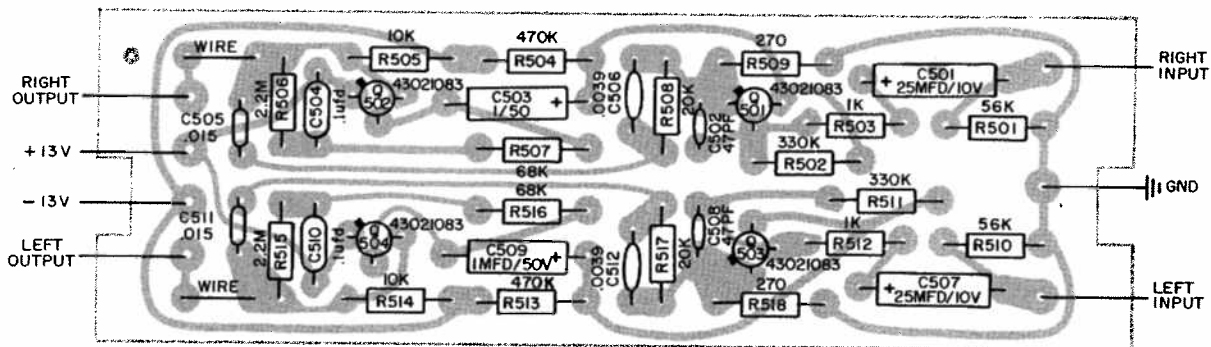


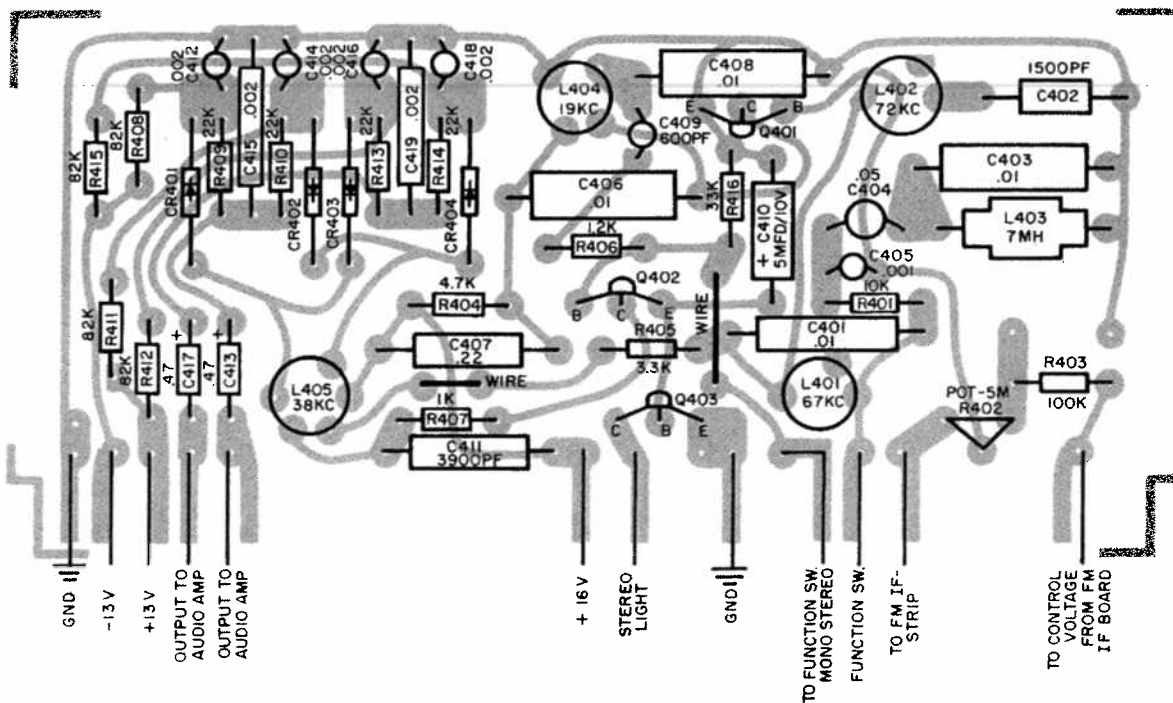
SERVICE MANUAL

MODEL SC7

PRE AMP BOARD



MULTIPLEX BOARD



ALIGNMENT PROCEDURES

Do not attempt alignment unless the following equipment is available.

