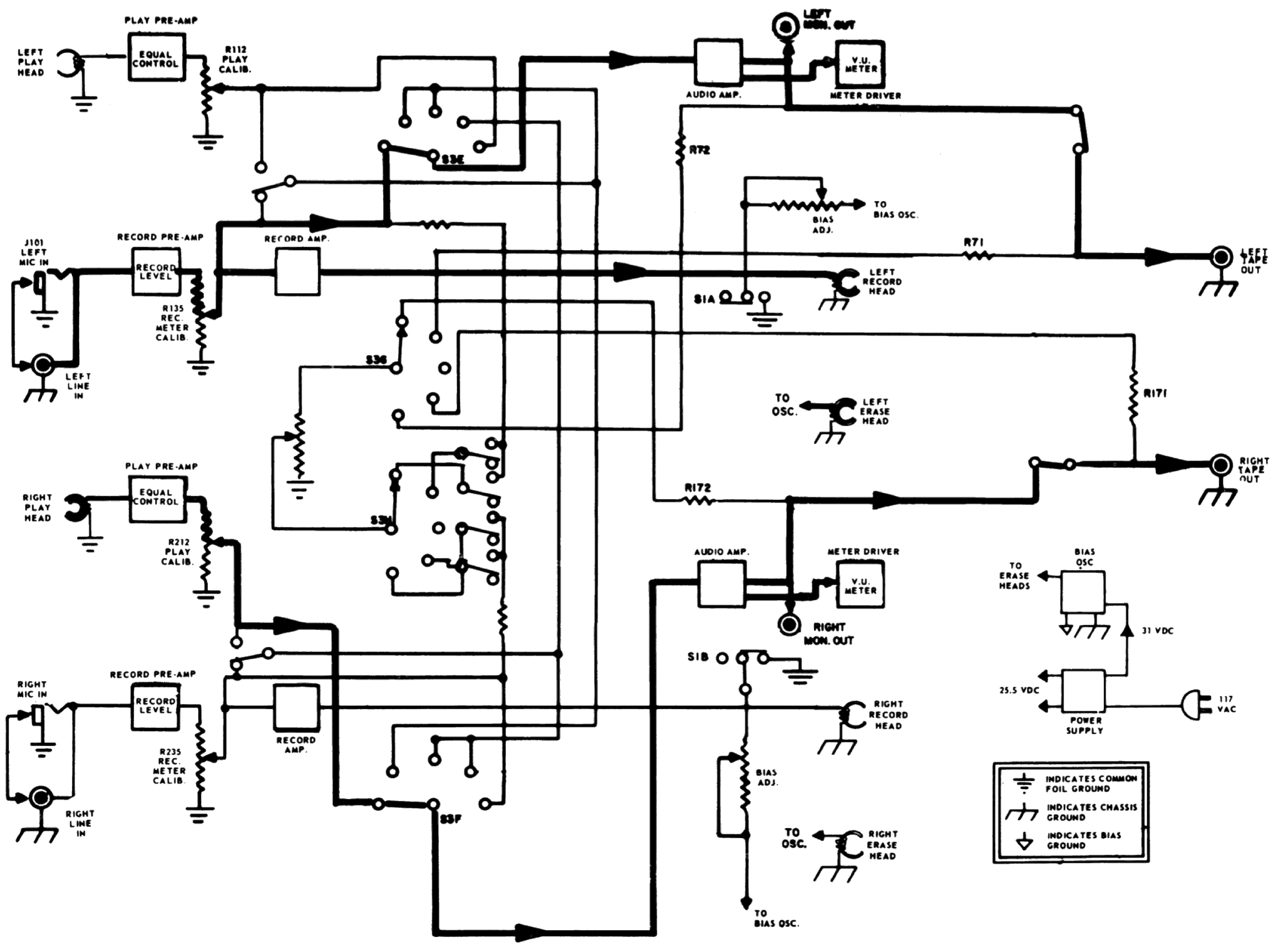
EXPLODED VIEW
TRANSPORT



EXPLODED VIEW
TRIM PARTS

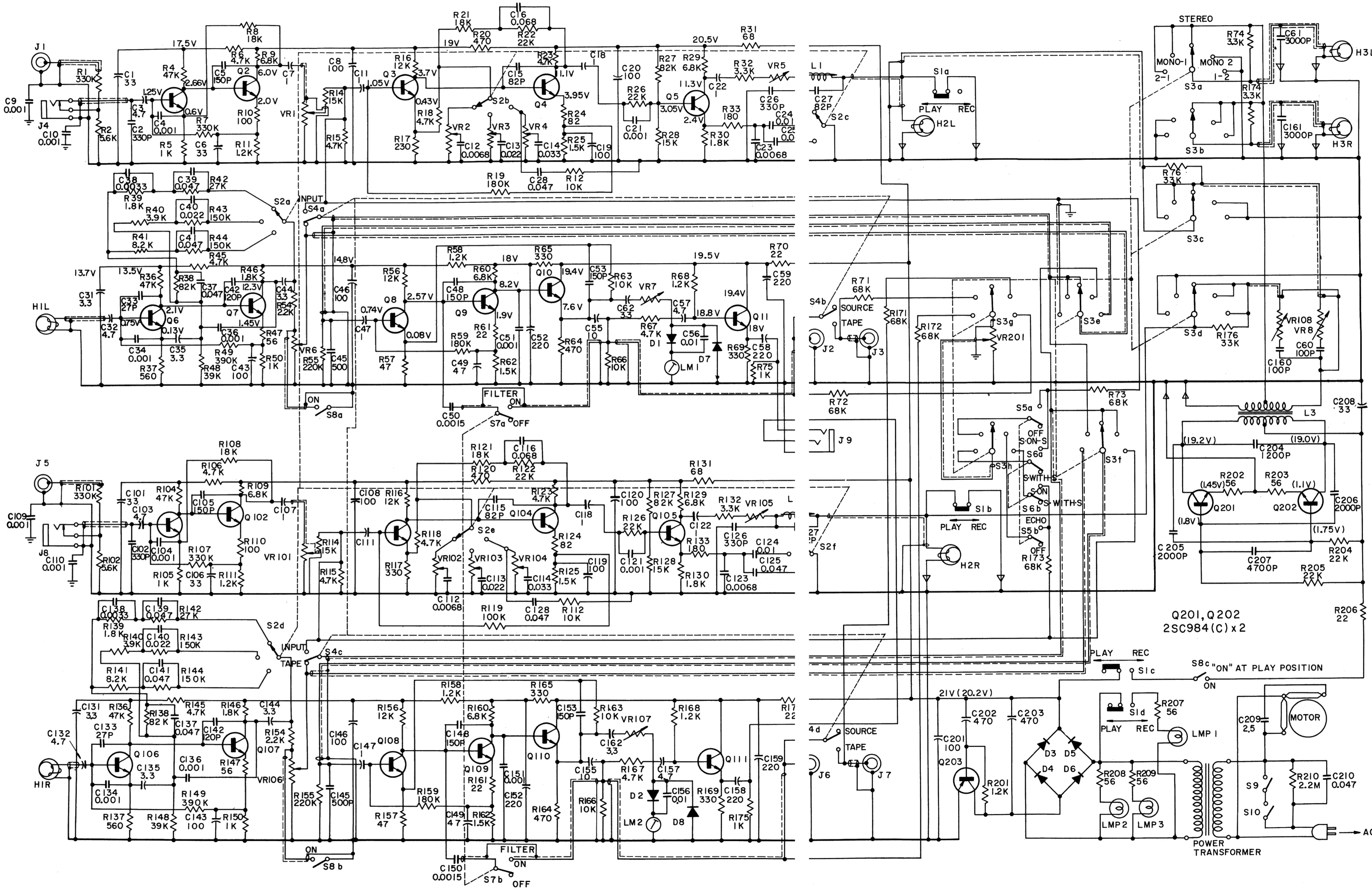



PLAY PRE-AMP
LEFT PLAY HEAD
EQUAL CONTROL
R112 PLAY CALIB.
LEFT MON. OUT
AUDIO AMP.
V.U. METER
METER DRIVER
S3E
R72
TO BIAS OSC.
BIAS ADJ.
RECORD PRE-AMP
RECORD AMP.
J101 LEFT MIC IN
RECORD LEVEL
R135 REC. METER CALIB.
LEFT LINE IN
R71
LEFT TAPE OUT
LEFT RECORD HEAD
S1A
S3G
R171
TO OSC.
LEFT ERASE HEAD
RIGHT PLAY HEAD
R212 PLAY CALIB.
S3H
R172
RIGHT TAPE OUT
RIGHT MON. OUT
TO ERASE HEADS
