

## Alignment Procedure

### General Information

- Tuning Range AM 525 - 1640 kHz  
 FM 87.6 - 108.0 MHz
- I-F Frequency AM 455 kHz  
 FM 10.7 MHz
- Standard Test Signal: AM 400 Hz, 30% Modulation  
 FM 400 Hz, 22.5 kHz Deviation
- Maintain a line voltage of 120 V.A.C.

### AM I-F and RF Alignment

#### Equipment

- AM generator; AC VTVM or output meter.

NOTE: Connect the VTVM across the speakers. If a power output meter is used, set LOAD for 8 ohms and disconnect the speaker on channel being used.

- Set Output of the AM signal generator not to exceed 0.5 watt or 2.0V across the speakers or an 8 ohm load.
- Set Modulation of generator for 400 Hz.
- Set Volume and Tone control for maximum.
- Set Balance control to center.
- Set line voltage for 120 V.A.C.
- Use a loop of 3 turns of wire with a diameter of 8 inches for radiating a signal 12" away from rod antenna.
- To obtain best alignment, track the rod antenna with chassis and record changer in place.

Step	Gen. Connection	Gen. Frequency	Position of Dial Pointer	Output Indicator	Adjustments	Remarks
1.	Test Loop	455 kHz	Open	Across Speaker	A1, A2 A3	Adj. for Max. Output
2.	Test Loop	1640 kHz	Open	Across Speaker	A4	Adj. for Max. Output
3.	Test Loop	525 kHz	525	Across Speaker	A7 **	Adj. for Max. Output
4.	Test Loop	1400 kHz	1400	Across Speaker	A5	Adj. for Max. Output
5.	Test Loop	600 kHz	600	Across Speaker	A6 *	Adj. for Max. Output

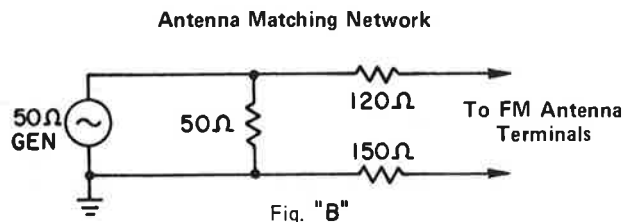
\* Slide the coil on the ferrite rod for proper tracking @ 600 kHz and secure coil with wax.

\*\* Make this adjustment only if the unit does not tune thru 525 kHz.

### FM Alignment

#### Equipment Recommended

- A calibrated IF-RF FM signal generator with vernier tuning.
- An Oscilloscope.
- A voltmeter.
- A frequency counter (19 kHz and 10.7 MHz ranges).



## FM Alignment

### Notes

- Set function switch to FM with AFC off.
- Set volume control to listening level.
- Set tone control to center.
- Set balance control to center.

### Alignment Information (Refer to Charts)

- This model employs ceramic filters and a quadrature detector in the FM I-F and accurate alignment is required. The I-F alignment frequency is determined by color dots located on the filters.
- When ordering replacement parts both CF-1 and CF-2 will be shipped as a pair, replacement of filters in pairs will permit proper alignment.

- When replacement of a ceramic filter is necessary, install replacement to comply with chart and orient the color dot in the same direction as the defective part.

Note: Using color dot combination not shown in the chart could result in poor alignment, degrading the performance.

- It is important that the signal generator have vernier tuning and be calibrated to the specified frequency complying with the color dot located on the filter.
- Proper alignment of the quadrature detector is important A9, A8.
- Refer to chart for correct alignment frequency required for color dot on filters.

Color Dot and Frequency Chart

IF Filter	Align.-Freq.	Align.-Freq.	Align.-Freq.
	10.655 MHz	10.7 MHz	10.745 MHz
CF-1	Black      Blue	Red	Orange      White
CF-2	Black    Blue    Black - Blue - Red	Blue - Red - Orange	Red - Orange - White    Orange - White

FM I-F Alignment Chart

Step	Gen. Connection	Input Frequency	Input Signal Strength	Dial Setting	Output Indicator	Adjust
1.	FM Ant. Matching Network Fig. "B"	Ref. to Freq. Chart	1100 $\mu$ V 75 kHz Dev.	Hi End	Non-Required	A9 T7 (Top) For "0" D.C. V on FM Tuning Meter
2.*	FM Ant. Matching Network Fig. "B"	Ref. to Freq. Chart	1100 $\mu$ V 75 kHz Dev.	Hi End	Oscilloscope Across Speaker Load	A8 T7 (Bottom) for Min. Distortion
3.	Re-check Steps 1 & 2					
4.	FM Ant. Matching Network Fig. "B"	Ref. to Freq. Chart	100 $\mu$ V or less	Hi End	Oscilloscope Across Speaker Load	A10-T6 For Maximum

### Alternate Alignment for Minimum Distortion

Apply a 1100  $\mu$ V RF signal to the antenna terminal. Approximately center of dial. Tune the set to center the FM tuning meter indicator. Adjust A8 bottom of T7 for minimum distortion.

\*NOTE: Minimum distortion can be checked with a distortion analyzer or adjusting A8 for a linear "S" curve at 75 kHz. Refer to Figure C.

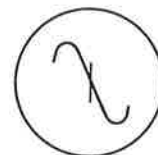


Fig. C

Adjust alignment frequency marker to center of "S" curve.

**FM Alignment Con't.**

**FM Osc. Alignment**

Step No.	Gen. Connection	Input Signal Frequency	Input Signal Strength	Dial Setting	Output Indicator	Adjust	Remarks
1.	Function Sw in the FM Position (AFC off)						
2.	FM Ant.	108.5	*	Hi End	Across Speakers	A11	Adjust for Maximum
3.	FM Ant.	87.5	*	Lo End	Across Speakers	A12	Adjust for Maximum
4.	Repeat Steps 2 & 3 until the D.C. meter reads $0 \pm .5$ at 108.5 & 87.5.						

**FM R-F Alignment**

Step No.	Gen. Connection	Input Signal Frequency	Input Signal Strength	Dial Setting	Output Indicator	Adjust	Remarks
1.	FM Ant.	106 MHz	*	106 MHz	Across Speakers	A13 (Var.) **	Adj. for Max.
2.	FM Ant.	90 MHz	*	90 MHz	Across Speakers	A15 (L3) **	Adj. for Max.
3.	FM Ant.	98 MHz	*	98 MHz	Across Speakers	A16 (L1) **	Adj. for Max.

\* Adjust input signal level not to exceed .5 watts or 2.0 volts across 8 ohm load. This will permit accurate alignment.

\*\*Note: Adjust A13, A15, A16 to near maximum maintaining a linear "S" curve.

**Phase Lock Loop (PLL) Stereo Alignment**

- This design employs a PLL circuit with a 19 kHz free running oscillator. To obtain accurate alignment the following procedure must be followed.
- With the unit operating, switch the stereo on and permit it to operate for a minimum of 3 minutes before alignment. This permits the circuit to stabilize. Stabilization is time dependent, not temperature.
- The 19 kHz oscillator frequency must be accurately adjusted to within  $\pm .5\%$  (95 Hz).
- Connect counter or other accurate frequency measuring devices to terminal "F" TP5 on tuner board.
- The 19 kHz oscillator must be adjusted without noise present at the input. This is accomplished by applying a strong unmodulated RF signal (1100 uV) to the antenna terminals.
- Adjust A17 for a counter reading of 19 kHz ( $\pm$  95 Hz).

## 1970 Dolby Alignment

Equipment Required — FM Generator, Audio Voltmeter, Audio Generator, D.C. Voltmeter

8-Track with Meter

(R) = Right Channel

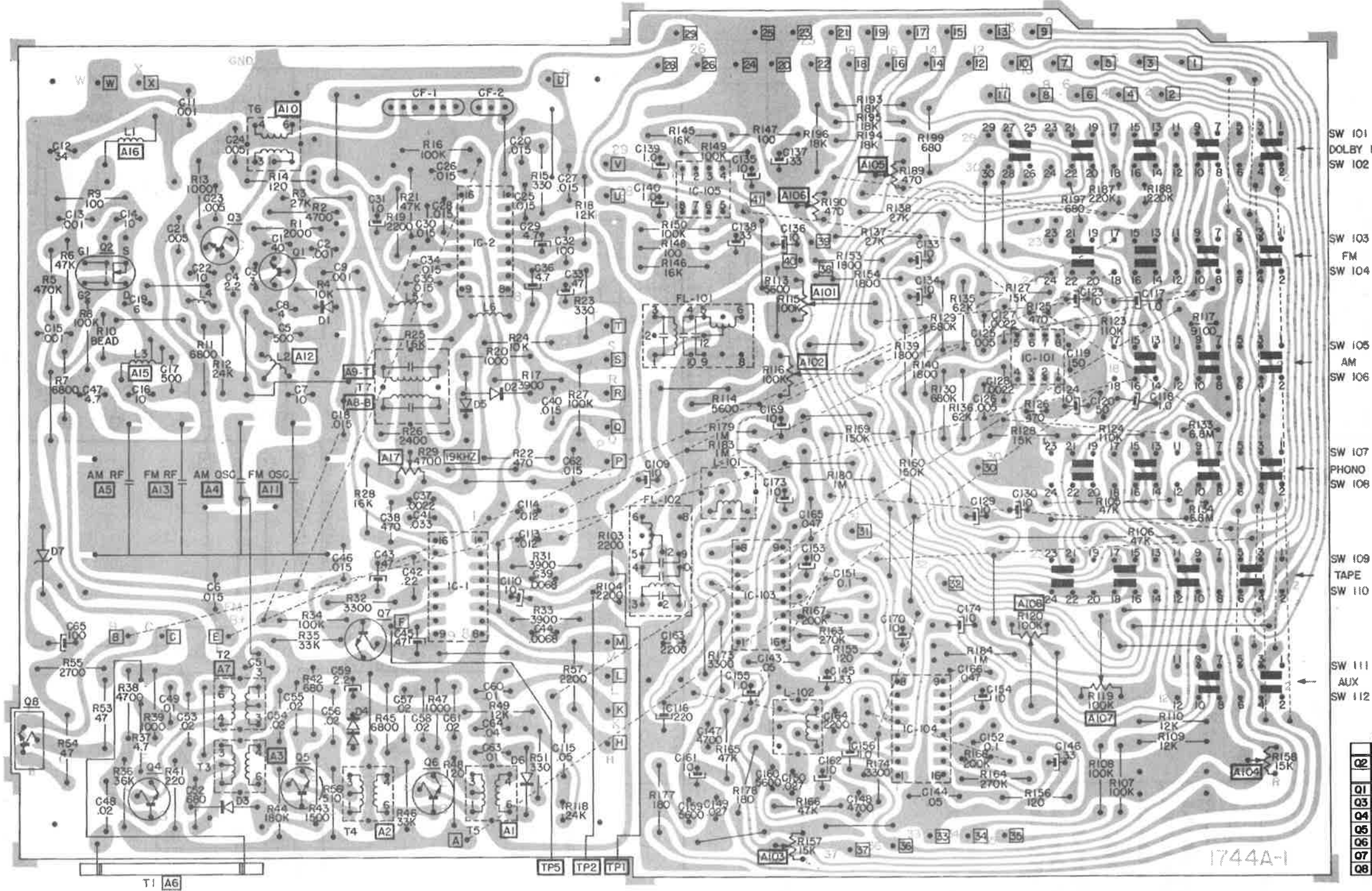
(L) = Left Channel

(Dolby NR Off)

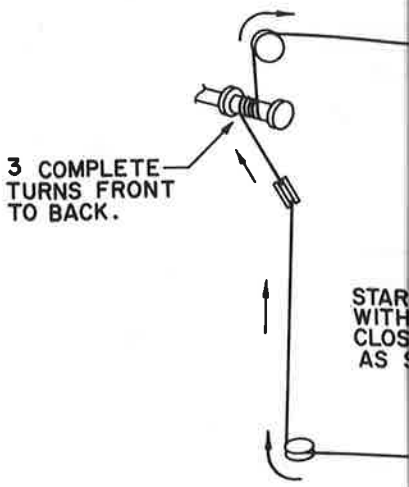
Step	Fun. Sw. Position	Generator Connection	Input Frequency	Dial Setting	Output Indicator	Adjust	Remarks
1	FM	FM-Ant.	98 MHz (1) 1100 $\mu$ V 37.5 kHz Deviation 400 Hz Audio	98 MHz Deviation	Pin 15 (L) Pin 14 (R) Tuner	A101 (L) A102 (R)	Adjust for 580 m Volts
2	Dolby FM	FM-Ant.	98 MHz (1) 1100 $\mu$ V 37.5 kHz Deviation 400 Hz Audio	98 MHz Deviation	Pin 15 (L) Pin 14 (R) Tuner	A103 (L) A104 (R)	Adjust for 580 m Volts
3	Dolby FM	FM-Ant.	98 MHz (1) 1100 $\mu$ V 37.5 kHz Deviation 400 Hz Audio	98 MHz	Pin 17 (L) Pin 18 (R) Tuner	A105 (L) A106 (R)	Preset to 5.6 m Volts for Prelim. Record Adjustment — With Record Button Out. (For Final Adjustment Refer to Steps 7, 8)
4	Tape	Dolby Level Tape	400 Hz	—	Pin 15 (L) Pin 14 (R) Tuner	A107 (L) A108 (R)	Adjust for 580 m Volts
5	—	—	—	—	Across R854	Bias Adj. A807	Adj. for 160 m Volts = .016 A in Record Pos.
6	Aux/Tape	Blank Tape	1 kHz to 12.5 kHz	—	Pin 15 (L) Pin 14 (R) Tuner	A803 (L) A804 (R)	(3)
7	FM/Tape	FM Gen.	98 kHz (1) 1100 $\mu$ V 37.5 kHz Deviation 400 Hz Audio	—	Pin 10 (L) Tuner for Record and Pin 15 (L) for Playback	A105 (L)	Preset Left Level Control to 250 m Volts on Pin 10 (L) of tuner, Then Record Incoming Signal on Tape, Play it Back and Check m Volts on Pin 15 (R) — Must be 250 m. (2)
8	FM/Tape	FM Gen.	98 kHz (1) 1100 $\mu$ V 37.5 kHz Deviation 400 Hz Audio	—	Pin 13 (R) Tuner for Record and Pin 14 (R) for Playback	A106 (R)	Same as Step 7 except use Pin 13 (R) and 14 (R)
9	Dolby FM	FM Ant.	98 kHz (1) 1100 $\mu$ V 37.5 kHz Deviation 400 Hz Audio	—	Level Meter	A805 (L) A806 (R)	Adjust to Dolby Mark on Meter

- Notes:**
- (1) Tune for Center Reading on FM Tuning Meter.
  - (2) Repeat Steps 7, 8 until the Playback Voltage Readings on Pins 15 (L) and 14 (R) are Equal to the Recording Voltage Readings on Pins 10 (L) and 13 (R) of Tuner by Adjusting A105 (L) and A106 (R).
  - (3) Preset to Approximately 100 m Volts on Pin 15 (L) and 14 (R), Record Various Frequencies with Dolby NR Off. Observe Playback Frequency Response on Pin 15 (L) and 14 (R) with Dolby NR Off. Repeat and Adj. A803 (L) and A804 (R) as Needed for a Flat Response at 10 kHz to 12.5 kHz.