EQUIPMENT DESCRIPTION

1. FM Signal Generator
2. Oscilloscope
3. AC VTVM
4. Audio Generator
5. Multiplex Stereo Generator
6. AM Signal Generator

RF AND IF ALIGNMENT

Function Selector In FM STEREO

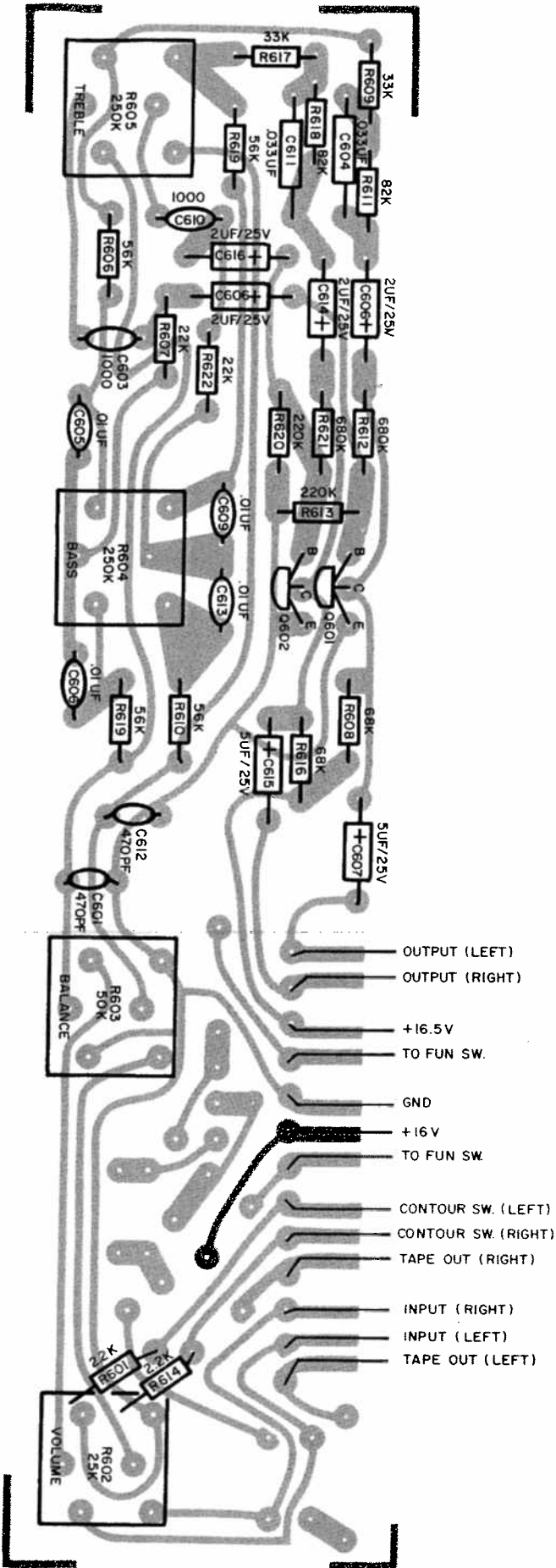
STEP	CONNECT SIGNAL GENERATOR	GENERATOR FREQUENCY	DIAL SETTING	OUTPUT INDICATOR	ADJUST	ADJUST FOR	NOTES
1	Connect Generator Through a Dummy Antenna 120Ω Resistor On The Hot Side & a 150Ω Res. On The Ground Side) To The Antenna Terminals.	90 MC 400 CPS MOD 75 KC Deviation	90 MC	¹ Scope at Tape Output Jack ² D.C.V.T.V.M. @ Collector of Q401 to Ground.	T101—Antenna Coil L101—2nd RF Coil T102—1st IF Primary & Sec. L301—2nd IF L302—3rd IF Primary & Sec.	Maximum DC Output at Collector of Q401	Adjust Input Level of Generator for approx. 4VDC at the collector of Q401. Adjust Generator Freq. for a max. DC at this point. Readjust Gen. Output for 4 Volts.
2	Same as Above	106 MC 400 CPS MOD 75 KC Deviation	106 MC	Same as Above	C102—Antenna Trimmer C110—RF Trimmer		Maintain low enough Input at the Gen. so that approx. 4V is at collector of Q401.
3	Same as Above	106 MC 400 CPS MOD 75 KC Deviation	106 MC	Same as Above	C116—OSC. Trimmer	Generator Freq. and Dial Setting to be the same. Adjust C116 @ 106 MC and L102 @ 90 MC for correct Dial Calibration	At this point, the Gen. Freq. & the Dial Setting should be the same. If a difference is noted adjust C116 @ 106 MC and L102 @ 90 MC until Dial Calibration & Gen. Freq. agree.
		90 MC 400 CPS MOD 75 KC Deviation	90 MC		Adjust ONLY If Calibration Error is Noted L102—OSC. Coil		
4	Same as Above	No Signal Input	Tune to Noise at Either Extreme of the Band.	Tuning Meter on Front Panel	L303—Ratio Detector	With Secondary (Top Slug) removed, adjust Primary Slug for Maximum Tuning Meter Deflection	After Primary (Bottom Slug) is adjusted for max. Meter Deflection, replace Primary Slug and adjust for Zero Center on Tuning Meter.