BIAS OSC
31 VDC
25.5 VDC
POWER SUPPLY
117 VAC
S1B
RIGHT MIC IN
R235 REC. METER CALIB.
RIGHT LINE IN
RIGHT RECORD HEAD
S3F
INDICATES COMMON FOIL GROUND
INDICATES CHASSIS GROUND
INDICATES BIAS GROUND
RIGHT ERASE HEAD


PLAY PRE-AMP
LEFT PLAY HEAD
EQUAL CONTROL
R112 PLAY CALIB.
LEFT MON. OUT
AUDIO AMP.
V.U. METER
METER DRIVER
S3E
R72
TO BIAS OSC.
BIAS ADJ.
RECORD PRE-AMP
RECORD AMP.
J101 LEFT MIC IN
RECORD LEVEL
R135 REC. METER CALIB.
LEFT LINE IN
R71
LEFT TAPE OUT
LEFT RECORD HEAD
S1A
S3G
R171
TO OSC.
LEFT ERASE HEAD
RIGHT PLAY HEAD
R212 PLAY CALIB.
S3H
R172
RIGHT TAPE OUT
RIGHT MON. OUT
TO ERASE HEADS
BIAS OSC
31 VDC
25.5 VDC
POWER SUPPLY
117 VAC
S1B
RIGHT MIC IN
R235 REC. METER CALIB.
RIGHT LINE IN
RIGHT RECORD HEAD
S3F
INDICATES COMMON FOIL GROUND
INDICATES CHASSIS GROUND
INDICATES BIAS GROUND
RIGHT ERASE HEAD

SCHEMAT DIAGRAM
RE RDER

Q 1 2SC458(C)LG · Q 2 2SC458(B)LG · Q 6 2SC458(C)LG · Q 7 2SC458(B)LG · Q 3 2SC458(B)LG · Q 4 2SC458(C) · Q 8 2SC458(C)LG · Q 9 2SC458(B) · Q 10 2SC984(B) · Q 5 2SC458(C) · D 1 IN34A · D 7 IN34A · Q11 2SC984(B)