Tuner-Function Switch – Dolby Board Solder Side



VOLTAGE CHART				
	G1	G2	D	S
Q2	1.0	4.6	11.3	1.0
	E	B	C	
Q1	1.0	1.6	11.2	
Q3	1.7	2.4	11.3	
Q4	.8	1.3	11.3	
Q5	.9	1.5	10.8	
Q6	1.1	1.7	11.3	
Q7	0	.6	2.5	
Q8	11.3	12.1	25	



8-Track Pre-Amp Alignment

- Bias Oscillator Adjustment
  - Switch unit to record mode.
  - Adjust A807 for a .016 V = 16 V
- Meter Level Calibration
  - Switch unit to FM Dolby.
  - Apply 1100 MV Input Signal
  - Deviation.
  - Adjust A805, A806 to Double D
- Frequency Response Adjustment
  - Switch unit to play mode.
  - Input to tape heads to be 10 V
  - Signal.
  - Monitor signal on tape output Jack
  - Adjust A 803, A 804 for a flat p
  - from 10 kHz to 12 kHz.
  - NOTE: The coils are only e
  - frequency range.

Tape Deck Servicing

Whenever a unit is brought in for serv should be cleaned and lubricated demagnetized. Refer to instructions.

A hole is provided in the cabinet bott the head height. Refer to head height ad



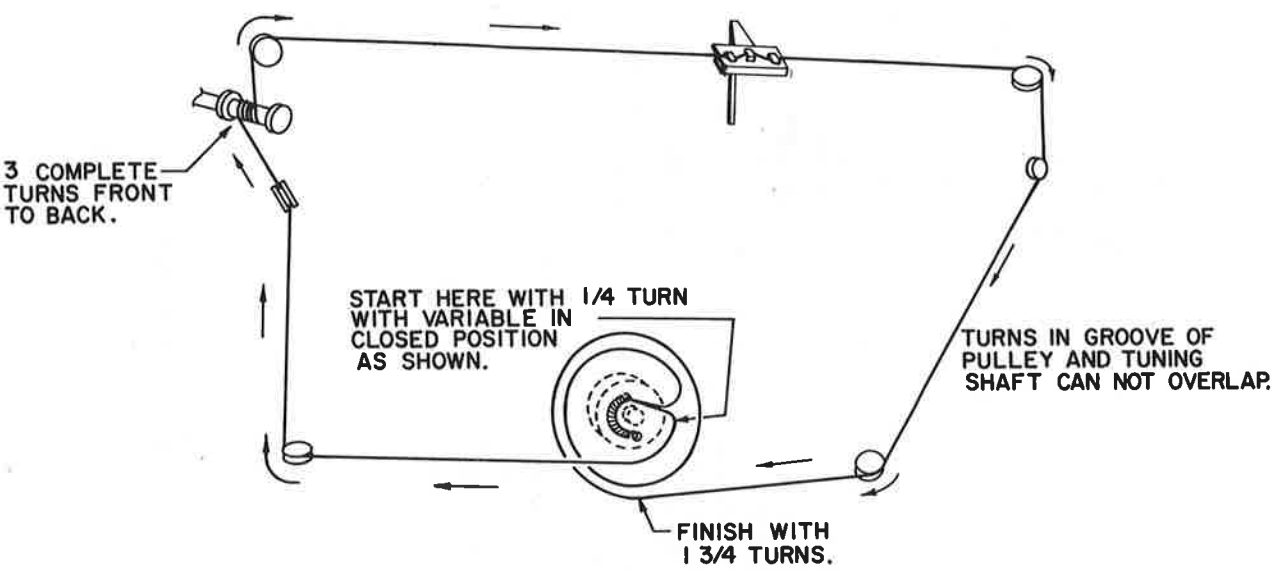
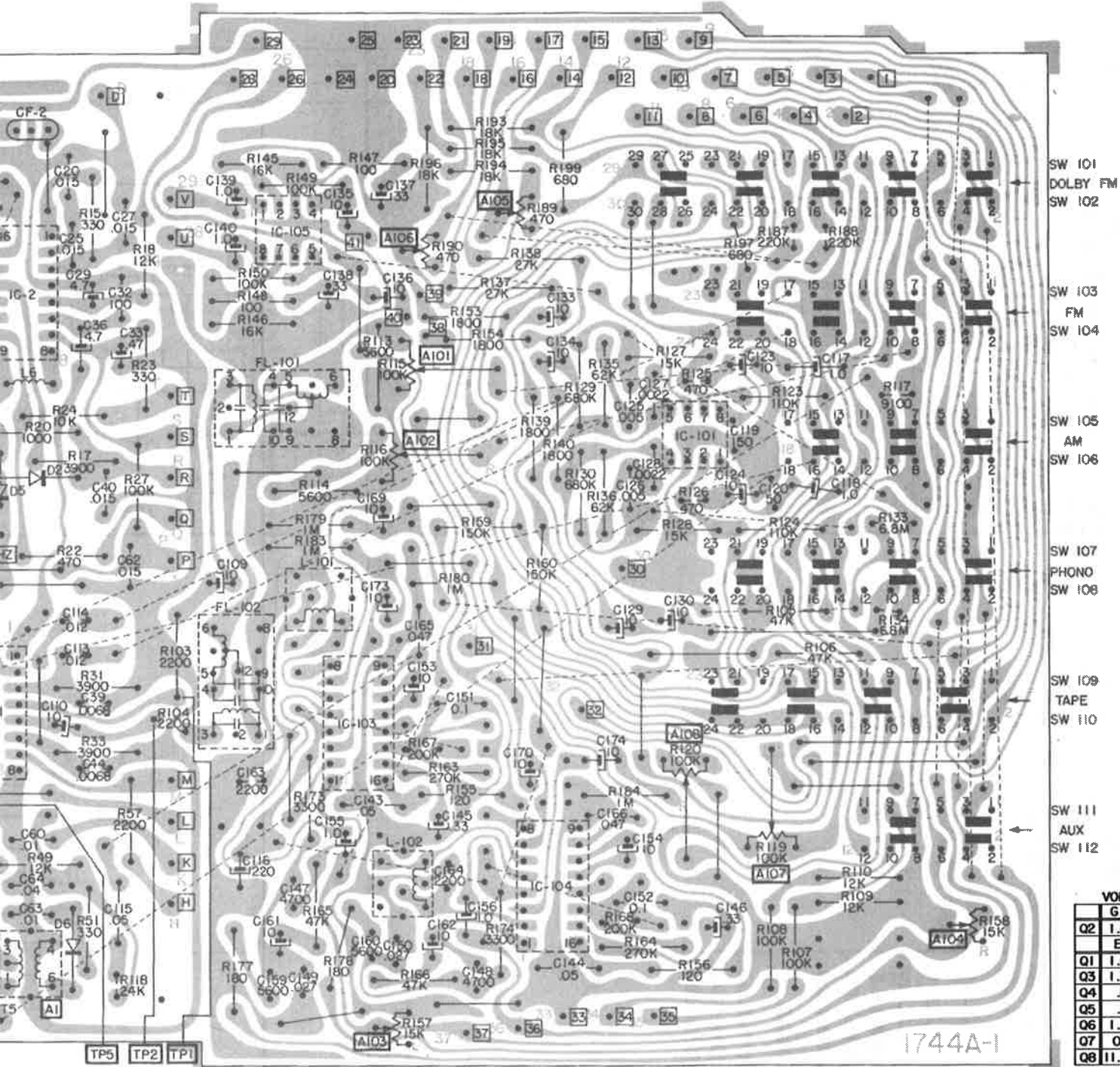


Figure 1

8-Track Pre-Amp Alignment

- 1. Bias Oscillator Adjustment
  - Switch unit to record mode.
  - Adjust A807 for a .016 V = 16 ma across R854.
- 2. Meter Level Calibration
  - Switch unit to FM Dolby.
  - Apply 1100 MV Input Signal @ 37-1/2 kHz Deviation.
  - Adjust A805, A806 to Double D on Meters.
- 3. Frequency Response Adjustment
  - Switch unit to play mode.
  - Input to tape heads to be 10 kHz to 12 kHz Signal.
  - Monitor signal on tape output Jacks.
  - Adjust A 803, A 804 for a flat playback response from 10 kHz to 12 kHz.
  - NOTE: The coils are only effective at this frequency range.

- Height Adjustment**
- 1. Set the player on channel 2.
  - 2. Insert the test tape.
  - 3. Adjust head height adjustment screw for minimum output on the left channel.
- Azimuth Adjustment**
- 1. Set tape player on channel 2.
  - 2. Adjust azimuth adjustment screw for maximum output on right channel.

Tape Deck Servicing

Whenever a unit is brought in for service or repair, it should be cleaned and lubricated and the head demagnetized. Refer to instructions.

A hole is provided in the cabinet bottom for adjusting the head height. Refer to head height adjustments.

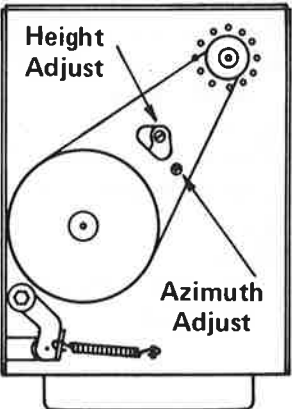
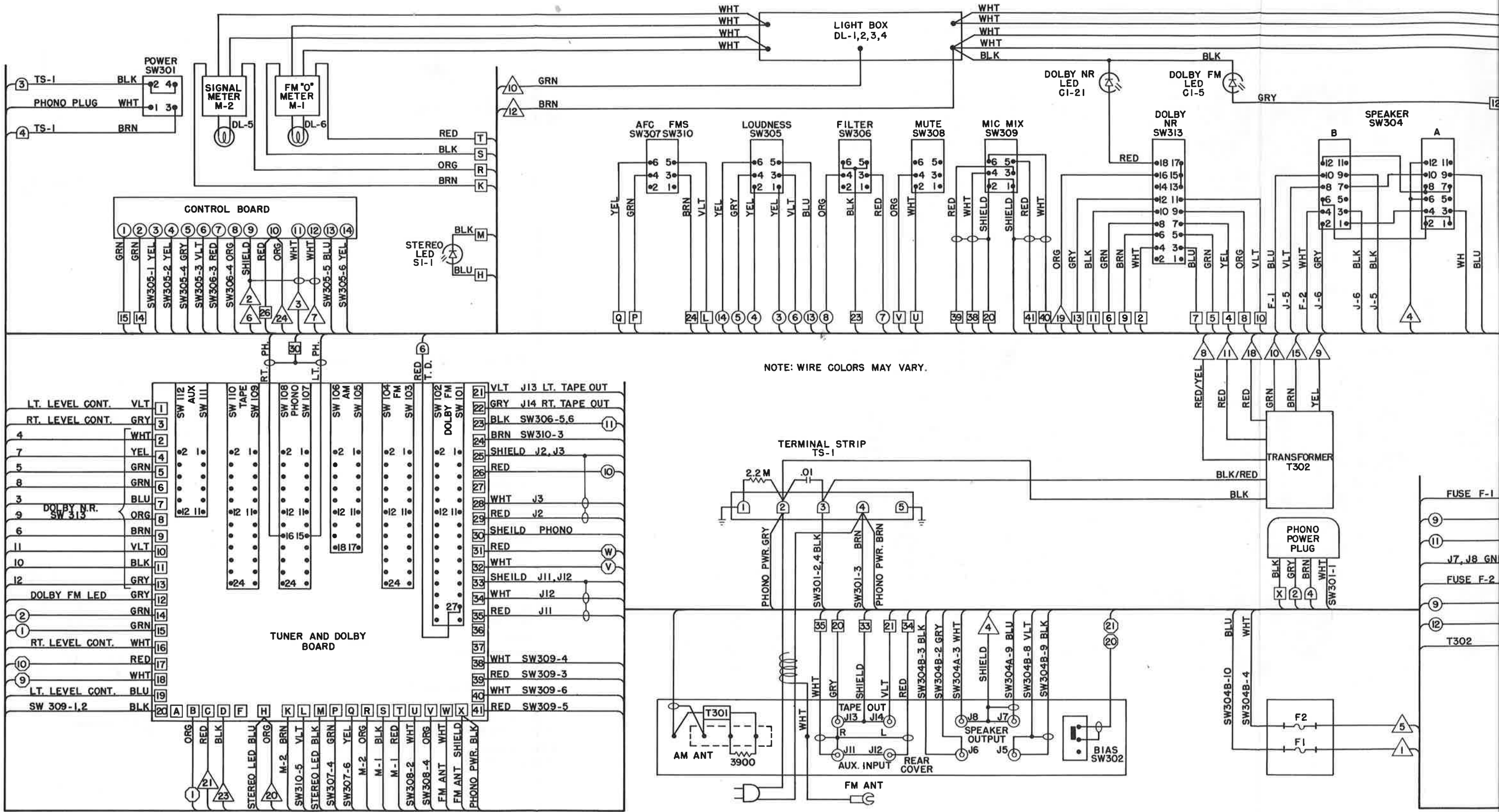
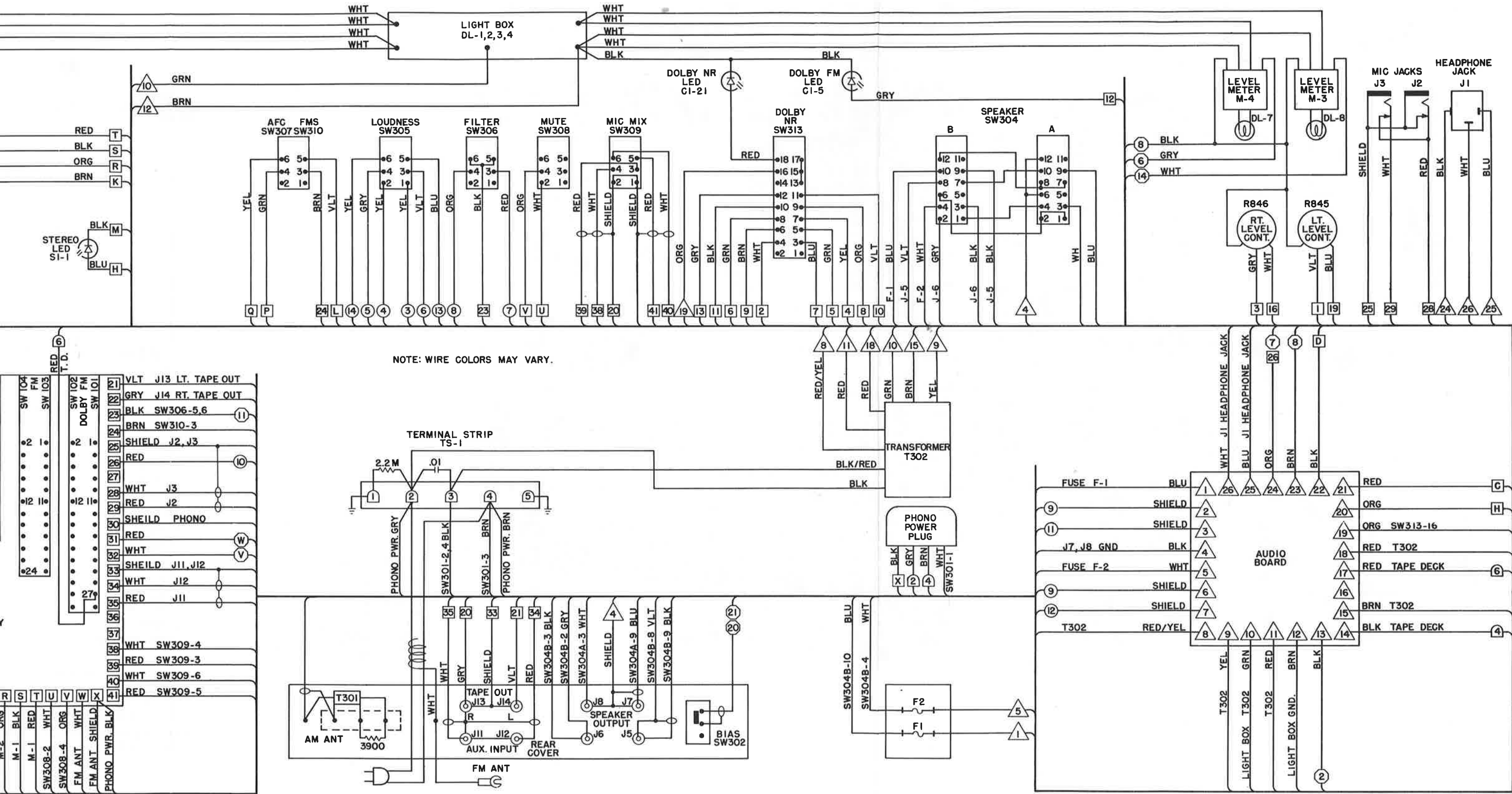