MULTIPLEX ALIGNMENT PROCEDURE

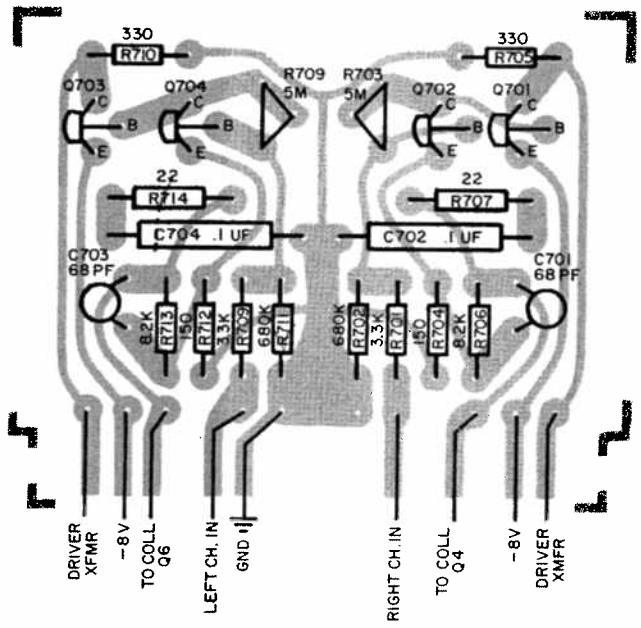
Function Selector In FM STEREO

STEP	CONNECT SIGNAL GENERATOR	GENERATOR FREQUENCY	DIAL SETTING	OUTPUT INDICATOR	ADJUST	ADJUST FOR	NOTES
1	Junction of R403, C401, and L401	Audio Generator 67 KC	—	AC VTVM at junction of C405, R406, C406 and L404	67 KC Coil L401	Minimum	FM Stereomatic Mode
2		Audio Generator 72 KC			72 KC Coil L403	Minimum	Same as Above
3	Antenna Terminals through dummy Resistor	100 MC Modulated 100% by Stereo MPX Generator	100 MC	VTVM at collector of Q401	Stereomatic Bias Adjust R402	10V DC	FM Stereomatic Mode
4	Same as Above	Same as Above	Same as Above	Scope at 38 KC Transformer Secondary Junction of L405 and CR401	Top and bottom of 19 KC Coil, L404 and L405	Maximum Amplitude on Scope	Stereo Indicator should be lit after this adjustment.
5	Same as Above	Same as Above	Same as Above	Scope at Tape Output Jack, Minimum Channel	38 KC Transformer L405	Minimum in Unmodulated Channel	Maximum separation should now be achieved between channels.