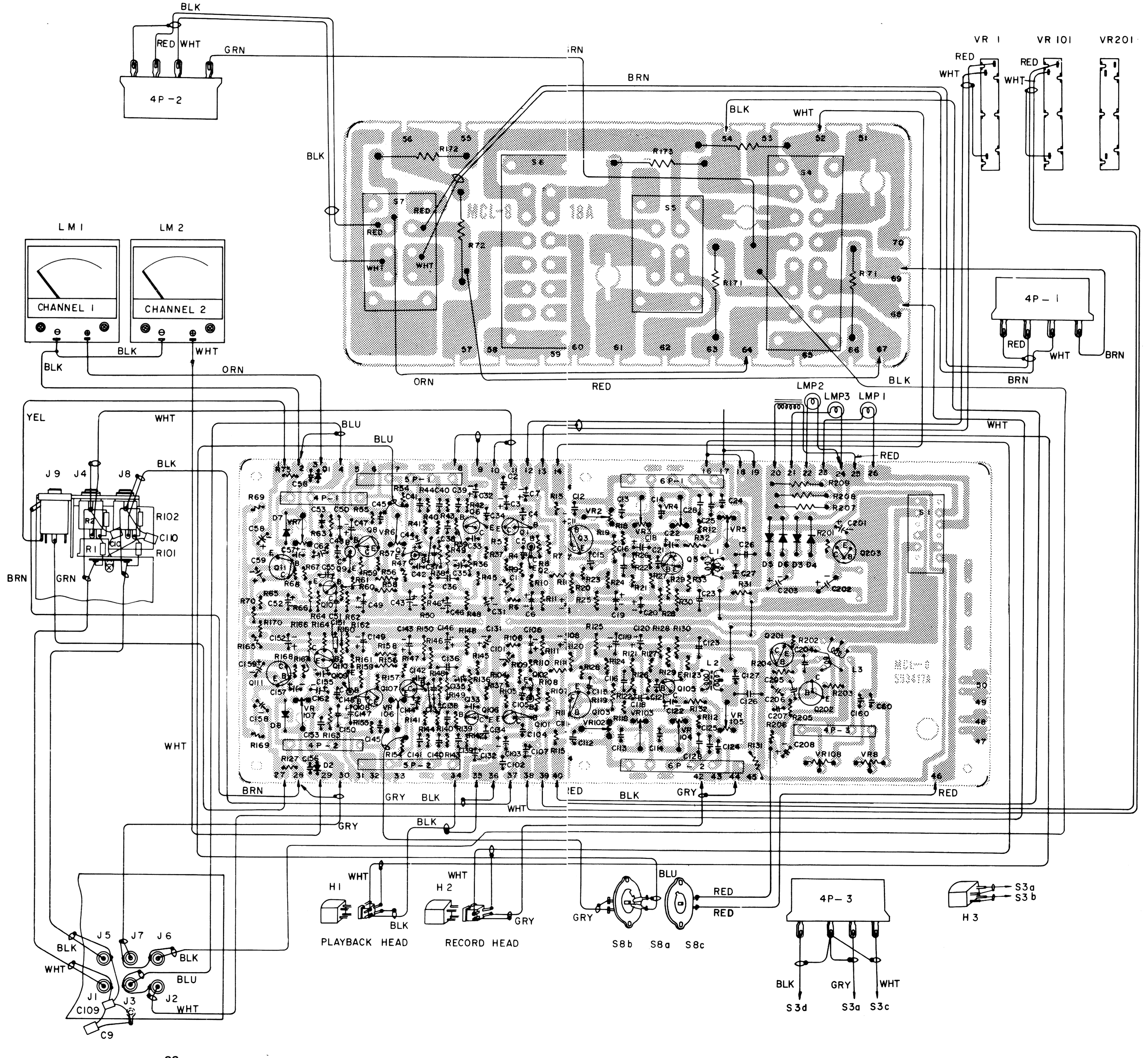


NOTE

1. ALL RESISTANSE ARE IN OHMS. K=1000
2. CAPACITOR VALUES ARE IN MICROFARADS, UNLESS OTHERWISE SPECIFIED.
3. DC VOLTAGES OF THE TRANSISTOR ARE FOR PLAY POSITION, IN THE( ) ARE FOR RECORD POSITION.
4. LEGEND :
   - INDICATES CHASSIS GROUND.
   - INDICATES BIAS GROUND.
   - INDICATES ELECTROLYTICS CAPACITOR.

Q 101 2SC458(C)LG · Q102 2SC458(B)LG · Q106 2SC458(C)LG · Q 107 2SC458(B)LG · Q103 2SC458(B)LG · Q 104 2SC458(C) · Q108 2SC458(C)LG · Q109 2SC458(B) · Q 110 2SC984(B) · D2 IN34A · D8 IN34A · Q105 2SC458(C) · Q111 2SC984(B) · Q 203 2SB370(C) · D3,D4,D5,D6 HR-5Ax4

AX-50


4P-2
BLK
RED
WHT
GRN
BRN
LM 1
LM 2
CHANNEL 1
CHANNEL 2
ORN
YEL
BLU
J9
J4
J8
R102
C110
R101
R2
R1
BRN
GRN
MCL-8
18A
S7
S6
S5
S4
R172
R173
R72
R171
R71
VR 1
VR 101
VR201
4P-1
LMP2
LMP3
LMP1
5P-1
6P-1
4P-1
4P-2
5P-2
6P-2
4P-3
S1
MCL-8
553417A
GRY
H1
H2
PLAYBACK HEAD
RECORD HEAD
S8b
S8a
S8c
4P-3
H3
S3a
S3b
S3d
S3a
S3c
J5
J7
J6
J1
J3
J2
C109
C9

AMPEX CORPORATION, C.E.D., 2201 LANDMEIER RD., ELK GROVE VILLAGE, ILL. 60007

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