Figure 2

Model Wiring Diagram

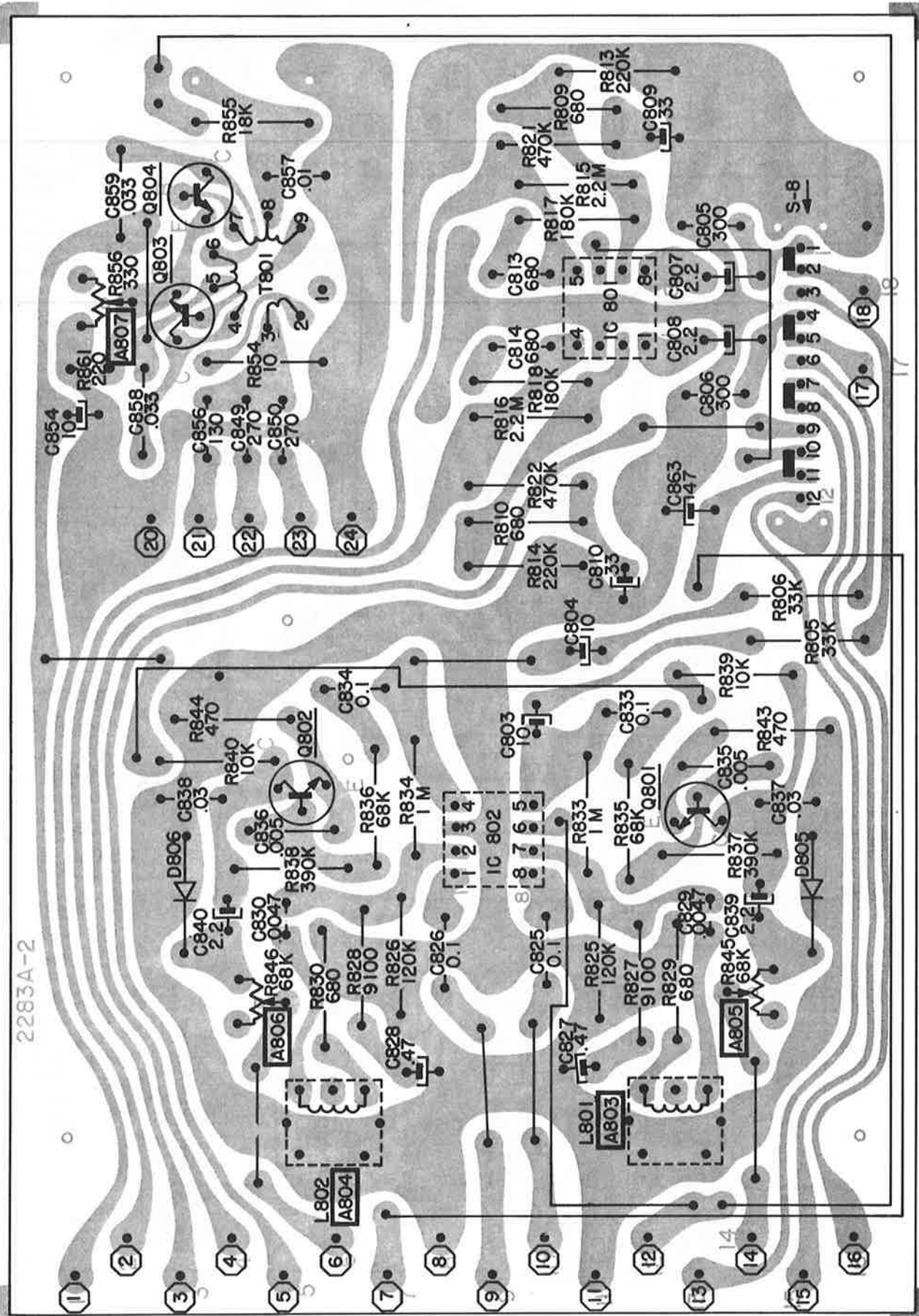


Model Wiring Diagram

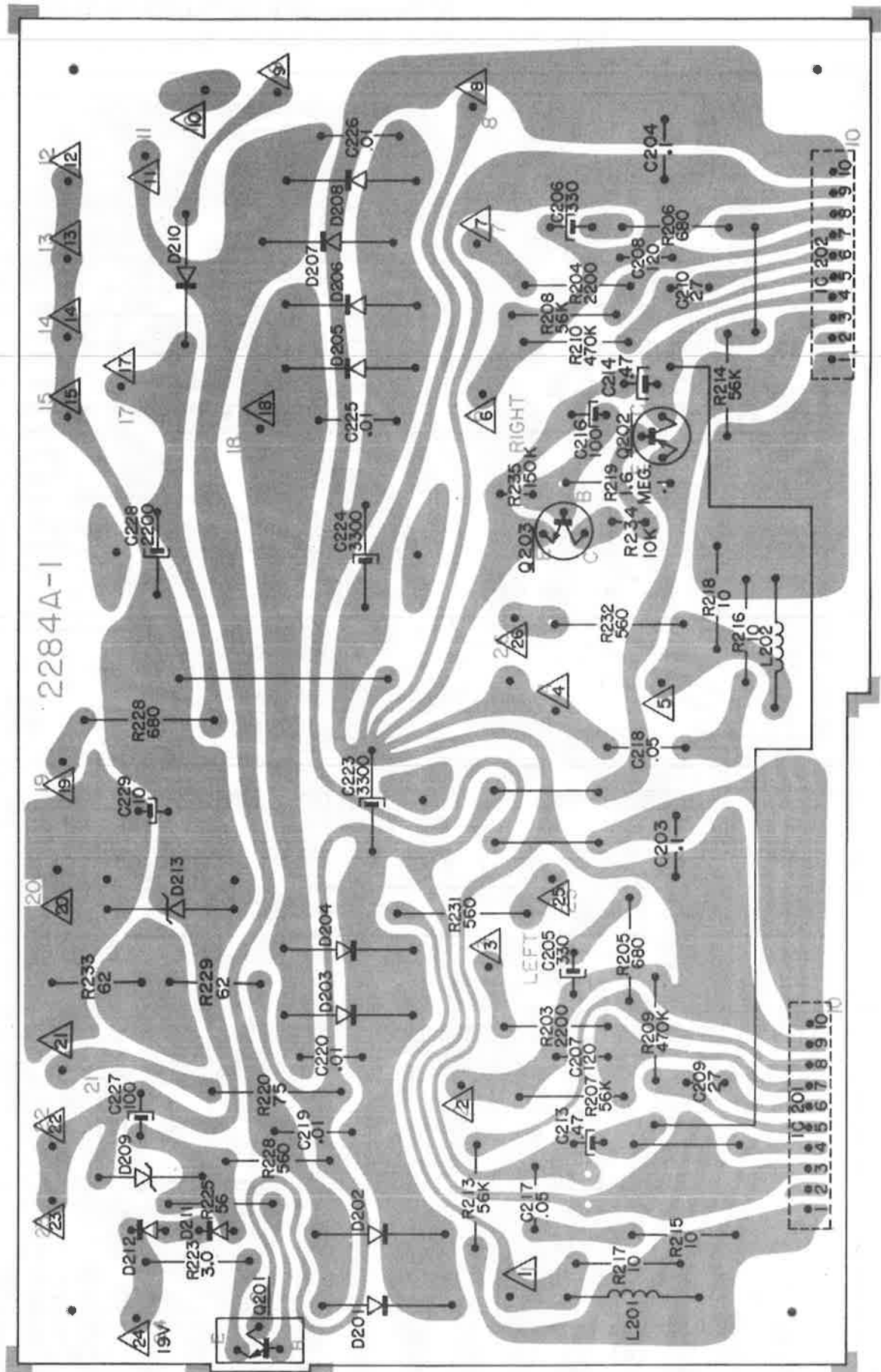




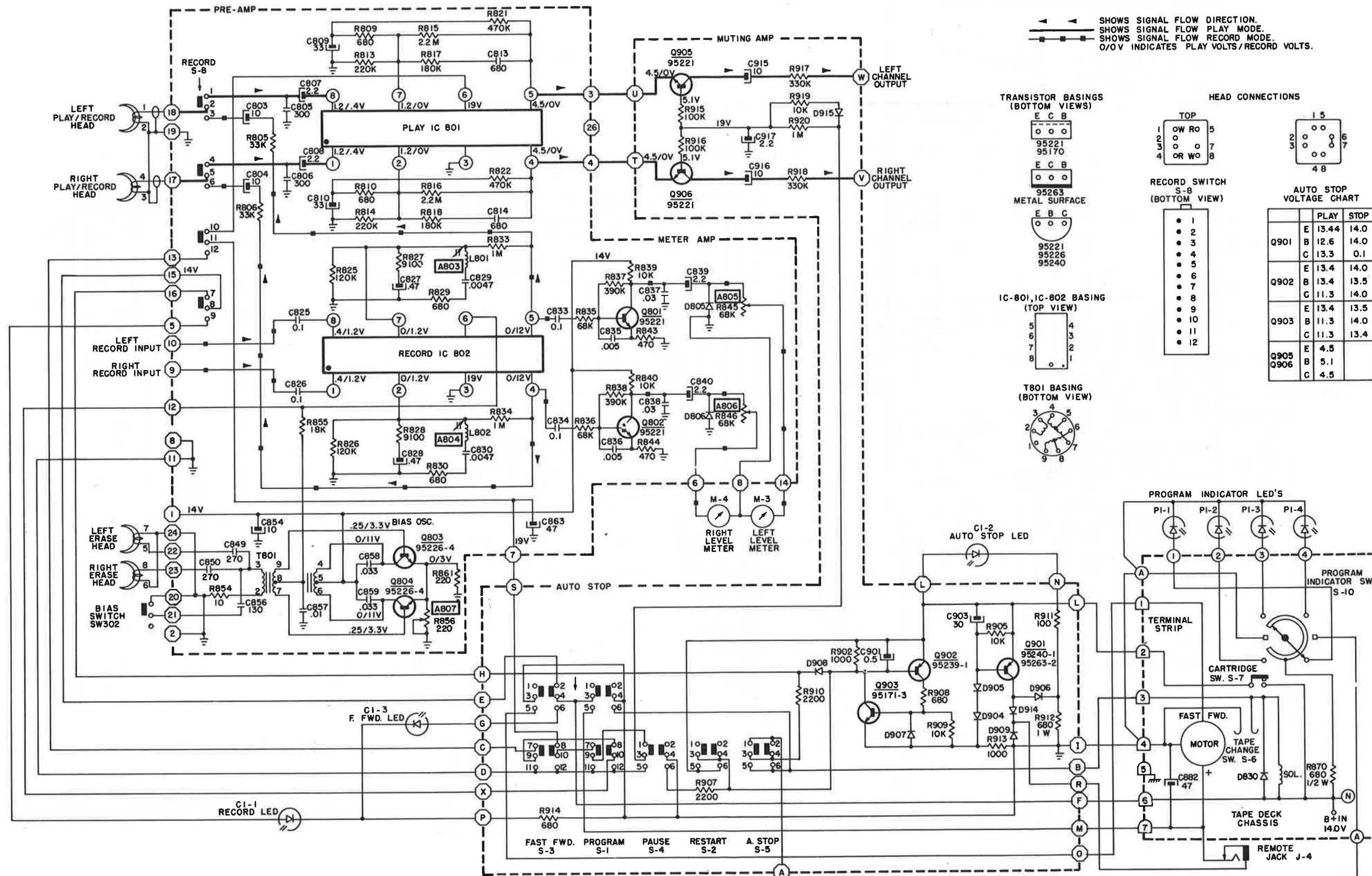
**JCPenney 683-1970,683-1970-00,853-1790**  
Tape Preamplifier Board Solder Side



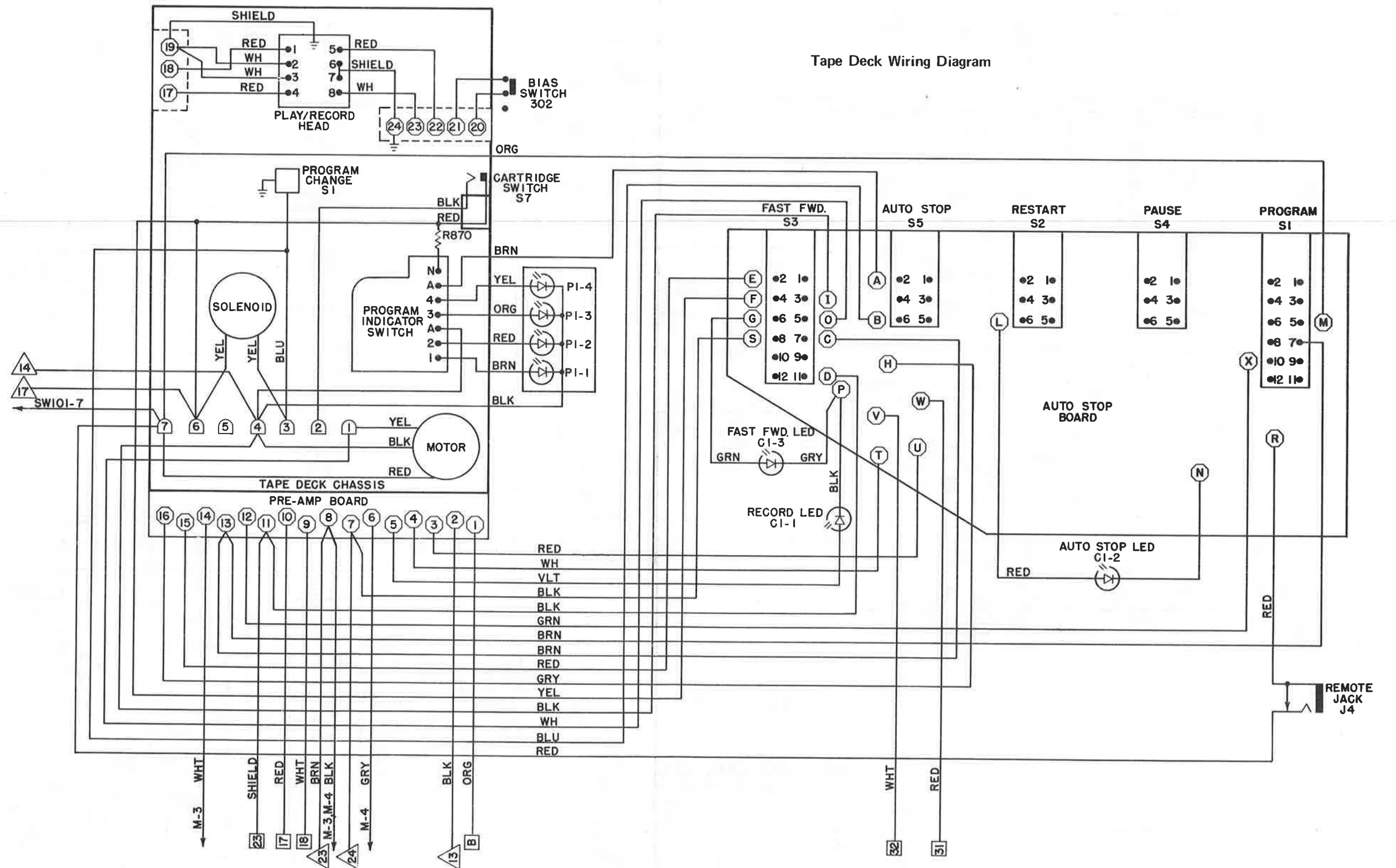
# Audio Board. Solder Side



# Tape Deck Schematic



Tape Deck Wiring Diagram



**Tape Mechanism Parts**

Ref No.	JCPenney Part No.	Supplier Part No.	Description
1	For reference only		Chassis
2		2013019-100	Cartridge Cover
3		2013019-3	Cartridge Roller
4		2013019-101	Cartridge Holder
5		2013019-102	Cartridge Hold Roller
6 (S7)		2013019-103	Cartridge Switch
7		2013019-180	Cam
8		2013019-181	Ratchet
9		2013019-182	Cam Leaf Spring
10		2013019-107	Indicator Contact
11		2013019-108	Contact Spring
12		2013019-81	Indicator P.C. Board
13		2013019-7	Cam Spring
14		2013019-183	Cam Shaft Base
16		2013019-67	Washer
17		2013019-150	Flywheel & Capstan
18		2013019-109	Channel Change Cam
19		2013019-15	Thrust Washer
20		2013019-12	Flywheel Bushing
21		2013019-16	F Washer
22		2013019-110	Solenoid Assy.
23		2013019-17	Solenoid Bracket
24		2013019-111	Change Lever Shaft
28		2013019-113	Change Lever
29		2013019-22	Change Lever Spring
30 (S6)		2013019-23	Tape Guide/Switch Assy.
31		2013019-26	Pressure Roller Arm
33		2013019-28	Bushing Washer
34		2013019-82	Pressure Roller Arm Spring
35		2013019-27	Roller
36		2013019-29	Washer
37		2013019-114	Head Housing
38		2013019-115	Head Base Shaft
39		2013019-39	Height Adjust Screw
41		2013019-37	Head Support Spring
42		2013019-40	Head Support Spring
43		2013019-41	Ground Strap
44		2013019-116	Motor Pulley
45		2013019-33	Belt
46		2013019-50	Lug Terminal
47		2013019-24	Wire Clamp
48		2013019-117	Diode
49		2013019-211	Record Lever
50		2013019-83	Record Lever Bushing
51		2013019-85	Spring Holder



## Tape Mechanism Parts Continued

Ref No.	JCPenney Part No.	Supplier Part No.	Description
52		2013019-119	Record Lever Spring
53		2013019-120	Record Push Arm
54		2013019-121	Record Push Bushing
55		2013019-122	Record Push Arm Spring
56		2013019-86	Motor - 2 Speed (MD235RA)
57		2013019-212	Head
58		2013019-56	Tapping Screw 3x5
59		2013019-54	Tapping Screw 3x6
60		2013019-55	Tapping Screw 3x8
61		2013019-61	Set Screw 6x8
62		2013019-124	Azimuth Adjust Screw 3x6
63		2013019-60	Screw 3x10
64		2013019-59	Screw 3x12
65		2013019-71	Tams Screw 2.6x4
66		2013019-125	Tams Screw 2.6x5
67		2013019-126	Tams Screw 3x5
68		2013019-68	Washer 3x14x1
69		2013019-66	Washer 4
70		2013019-68	Washer 3
71		2013019-69	Spring Washer 3
72		2013019-65	E Ring 1.5
73		2013019-127	E Ring 2
74		2013019-64	E Ring 2.3
75		2013019-62	E Ring 3.2
76		2013019-70	Nut 3
80		2013019-153	Counter Pulley
-		2012420-16	Tape Mechanism ①

① Field Repair. Do Not Exchange.

**RECEIVER SCHEMATIC DIAGRAM**

**TUNER BOARD**

Q2 FM RF AMP 95132  
Q3 FM IF MIXER 95170-2  
Q1 FM OSC 95170-1  
Q4 AM CONV. 95171-4  
Q5 AM IF 95170-2  
Q6 AM IF DET. 95170-2  
Q7 19KHZ AMP 95221-6  
Q8 REGULATOR 95263-1

**TAPE DECK ASSEMBLY**

LEFT RECORD INPUT  
RIGHT RECORD INPUT  
BIAS SWITCH 302  
AUTO STOP BOARD  
RECORD CHANGER  
MAG. CART.  
FM ANT.  
120V AC 60 HZ 150 WATTS  
J-11 L. AUX. INPUT  
J-12 R. AUX. INPUT

**LEFT CHANNEL**

DOLBY FM  
FM  
AM  
PHONO  
TAPE  
AUX.  
RIGHT CHANNEL IS IDENTICAL TO LEFT CHANNEL EXCEPT EVEN CONSECUTIVE REFERENCE NUMBERS ARE USED. FOR DETAIL INFORMATION REFER TO OVERLAY SCHEMATIC AND PARTS LIST.

**CONTROL BOARD**








BALANCE  
DOLBY FM LED  
J-13 L. TAPE OUT  
J-14 R. TAPE OUT  
DOLBY N.R. SWITCH 313  
LOUDNESS SWITCH 305  
ON

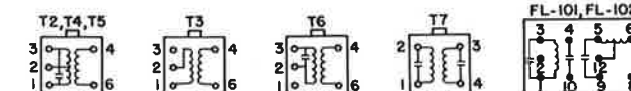
**DRIVER, OUTPUT**

IC-201  
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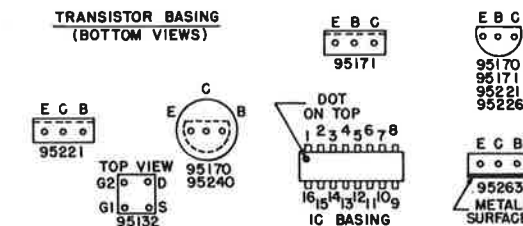
NOTES:

1. RESISTANCE VALUES ARE IN OHMS (K=1000, M=MEG OHM).
2. ALL RESISTORS 5% AND 1/4 WATT UNLESS OTHERWISE SPECIFIED.
3. ALL VOLTAGES MEASURED FROM GROUND WITH A VTVM NO SIGNALS.
4. REFER TO PARTS LIST FOR VOLTAGE RATING OF CAPACITORS.
5. CAPACITANCE VALUES LISTED IN DECIMALS ARE IN MICROFARADS (UF) AND VALUES GREATER THAN 1.0 ARE IN PICO FARADS (PF), UNLESS OTHERWISE SPECIFIED. ELECTROLYTICS ARE IN MICROFARADS.
6.  $\perp$  = COMMON GROUND SYMBOL.
7. *mtv* = TAPE DECK GROUND.
8. **[TP2]** INDICATES TEST POINT.
9. VOLTAGE ON TAPE DECK SCHEMATIC INDICATED PLAY VOLTS/RECORD VOLTS.
10. VOLTAGE ON Q1 AND Q4 ARE MEASURED WITH OSCILLATOR DISABLED.

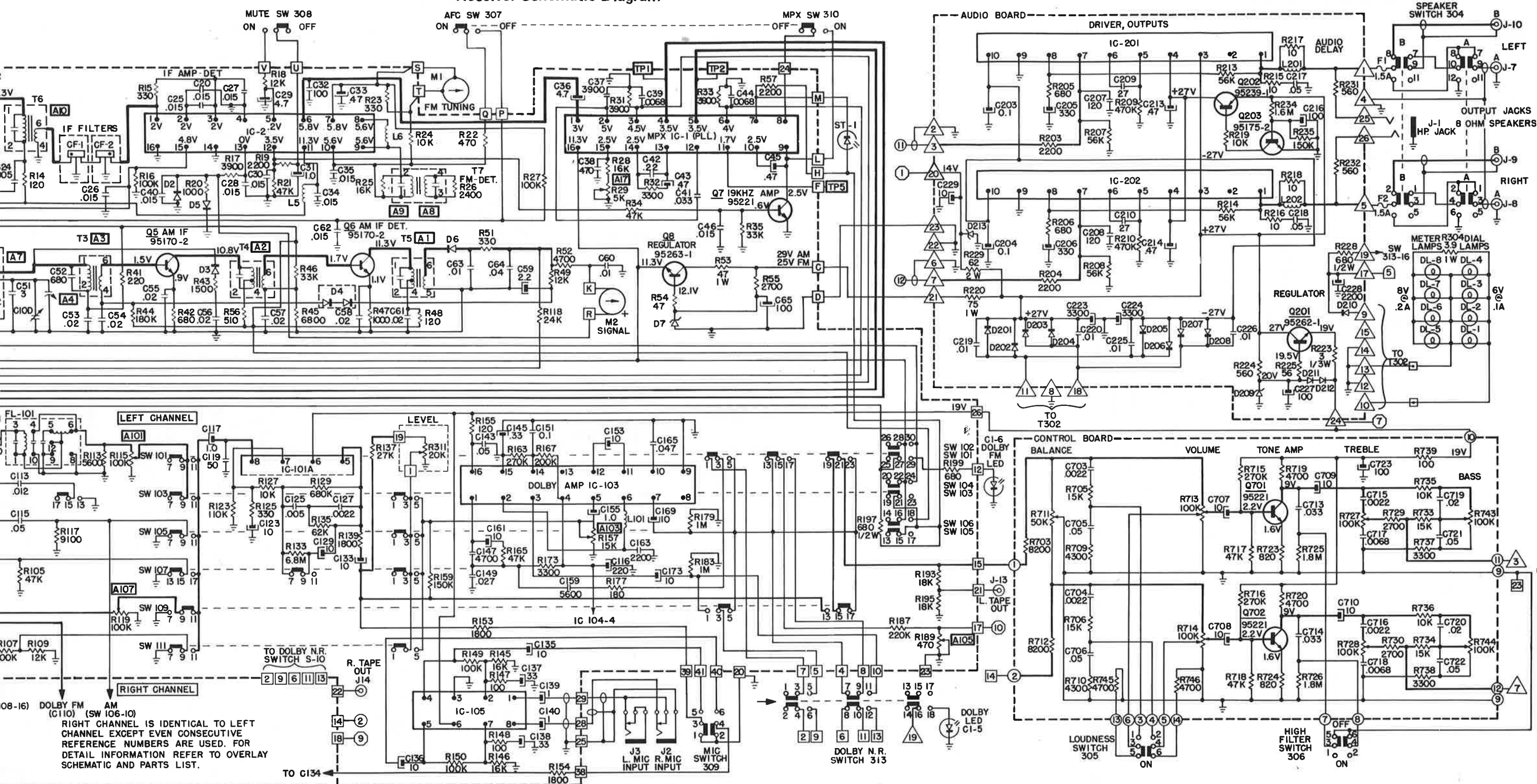
SCHEMATIC SYMBOL	REF. NO.	CONNECTION
	1-199	TUNER BOARD
	200-299	AUDIO BOARD
	300-399	OFF BOARD
	700-799	CONTROL BOARD
	800-899	8 TRACK PREAMP
	900-999	AUTO STOP
		TERMINAL STRIP










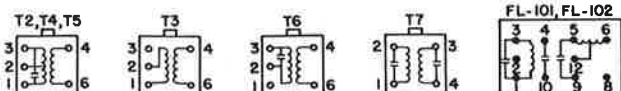
### TRANSISTOR BASING (BOTTOM VIEWS)



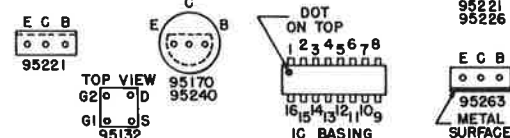
### Receiver Schematic Diagram



SCHEMATIC SYMBOL	REF. NO.	CONNECTION
	1-199	TUNER BOARD
	200-299	AUDIO BOARD
	300-399	OFF BOARD
	700-799	CONTROL BOARD
	800-899	8 TRACK PREAMP
	900-999	AUTO STOP
		TERMINAL STRIP



**TRANSISTOR BASING**  
**(BOTTOM VIEWS)**

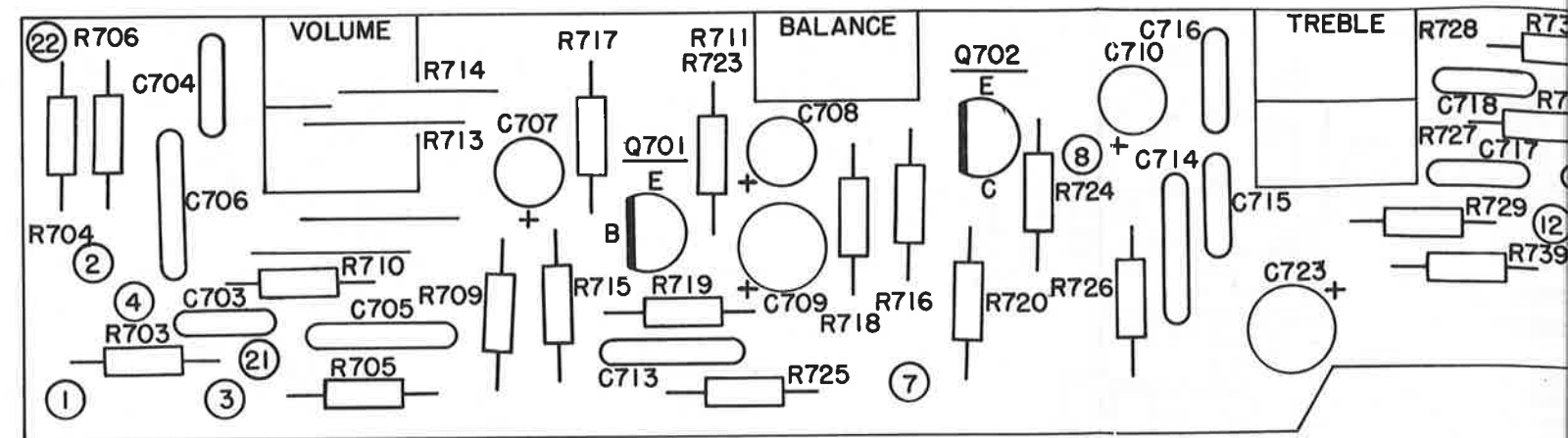




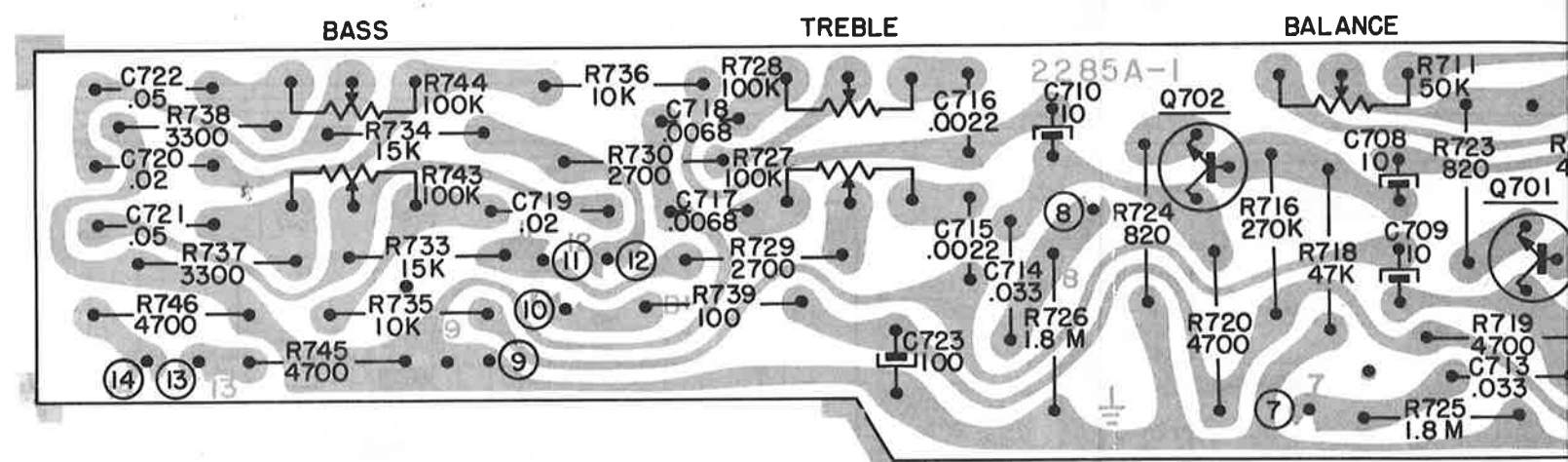
This diagram illustrates the exploded view of a mechanical assembly, likely a pump or engine component. The parts are numbered as follows:

- 1: Main base plate
- 2: Bolt
- 3: Plug
- 4: Bolt
- 5: Bolt
- 6: Bolt
- 7: Bolt
- 8: Bolt
- 9: Bolt
- 10: Bolt
- 11: Bolt
- 12: Bolt
- 13: Bolt
- 14: Bolt
- 15: Bolt
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- 99: Bolt
- 100: Bolt

### Control Board Component Side

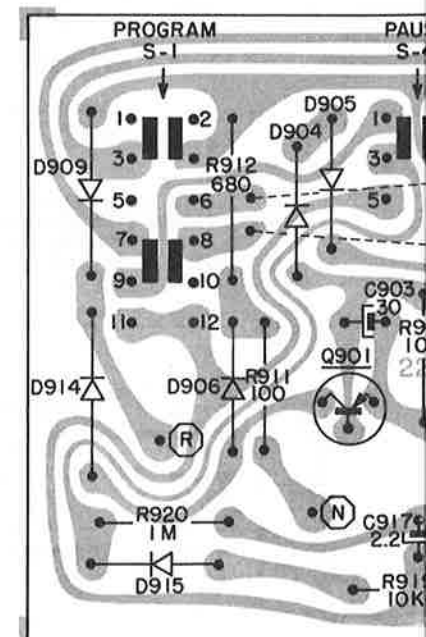
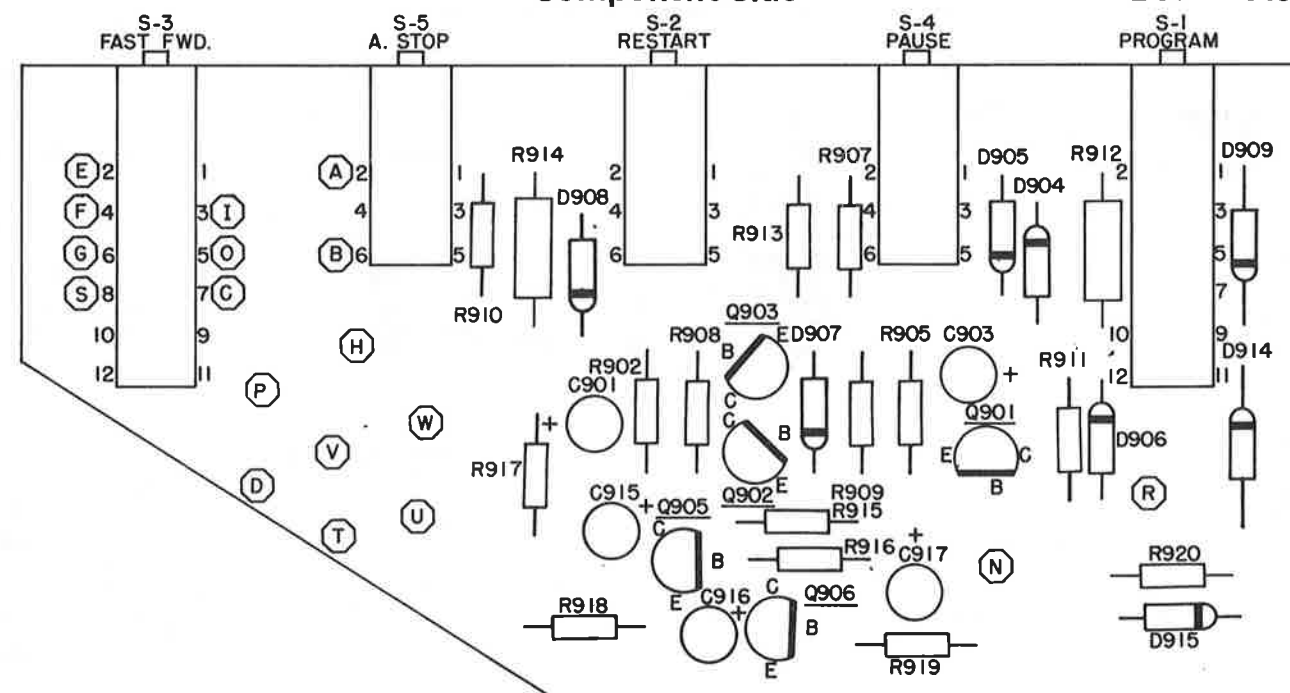


### Control Board Solder Side

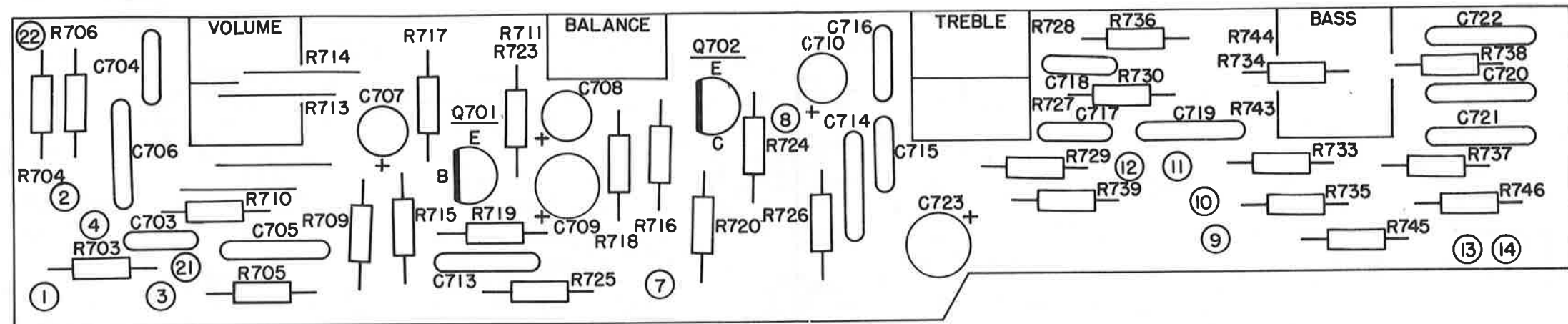


### Component Side

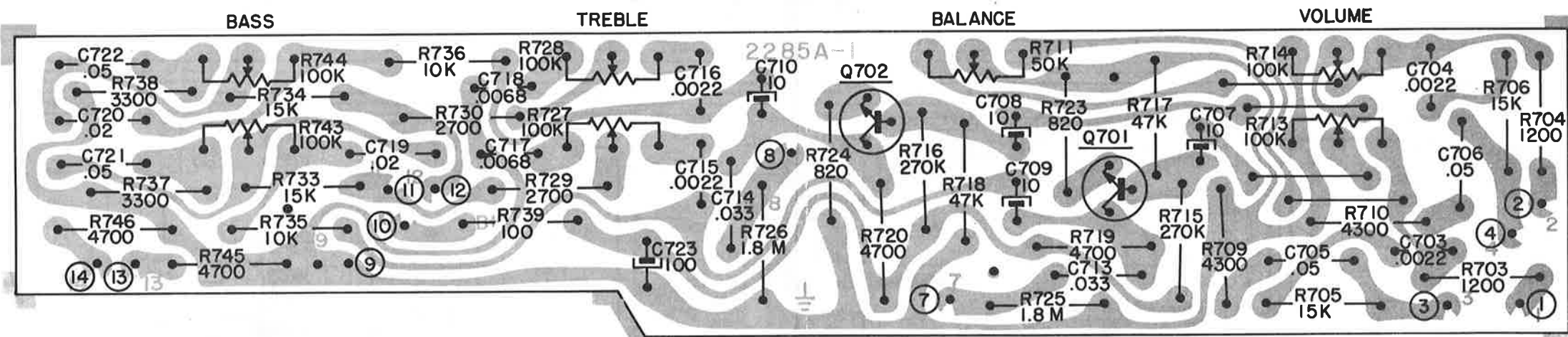
## Board Views – Auto Stop



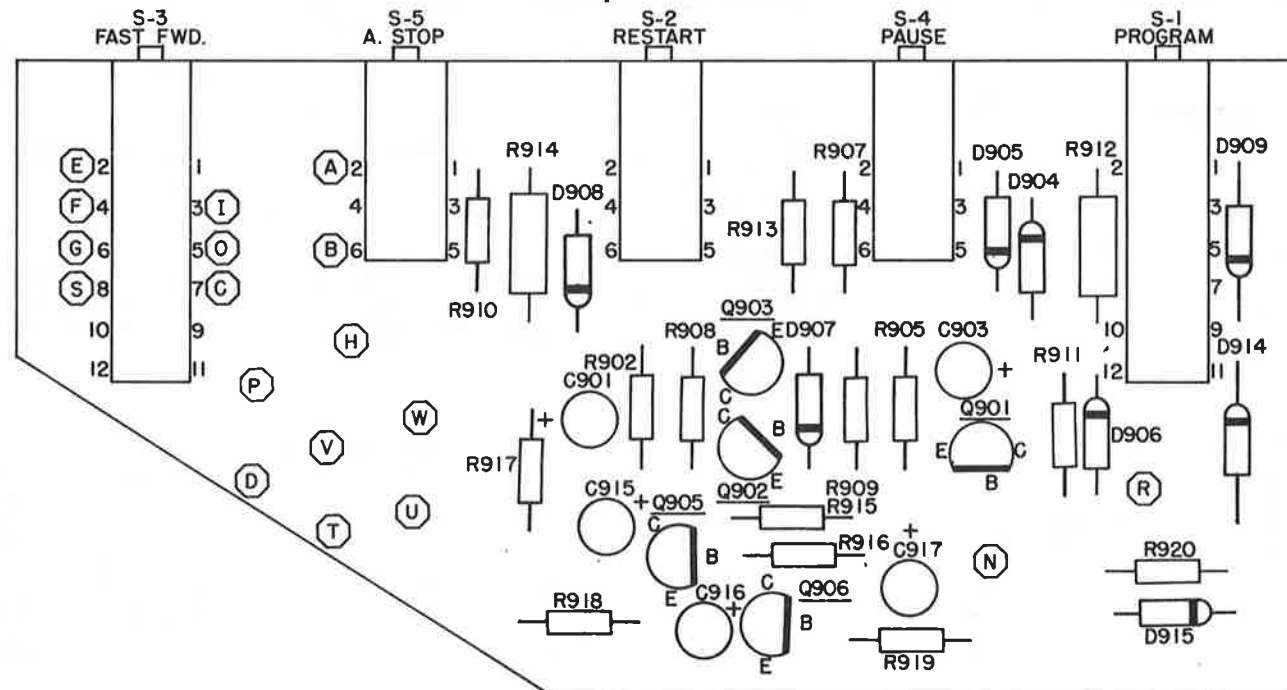
Control Board Component Side



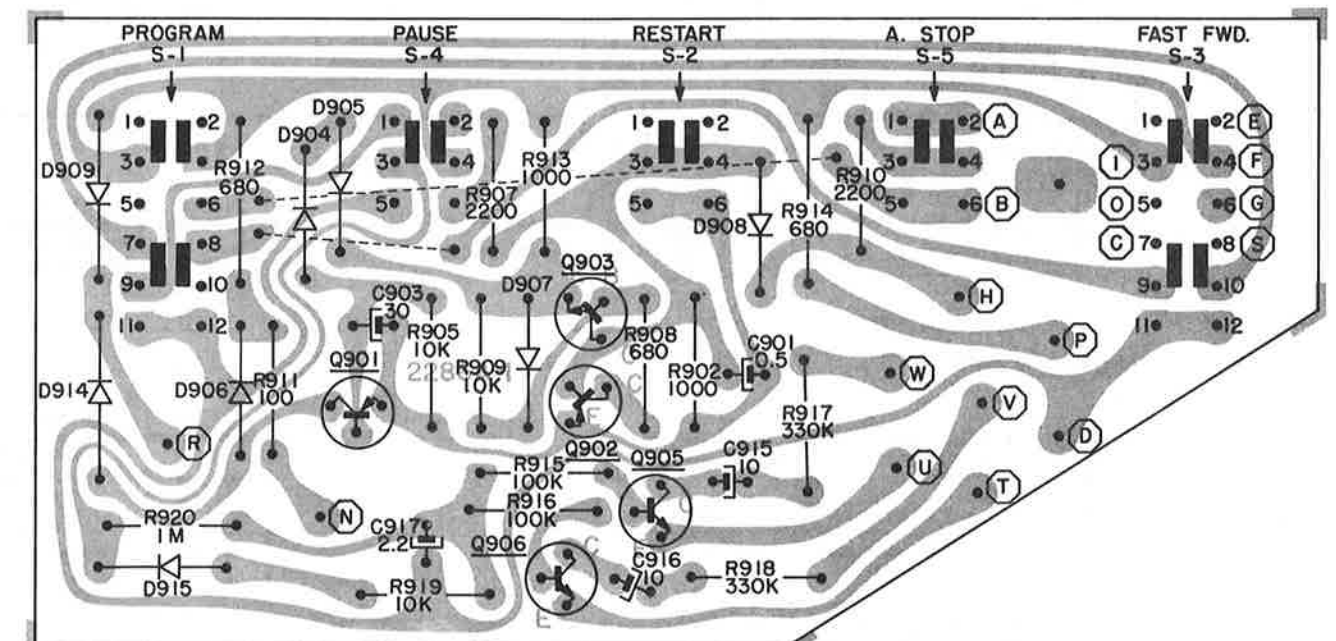
Control Board Solder Side



Component Side



Board Views – Auto Stop



Solder Side



Control Board Parts

Ref No.	JCPenney Part No.	Supplier Part No.	Description	Resistors
R703		2495393-822	8200	1/4 W 5%
R704		2495393-822	8200	1/4 W 5%
R705		2495393-153	15K	1/4 W 5%
R706		2495393-153	15K	1/4 W 5%
R709		2495393-432	4300	1/4 W 5%
R710		2495393-432	4300	1/4 W 5%
R711		67071-10	50K	Balance Control
R713		67072-19	100K	Volume Control
R714		2495393-274	270K	1/4 W 5%
R715		2495393-274	270K	1/4 W 5%
R716		2495393-473	47K	1/4 W 5%
R717		2495393-473	47K	1/4 W 5%
R718		2495393-473	47K	1/4 W 5%
R719		2495393-472	4700	1/4 W 5%
R720		2495393-472	4700	1/4 W 5%
R723		2495393-821	820	1/4 W 5%
R724		2495393-821	820	1/4 W 5%
R725		2495393-185	1.8 Meg	1/4 W 5%
R726		2495393-185	1.8 Meg	1/4 W 5%
R727		67072-20	100K	Treble Control
R728		2495393-272	2700	1/4 W 5%
R729		2495393-272	2700	1/4 W 5%
R730		2495393-153	15K	1/4 W 5%
R733		2495393-153	15K	1/4 W 5%
R734		2495393-103	10K	1/4 W 5%
R735		2495393-103	10K	1/4 W 5%
R736		2495393-332	3300	1/4 W 5%
R737		2495393-332	3300	1/4 W 5%
R738		2495393-101	100	1/4 W 5%
R739		67072-20	100K	Bass Control
R743		2495393-472	4700	1/4 W 5%
R744		2495393-472	4700	1/4 W 5%
R745				
R746				

Cabinet Parts

Ref No.	JCPenney Part No.	Supplier Part No.	Description
1	2013377-1	2013377-1	Door Hinge Rod
2	2495760-9	2495760-9	"E" Ring, Hinge
3	2012564	2012564	Door Hinge Spring
4	2014252	2014252	Crystal, Dolby & Record
5	2016066	2016066	Crystal, Program Indicator
6	2012757-3	2012757-3	Microphone
7	2012757-4	2012757-4	Microphone with Switch
8	2016600-1	2016600-1	Record Changer (5)
9	2015504-1	2015504-1	Dust Cover
10	2016093-1	2016093-1	Jack Panel
11	2015149-1	2015149-1	Motor Board
12	2312A-1	2312A-1	Cabinet Assembly
13	2016028-3	2016028-3	Crystal, Dial Scale
14	2016027-1	2016027-1	Dial Frame, Crystal
15	2016029-1	2016029-1	Crystal, Dial
16	2016163-1	2016163-1	Inlay, Dial Crystal
17	2016024-3	2016024-3	Cabinet Front
18	2016033-1	2016033-1	Bushing, Push Button Guide(7)
19	2016056-1	2016056-1	Knob, Tuning
20	2016055-1	2016055-1	Knobs, Control (6)
21	2016036-1	2016036-1	Bushing, Toggle Switch (8)
22	2015385-2	2015385-2	Window, Tape Counter
23	2016026-1	2016026-1	Tape Deck Escutcheon
24	2475559-22	2475559-22	Door, Tape Deck
25	2475854-1	2475854-1	Foot, Cabinet (4)
26	2014822-1	2014822-1	Cartridge Storage
27	2016050	2016050	Cabinet Back
28	67099-101	67099-101	Hinge Assembly, Dust Cover
29	67099-102	67099-102	Hinge Plate, Dust Cover
30	67099-103	67099-103	Hinge Cover

\* Not Referenced  
\*\* Not Shown

(5) If estimate of repair cost exceeds replacement cost, throw away.  
Do not repair.

## Control Board Parts Continued

### Capacitors

Ref No.	JCPenney Part No.	Supplier Part No.	Description
C703		2475722-41	0.002 uF 50V Disc
C704		2475722-41	0.002 uF 50V Disc
C705		2475722-59	0.05 uF 50V Disc
C706		2475722-59	0.05 uF 50V Disc
C707		49385-6	10 uF 10V Elect.
C708		49385-6	10 uF 10V Elect.
C709		49385-54	10 uF 16V Elect.
C710		49385-54	10 uF 16V Elect.
C713		2475722-56	0.033 uF 50V Disc
C714		2475722-56	0.033 uF 50V Disc
C715		2475722-41	0.002 uF 50V Disc
C716		2475722-41	0.002 uF 50V Disc
C717		2475722-48	0.0068 uF 50V Disc
C718		2475722-48	0.0068 uF 50V Disc
C719		2475722-53	0.02 uF 50V Disc
C720		2475722-53	0.02 uF 50V Disc
C721		2475722-59	0.05 uF 50V Disc
C722		2475722-59	0.05 uF 50V Disc
C723		49385-51	100 uF 25V Elect.

### Transistors

Q701		95221	NPN Sil. (2SC1335)
Q702		95221	NPN Sil. (2SC1335)

### Miscellaneous Parts

		2321A-1	Control Board Complete ①
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① Field repair. Do not exchange.

## Miscellaneous Tape Deck Parts

Ref No.	JCPenney Part No.	Supplier Part No.	Description
-		67077	Counter
-		2014779-2	Cap, Counter Knob
-		2013745-3	Drive Belt
CI-1 thru CI-3		95145-1	LED Indicator
PI-1 thru PI-4		95145-1	LED Indicator
-		2012420-16	8 Track Deck Mechanism ①
-		2287A-1	Program LED Board Assy ①
-		2288A-1	A-Stop, F-Fwd, LED Board Assy ①

① Field repair. Do not exchange.

**Tape Preamplifier Parts**

**Resistors**

Ref No.	JCPenney Part No.	Supplier Part No.	Description
R805		2495393-333	33K 1/4 W 5%
R806		2495393-333	33K 1/4 W 5%
R809		2495393-681	680 1/4 W 5%
R810		2495393-681	680 1/4 W 5%
R813		2495393-224	220K 1/4 W 5%
R814		2495393-224	220K 1/4 W 5%
R815		2495393-225	2.2 Meg 1/4 W 5%
R816		2495393-225	2.2 Meg 1/4 W 5%
R817		2495393-184	180K 1/4 W 5%
R818		2495393-184	180K 1/4 W 5%
R821		2495393-474	470K 1/4 W 5%
R822		2495393-474	470K 1/4 W 5%
R825		2495393-124	120K 1/4 W 5%
R826		2495393-124	120K 1/4 W 5%
R827		2495393-912	9100 1/4 W 5%
R828		2495393-912	9100 1/4 W 5%
R829		2495393-681	680 1/4 W 5%
R830		2495393-681	680 1/4 W 5%
R833		2495393-105	1 Meg 1/4 W 5%
R834		2495393-105	1 Meg 1/4 W 5%
R835		2495393-683	68K 1/4 W 5%
R836		2495393-683	68K 1/4 W 5%
R837		2495393-394	390K 1/4 W 5%
R838		2495393-394	390K 1/4 W 5%
R839		2495393-103	10K 1/4 W 5%
R840		2495393-103	10K 1/4 W 5%
R843		2495393-471	470 1/4 W 5%
R844		2495393-471	470 1/4 W 5%
R845		67044-683	68K Trim Pot
R846		67044-683	68K Trim Pot
R854		2495393-100	10 1/4 W 5%
R855		2495393-183	18K 1/4 W 5%
R856		67044-221	220 Trim Pot
R861		2495393-221	220 1/4 W 5%
R870		2496130-681	680 1/2 W 5%

**Switch and Transformer**

L801		96477-23	Coil
L802		96477-23	Coil
S8		67081-5	Record Switch
T801		67057-2	Osc Coil
		2324A-1	Tape Pre-Amp Board Assy. ①

① Field Repair. Do Not Exchange.

## Tape Preamplifier Parts Continued

### Capacitors

Ref No.	JCPenney Part No.	Supplier Part No.	Description
C803		49385-36	10 uF 16V Elect.
C804		49385-36	10 uF 16V Elect.
C805		2475722-37	300 pF 50V Disc
C806		2475722-37	300 pF 50V Disc
C807		49385-34	2.2 uF 35V Elect.
C808		49385-34	2.2 uF 35V Elect.
C809		49385-3	33 uF 10V Elect.
C810		49385-3	33 uF 10V Elect.
C813		2475722-76	680 pF 50V Disc
C814		2475722-76	680 pF 50V Disc
C825		2009698-13	0.1 uF 50V Mylar
C826		2009698-13	0.1 uF 50V Mylar
C827		49385-24	0.47 uF 50V Elect.
C828		49385-24	0.47 uF 50V Elect.
C829		2009698-3	0.0047 uF 50V Disc
C830		2009698-3	0.0047 uF 50V Disc
C833		2009698-13	0.1 uF 50V Mylar
C834		2009698-13	0.1 uF 50V Mylar
C835		2009698-3	0.0047 uF 50V Mylar
C836		2009698-3	0.0047 uF 50V Mylar
C837		2475722-56	0.033 uF 50V Disc
C838		2475722-56	0.033 uF 50V Disc
C839		49385-9	2.2 uF 50V Elect.
C840		49385-9	2.2 uF 50V Elect.
C849		2475722-87	270 pF 500V Disc
C850		2475722-87	270 pF 500V Disc
C854		49385-54	10 uF 16V Elect.
C856		2475721-37	130 pF 500V Disc
C857		2475722-49	0.01 uF 50V Disc
C858		2475722-56	0.033 uF 50V Disc
C859		2475722-56	0.033 uF 50V Disc
C863		49385-33	47 uF 25V Elect.
C882		67012-51	47 uF 35V Elect.

### Transistors and Diodes

Ref No.	JCPenney Part No.	Supplier Part No.	Description
D805		2495083	Diode, Germanium (1N60)
D806		2495083	Diode, Germanium (1N60)
D807		2495083	Diode, Germanium (1N60)
D808		2495083	Diode, Germanium (1N60)
IC801		95285-3	Play IC (LM-387AN)
IC802		95285-3	Record IC (LM-387AN)
Q801		95221	NPN Meter Amp (2SC1335)
Q802		95221	NPN Meter Amp (2SC1335)
Q803		95226-4	NPN Sll. Bias Osc (MPS6560)
Q804		95226-4	NPN Sll. Bias Osc (MPS6560)

# JCPenney 683-1970,683-1970-00,853-1790

## Auto Stop Board Parts

Ref No.	JCPenney Part No.	Supplier Part No.	Description
R902		2495393-102	1000 1/4 W 5%
R905		2495393-103	10K 1/4 W 5%
R907		2495393-222	2200 1/4 W 5%
R908		2495393-681	680 1/4 W 5%
R909		2495393-103	10K 1/4 W 5%
R910		2495393-222	2200 1/4 W 5%
R911		2495393-101	100 1/4 W 5%
R912		2495393-681	680 1 W 5%
R913		2495393-102	1000 1/4 W 5%
R914		2496130-681	680 1/2 W 5%
R915		2495393-104	100K 1/4 W 5%
R916		2495393-104	100K 1/4 W 5%
R917		2495393-334	330K 1/4 W 5%
R918		2495393-334	330K 1/4 W 5%
R919		2495393-105	1M 1/4 W 5%
R920		2495393-105	1M 1/4 W 5%
R951		2495393-331	330 1/4 W 5%
R952		2495393-680	68 1/4 W 5%

### Capacitors

C901		49385-24	0.47 uF 50V Elect.
C903		49385-3	33 uF 10V Elect.
C911		49385-43	470 uF 25V Elect.
C912		49385-43	470 uF 25V Elect.
C915		49385-54	10 uF 16V Elect.
C916		49385-54	10 uF 16V Elect.
C917		49385-9	2.2 uF 16V Elect.

### Transistors & Diodes

Q901		95240-1 or 95263-2	PNP Auto Stop (2SB562) PNP Auto Stop (2SA738)
Q902		95239-1	PNP Driver (HS6112)
Q903		95171-3	NPN Amp (MPS4632J)
Q905		95221	Silicon (2SC1335)
Q906		95221	Silicon (2SC1335)
D904 thru D908		67055	Silicon Diodes, Signal
D909		47126-3	Silicon Diodes, Signal
D914		47126-3	Silicon Diodes, Signal
S1 thru S5		67075-27	Sw - Prog., F-Fwd, Pause, Restarts, A-Stop
-		2326A-1	Board Assy. ①

① Field repair. Do not exchange.



## Tuner-Dolby, Function Switch Board Parts

Resistors									
Ref No.	JCPenney Part No.	Supplier Part No.	Description		Ref No.	JCPenney Part No.	Supplier Part No.	Description	
R1	1062-0439	2495393-203	2000 1/4 W 5%		R48	1061-0300	2495393-121	120 1/4 W 5%	
R2	1061-6985	2495393-472	4700 1/4 W 5%		R49	1062-0425	2495393-123	12K 1/4 W 5%	
R3	1062-5309	2495393-273	27K 1/4 W 5%		R51	1062-0292	2495393-331	330 1/4 W 5%	
R4	1061-6969	2495393-103	10K 1/4 W 5%		R52	1061-6985	2495393-472	4700 1/4 W 5%	
R5	1044-1897	2495393-474	470K 1/4 W 5%		R53		2475488-470	47 1 W 10%	
R6	1062-0391	2495393-473	47K 1/4 W 5%		R54	1062-6497	2495393-470	47 1/4 W 5%	
R7	1061-6944	2495393-682	6800 1/4 W 5%		R55		2495393-272	2700 1/4 W 5%	
R8	1061-6936	2495393-104	100K 1/4 W 5%		R56	1082-0504	2495393-511	510 1/4 W 5%	
R9	1044-1814	2495393-101	100 1/4 W 5%		R57		2495393-222	2200 1/4 W 5%	
R10	1043-2466	2010201-1	Ferrite Bead		R103		2495393-222	2.2K 1/4 W 5%	
R11	1061-6944	2495393-682	6800 1/4 W 5%		R104		2495393-222	2.2K 1/4 W 5%	
R12	1062-0771	2495393-243	24K 1/4 W 5%		R105		2495393-473	47K 1/4 W 5%	
R13	1044-1822	2495393-102	1000 1/4 W 5%		R106		2495393-473	47K 1/4 W 5%	
R14	1062-0300	2495393-121	120 1/4 W 5%		R107		2495393-104	100K 1/4 W 5%	
R15	1062-0292	2495393-331	330 1/4 W 5%		R108		2495393-104	100K 1/4 W 5%	
R16	1061-6936	2495393-104	100K 1/4 W 5%		R109		2495393-123	12K 1/4 W 5%	
R17	1062-5341	2495393-392	3900 1/4 W 5%		R110		2495393-123	12K 1/4 W 5%	
R18	1062-0426	2495393-123	12K 1/4 W 5%		R113		2495393-562	5600 1/4 W 5%	
R19	1044-1855	2495393-222	2200 1/4 W 5%		R114		2495393-562	5600 1/4 W 5%	
R20	1044-1822	2495393-102	1000 1/4 W 5%		R115		67112-104	100K Trim Pot	
R21	1062-0391	2495393-473	47K 1/4 W 5%		R116		67112-104	100K Trim Pot	
R22	1044-1889	2495393-471	470 1/4 W 5%		R117		2495393-912	9100 Trim Pot	
R23	1062-0292	2495393-331	330 1/4 W 5%		R118		2495393-243	24K 1/4 W 5%	
R24	1061-6969	2495393-103	10K 1/4 W 5%		R119		67112-104	100K Trim Pot	
R25	1082-0538	2495393-163	16K 1/4 W 5%		R120		67112-104	100K Trim Pot	
R26	1062-0318	2495393-242	2400 1/4 W 5%		R123		2495393-114	110K 1/4 W 5%	
R27	1061-6936	2495393-104	100K 1/4 W 5%		R124		2495393-114	110K 1/4 W 5%	
R28	1082-0538	2495393-163	16K 1/4 W 5%		R125		2495393-331	330 1/4 W 5%	
R29	1082-2344	67044-472	4700 Trim Pot		R126		2495393-331	330 1/4 W 5%	
R31	1072-5341	2495393-392	3900 1/4 W 5%		R127		2495393-103	10K 1/4 W 5%	
R32	1061-6928	2495393-332	3300 1/4 W 5%		R128		2495393-103	10K 1/4 W 5%	
R33	1062-5341	2495393-392	3900 1/4 W 5%		R129		2495393-684	680K 1/4 W 5%	
R34	1061-6936	2495393-104	100K 1/4 W 5%		R130		2495393-684	680K 1/4 W 5%	
R35	1062-0276	2495393-333	33K 1/4 W 5%		R133		2495393-685	6.8 Meg 1/4 W 5%	
R36	1082-0512	2495393-363	36K 1/4 W 5%		R134		2495393-685	6.8 Meg 1/4 W 5%	
R37	1061-6993	2495393-047	4.7 1/4 W 5%		R135		2495393-623	62K 1/4 W 5%	
R38	1061-6985	2495393-472	4700 1/4 W 5%		R136		2495393-623	62K 1/4 W 5%	
R39	1044-1822	2495393-102	1000 1/4 W 5%		R137		2496130-273	27K 1/2 W 5%	
R41	1044-1848	2495393-221	220 1/4 W 5%		R138		2496130-273	27K 1/2 W 5%	
R42	1061-7009	2495393-681	680 1/4 W 5%		R139		2495393-182	1800 1/4 W 5%	
R43	1061-7017	2495393-152	1500 1/4 W 5%		R140		2495393-182	1800 1/4 W 5%	
R44	1062-5325	2495393-184	180K 1/4 W 5%		R145		2495393-163	16K 1/4 W 5%	
R45	1061-6944	2495393-682	6800 1/4 W 5%		R146		2495393-163	16K 1/4 W 5%	
R46	1062-0276	2495393-333	33K 1/4 W 5%		R147		2495393-101	100 1/4 W 5%	
R47	1044-1822	2495393-102	1000 1/4 W 5%		R148		2495393-101	100 1/4 W 5%	
					R149		2495393-104	100K 1/4 W 5%	

Tuner-Dolby Function Switch Board Parts Continued

Resistors (continued)

Ref No.	JCPenney Part No.	Supplier Part No.	Description
R150		2495393-104	100K 1/4 W 5%
R153		2495393-152	1500 1/4 W 5%
R154		2495393-152	1500 1/4 W 5%
R155		2495393-121	120 1/4 W 5%
R156		2495393-121	120 1/4 W 5%
R157		67044-153	15K Trim Pot
R158		67044-153	15K Trim Pot
R159		2495393-154	150K 1/4 W 5%
R160		2495393-154	150K 1/4 W 5%
R163		2495393-274	270K 1/4 W 5%
R164		2495393-274	270K 1/4 W 5%
R165		2495393-473	47K 1/4 W 5%
R166		2495393-473	47K 1/4 W 5%
R167		2495393-204	200K 1/4 W 5%
R168		2495393-204	200K 1/4 W 5%
R173		2495393-332	3300 1/4 W 5%
R174		2495393-332	3300 1/4 W 5%
R177		2495393-181	180 1/4 W 5%
R178		2495393-181	180 1/4 W 5%
R179		2495393-105	1 Meg 1/4 W 5%
R180		2495393-105	1 Meg 1/4 W 5%
R183		2495393-105	1 Meg 1/4 W 5%
R184		2495393-105	1 Meg 1/4 W 5%
R187		2495393-224	220K 1/4 W 5%
R188		2495393-224	220K 1/4 W 5%
R189		67044-471	470 Trim Pot
R190		67044-471	470 Trim Pot
R193		2495393-182	1800 1/4 W 5%
R194		2495393-182	1800 1/4 W 5%
R195		2495393-182	1800 1/4 W 5%
R196		2495393-182	1800 1/4 W 5%
R197		2496130-681	680 1/2 W 5%
R199		2496130-681	680 1/2 W 5%
R301	1062-5341	2495393-392	3900 1/4 W 5%
R304		2475488-039	3.9 1 W 5%
R305	1086-8107	2496130-240	24 1/2 W 5%

Capacitors

Ref No.	JCPenney Part No.	Supplier Part No.	Description
C1	1082-0520	2475721-42	40 uF 50V Disc
C2	1062-5234	2475722-40	0.001 uF 50V Disc
C3	1062-0524	2475721-24	4 pF 50V Disc
C4	1060-6846	2475721-34	2.2 pF 50V Disc
C5	1062-5242	2475722-68	500 pF 50V Disc
C6	1062-0532	2475722-52	0.015 uF 50V Disc
C7	1086-4668	2475721-43	8 pF 50V Disc
C8		2475721-24	4 pF 50V Disc
C9	1062-5234	2475722-40	0.001 uF 50V Disc
C10A-D	1025-2856	67076-1	4 Sec. Variable AM-FM
C11	1062-5234	2475722-40	0.001 uF 50V Disc
C12	1082-0561	97233-4	34 pF 50V Mica
C13	1062-5234	2475722-40	0.001 uF 50V Disc
C14	1060-6820	2475721-31	10 pF 50V Disc
C15	1062-5234	2475722-40	0.001 uF 50V Disc
C16	1060-6820	2475721-31	10 pF 50V Disc
C17	1062-5242	2475722-68	500 pF 50V Disc
C18	1062-0532	2475722-52	0.015 uF 50V Disc
C19	1062-0516	2475721-19	6 pF 50V Disc
C20	1062-0532	2475722-52	0.015 uF 50V Disc
C21	1062-6895	2475722-46	0.005 uF 50V Disc
C22	1060-6820	2475721-31	10 pF 50V Disc
C23	1060-6895	2475722-46	0.005 uF 50V Disc
C24	1060-6895	2475722-46	0.005 uF 50V Disc
C25	1062-0532	2475722-52	0.015 uF 50V Disc
C26	1062-0532	2475722-52	0.015 uF 50V Disc
C27	1062-0532	2475722-52	0.015 uF 50V Disc
C28	1062-0532	2475722-52	0.015 uF 50V Disc
C29	1082-0231	49385-21	4.7 uF 25V Elect.
C30	1062-0532	2475722-52	0.015 uF 50V Disc
C31	1071-1661	49385-28	1 uF 50V Elect.
C32	1082-0207	2475721-35	100 pF 50V Disc
C33	1042-9553	49385-24	0.47 uF 50V Elect.
C34	1062-0532	2475722-52	0.015 uF 50V Disc
C35	1062-0532	2475722-52	0.015 uF 50V Disc
C36	1062-5911	49385-53	10 uF 10V Elect.
C37	1043-2177	2009698-2	0.0022 uF 50V Mylar
C38	1043-2102	2009606-2	470 pF 50V Poly
C39	1082-0215	2009698-33	0.0068 uF 50V Mylar
C40	1062-0532	2475722-52	0.015 uF 50V Disc
C41	1062-5796	2009698-10	0.0022 uF 50V Mylar
C42	1081-9266	2009698-19	0.22 uF 50V Mylar
C43	1071-1927	67045-5	0.47 uF 50V Elect.
C44	1082-0215	2009698-33	0.0068 uF 50V Mylar
C45	1071-1927	67045-5	0.47 uF 50V Elect.

# Tuner-Dolby Function Switch Board Parts Continued

Capacitors (continued)				2315A-1				Capacitors			
Ref No.	JCPenney Part No.	Supplier Part No.	Description	Ref No.	JCPenney Part No.	Supplier Part No.	Description	Ref No.	JCPenney Part No.	Supplier Part No.	Description
C46	1062-0532	2475722-52	0.015 uF 50V Disc	C140		49385-20	1.0 uF 50V Elect.	C140		49385-20	1.0 uF 50V Elect.
C47	1062-0551	2475721-39	4.7 pF 50V Disc	C143		2475722-60	0.05 uF 50V Disc	C143		2475722-60	0.05 uF 50V Disc
C48	1060-6804	2475722-53	0.02 uF 50V Disc	C144		2475722-60	0.05 uF 50V Disc	C144		2475722-60	0.05 uF 50V Disc
C49	1060-6812	2475722-49	0.01 uF 50V Disc	C145		67045-4	0.33 uF 50V Elect.	C145		67045-4	0.33 uF 50V Elect.
C51	1062-0540	2475721-36	3 pF 50V Disc	C146		67045-4	0.33 uF 50V Elect.	C146		67045-4	0.33 uF 50V Elect.
C52	1043-2128	2009606-5	680 pF 125V Poly	C147		2009698-30	0.0047 uF 50V Mylar	C147		2009698-30	0.0047 uF 50V Mylar
C53	1060-6804	2475722-53	0.02 uF 50V Disc	C148		2009698-30	0.0047 uF 50V Mylar	C148		2009698-30	0.0047 uF 50V Mylar
C54	1060-6804	2475722-53	0.02 uF 50V Disc	C149		2009698-34	0.027 uF 50V Mylar	C149		2009698-34	0.027 uF 50V Mylar
C55	1060-6804	2475722-53	0.02 uF 50V Disc	C150		2009698-34	0.027 uF 50V Mylar	C150		2009698-34	0.027 uF 50V Mylar
C56	1060-6804	2475722-53	0.02 uF 50V Disc	C151		2009698-13	0.1 uF 50V Mylar	C151		2009698-13	0.1 uF 50V Mylar
C57	1060-6804	2475722-53	0.02 uF 50V Disc	C152		2009698-13	0.1 uF 50V Mylar	C152		2009698-13	0.1 uF 50V Mylar
C58	1060-6804	2475722-53	0.02 uF 50V Disc	C153		49385-6	10 uF 10V Elect.	C153		49385-6	10 uF 10V Elect.
C59	1062-5283	49385-34	2.2 uF 35V Elect.	C154		49385-6	10 uF 10V Elect.	C154		49385-6	10 uF 10V Elect.
C60	1060-6812	2475722-49	0.01 uF 50V Disc	C155		49385-20	1.0 uF 50V Elect.	C155		49385-20	1.0 uF 50V Elect.
C61	1060-6804	2475722-53	0.02 uF 50V Disc	C156		49385-32	1.0 uF 50V Elect.	C156		49385-32	1.0 uF 50V Elect.
C62	1062-0532	2475722-52	0.015 uF 50V Disc	C159		2009698-31	0.0056 uF 50V Mylar	C159		2009698-31	0.0056 uF 50V Mylar
C63	1060-6804	2475722-49	0.01 uF 50V Disc	C160		2009698-31	0.0056 uF 50V Mylar	C160		2009698-31	0.0056 uF 50V Mylar
C64	1043-2003	2009605-58	0.04 uF 50V Disc	C161		49385-6	10 uF 10V Elect.	C161		49385-6	10 uF 10V Elect.
C65	1070-2256	49385-41	100 uF 15V Elect.	C162		49385-6	10 uF 10V Elect.	C162		49385-6	10 uF 10V Elect.
C66	1062-0532	2475722-52	0.015 uF 50V Disc	C163		2009698-45	0.002 uF 50V Mylar	C163		2009698-45	0.002 uF 50V Mylar
C109		49385-6	10 uF 10V Elect.	C164		2009698-45	0.002 uF 50V Mylar	C164		2009698-45	0.002 uF 50V Mylar
C110		49385-6	10 uF 10V Elect.	C165		2009698-56	0.047 uF 50V Mylar	C165		2009698-56	0.047 uF 50V Mylar
C113		2009698-35	0.012 uF 50V Mylar	C166		2009698-56	0.047 uF 50V Mylar	C166		2009698-56	0.047 uF 50V Mylar
C114		2009698-35	0.012 uF 50V Mylar	C169		49385-6	10 uF 10V Elect.	C169		49385-6	10 uF 10V Elect.
C115		2475722-60	0.05 uF 50V Disc	C170		49385-6	10 uF 10V Elect.	C170		49385-6	10 uF 10V Elect.
C116		49385-8	220 uF 10V Elect.	C173		49385-6	10 uF 10V Elect.	C173		49385-6	10 uF 10V Elect.
C117		49385-32	1.0 uF 50V Elect.	C174		49385-36	10 uF 10V Elect.	C174		49385-36	10 uF 10V Elect.
C118		49385-32	1.0 uF 50V Elect.	C304		68698-4	0.01 uF Disc	C304		68698-4	0.01 uF Disc
C119		2475722-27	50 pF 50V Disc								
C120		2475722-27	50 pF 50V Disc								
C123		49385-6	10 uF 10V Elect.								
C124		49385-6	10 uF 10V Elect.								
C125		2475722-45	0.005 uF 50V Disc								
C126		2475722-45	0.005 uF 50V Disc								
C127		2475722-41	0.002 uF 50V Disc								
C128		2475722-41	0.002 uF 50V Disc								
C129		49385-6	10 uF 10V Elect.								
C130		49385-6	10 uF 10V Elect.								
C133		49385-54	10 uF 25V Elect.								
C134		49385-54	10 uF 25V Elect.								
C135		49385-54	10 uF 25V Elect.								
C136		49385-54	10 uF 25V Elect.								
C137		49385-3	33 uF 10V Elect.								
C138		49385-3	33 uF 10V Elect.								
C139		49385-20	1.0 uF 50V Elect.								

# JCPenney 683-1970,683-1970-00,853-1790

## Tuner-Dolby Function Switch Board Parts Continued

### Transistors

Ref No.	JCPenney Part No.	Supplier Part No.	Description
Q1	1007-3054	95170-1	FM Oscillator (2SC535)
Q2	1043-1195	95132	Field Effect
Q3	1007-3062	95170-2	FM Osc (2SC535)
Q4	1043-1260	95171-4	AM Converter (SC535)
Q5	1007-3062	95170-2	FM-AM I-F (2SC535)
Q6	1007-3062	95170-2	FM (2SC535) Mixer
Q7	1007-3153	95221	Mute DC Amp (2SC1335)
Q8	1043-1328	95263-1	Regulator NPN (2SC1368)
IC-1	1082-2393	95286	PLL MPX (LM1800N)
IC-2	1082-0223	95287	FM I-F (HA1187W)
CF-1 CF-2		2249A-1	Ceramic Filter, IF Assy.

### Diodes - IC

D1	1006-5977	2002207-2	Sil. Var. Cap.
D2	1006-9292	2495083	Diode IN60
D3	1006-9292	2495083	Diode IN60
D4	1043-1583	2003069-5	Ref. AGC
D5	1043-0049	67055	Silicon Diode
D6	1006-9292	2495083	Diode IN60
D7	1043-1534	2002209-10	Zener 12V 5%
IC101		95285-3	Audio Amp (LM387AN)
IC103		95284-3	Dolby (LM1011A)
IC104		95284-3	Dolby (LM1011A)
IC105		95285-3	Audio Amp (LM387AN)

### Coils & Transformers

Ref No.	JCPenney Part No.	Supplier Part No.	Description
L1	1082-2195	96543-25	FM Antenna Match
L2	1062-5408	2005361-5	FM Oscillator
L3	1082-0363	2005360-8	FM RF Coil
L4	1043-1393	96543-15	FM Trap
L5	1082-0298	49515-6	RF Choke 2.2 MH
L6	1082-0447	49515-7	RF Choke 18.0 MH
T1	1082-0421	67064-6	Antenna Rod
T2	1044-2028	2497468-1	AM Osc.
T3	1043-2276	2009724-16	AM 1st I-F
T4	1006-7668	2009724-20	AM 2nd I-F
T5	1006-7676	2009724-30	AM 3rd I-F
T6	1082-0462	2009725-34	FM Mixer
T7	1082-0413	67046-1	D.T. Quad
L101		96477-13	Coil, MPX
L102		96477-13	Coil, MPX
FL-1		67096-2	Dolby Filter
FL-2		67096-2	Dolby Filter
T301	1043-1401	96543-23	FM Antenna Balun
T302	1086-4676	2009996-33	Power Transformer

### Miscellaneous

SW101 thru SW112		67075-28	6 Station, Fun. Sw.
		2315A-1	Tuner, MPX, SW Board Complete ①

① Field repair. Do not exchange.

## Miscellaneous Chassis Parts

Ref No.	JCPenney Part No.	Supplier Part No.	Description
-		2013263-10	Knobs, T/Deck (5)
-		2016052-1	Knobs, Push Button (6)
-		2016052-2	Knob, Record
-		2016034	Spring, Push Button Knobs (8)
-		2016052-3	Knob, Power
-		2016108-1	Pointer
-		2015137-3	Pointer, Glide
-		47455-44	Line Cord
-		2016037	Flywheel Assy.
-		2016904	Fuse Cover
-		67039-152	1.5A Fuse
-		2003050-2	Bushing, Line Cord
-		2006384-8	Connector, Housing Changer
-		2006538-6	Contacts (4), Housing
-		67090	Plug, Photo
-		19132-1	Dial Cord
-		95784-1	Spring, Dial Cord
-		2016049-1	Pulley, Tuning Cond.
-		2012782	Mtg. Clip Q201
-		2016063-1	Heat Sink Left Channel
-		2016063-2	Heat Sink Right Channel
-		2289A-1	Stereo LED Board Assy. ①
-		2290A-1	Dial Lamp LED Board Assy. ①
CI-5		95145-1	LED, Dolby, NR
CI-6		95145-1	LED, Dolby FM
DL-1 thru DL-4		2009727-7	Lamps, 6V @ .1A
DL-5 thru DL-8		2011512-2	Lamps, 8V @ .2A
J1		2007651-3	Headphone Jack
J2, J3		49380-12	Mic Jacks
J4		49380-13	Remote Jack
M1		67079-12	Meter, Tuning FM
M2		67079-13	Meter, Signal
M3		67079-14	Level, Meter Left
M4		67079-10	Level, Meter Right
SI-1		95145-1	LED, Stereo
SW301		67032-6	Switch, Power
SW302		25525-23	Switch, Bias
SW303		2009857-16	Switch, Filter
SW304		2009857-21	Switch, Toggle Speaker
SW305		2009857-16	Switch, Loudness
SW307		2009857-16	Switch, FM/AF
SW308		2009857-16	Switch, FM Mute
SW309		2009857-16	Switch, Mic
SW313		2009857-20	Switch, Dolby, Toggle

① Field repair. Do not exchange.

## Audio Board Parts

Capacitors

Ref No.	JCPenney Part No.	Supplier Part No.	Description
C203		2009698-13	0.1 uF 50V
C204		2009698-13	0.1 uF 50V
C205		49385-23	300 uF 10V
C206		49385-23	300 uF 10V
C207		2475722-67	120 pF 50V
C208		2475722-67	120 pF 50V
C209		2475721-22	27 pF 50V
C210		2475721-22	27 pF 50V
C213		49385-24	0.47 uF 50V
C214		49385-24	0.47 uF 50V
C216		49385-61	100 uF 25V
C217		2475722-59	0.05 uF 50V
C218		2475722-59	0.05 uF 50V
C219		2475722-51	0.01 uF 500V
C220		2475722-51	0.01 uF 500V
C223		67036-1	3300 uF 35V
C224		67036-1	3300 uF 35V
C225		2475722-51	0.01 uF 500V
C226		2475722-51	0.01 uF 500V
C227		49385-51	100 uF 25V
C228		67036-2	2200 uF 25V
C229		49385-54	10 uF 16V

Transistors &amp; Diodes

Ref No.	JCPenney Part No.	Supplier Part No.	Description
IC301		95283	Audio IC (HA1350)
IC302		95283	Audio IC (HA1350)
Q201		95262-1	Non Silicon (2SC1162)
Q202		95239-1	PNP (HS6112)
Q203		95175-2	PNP (2SC1766)
D201 thru D208		47126-3	Rectifier
D209		2002209-13	Zener 20V
D210		47126-3	Rectifier
D211, D212		67055	Diode, Reference
D213		2002209-15	Diode, Zener 14V

Coils

Ref No.	JCPenney Part No.	Supplier Part No.	Description
L201		49515-1	RF Choke
L202		49515-1	RF Choke

Miscellaneous Parts

Ref No.	JCPenney Part No.	Supplier Part No.	Description
		2322A-1	Audio Board Complete ①

① Field repair. Do not exchange.