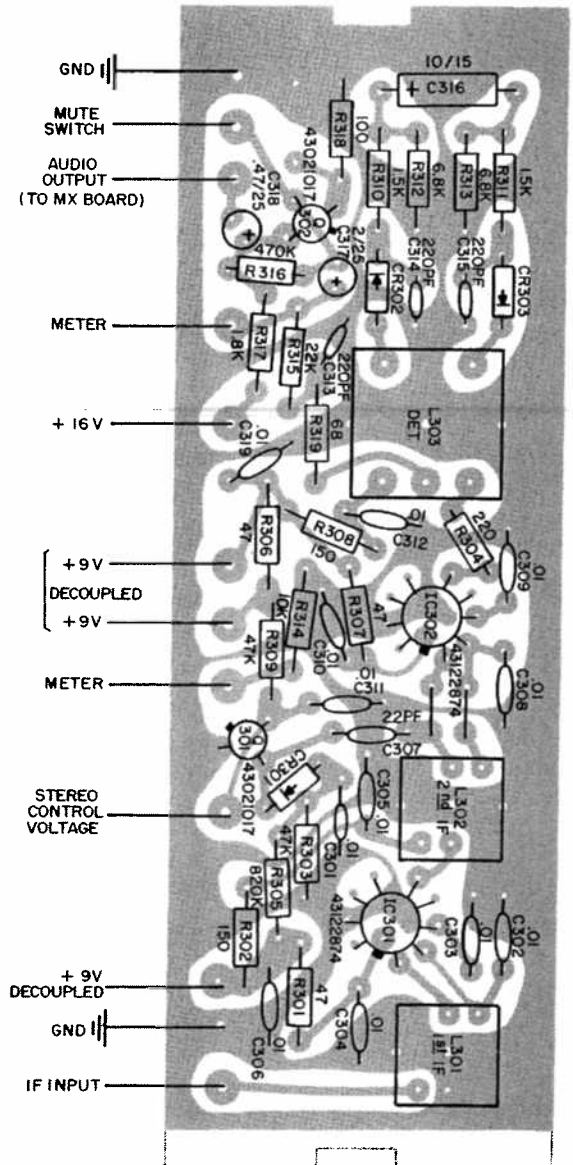
STONE CONTROL BOARD



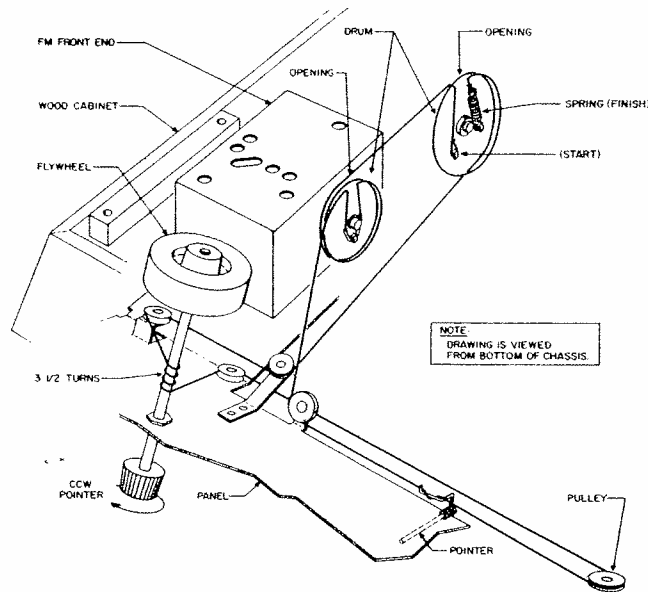
DRIVER BOARD



FM IF BOARD



STRINGING DIAGRAM

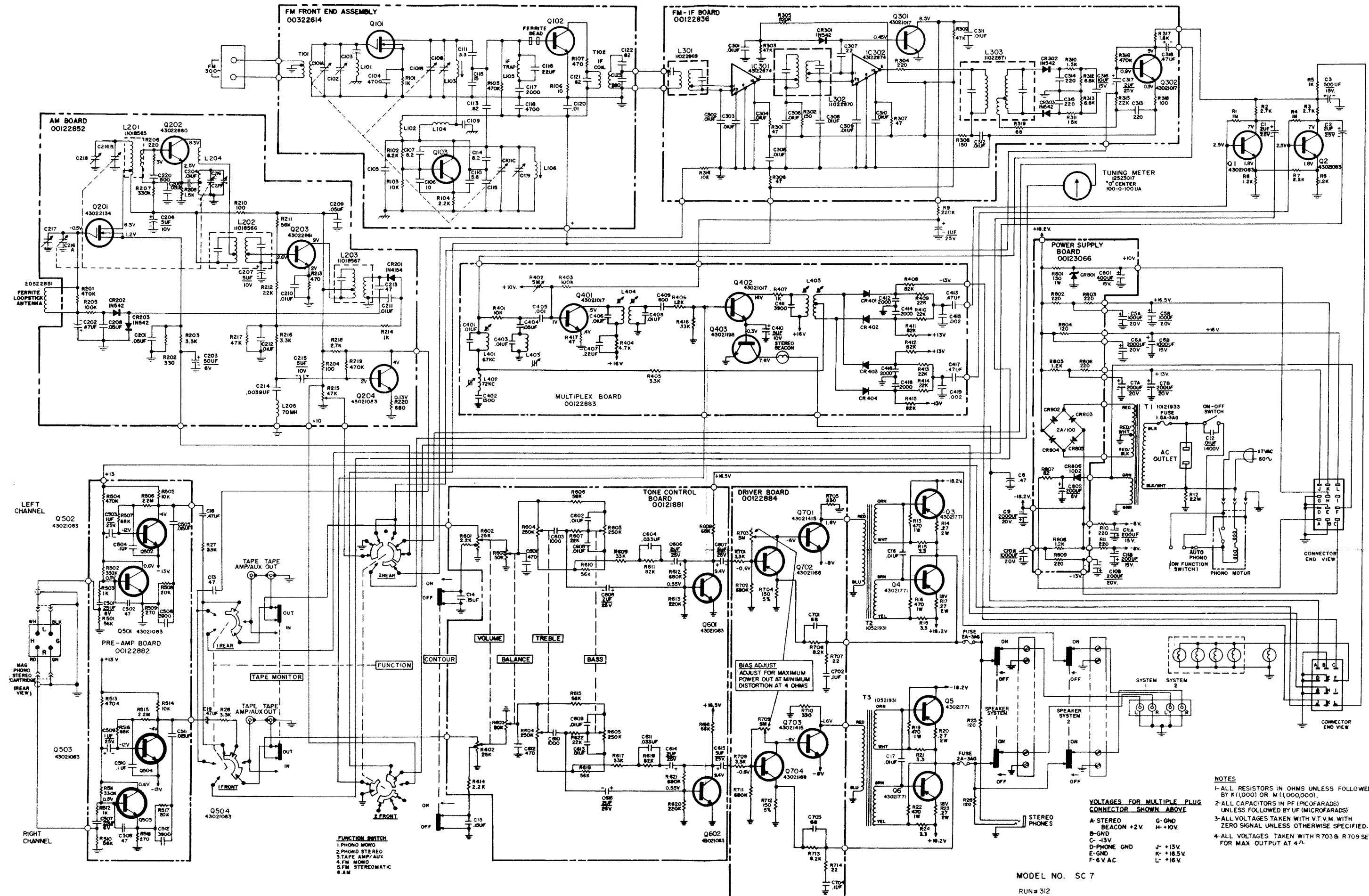


REPLACEMENT PARTS LIST

Part #	Description	List Price	Part #	Description	List Price
TRANSFORMERS & COILS			CONTROLS		
10521931	Transformer, Driver	\$4.95	31521331	Lytic, 200MFD 6V	.40
10121933	Transformer, Power	12.65	31521223	Lytic, 400MFD 15V	.65
11018565	Transformer, AM RF	1.45	23522862	Control, AM Board, 47K	.45
11018566	Transformer, 1st AM, RF	1.80	23522872	Control, MX Board, 1 Meg.	.75
11018567	Transformer, 2nd AM IF	1.25	22021928	Control, Loudness	4.60
11022869	Transformer, FM Input	1.65	22021929	Control, Balance	2.00
11022870	Transformer FM Interstage	1.75	22021930	Control, Bass/Treble	2.00
11022871	Transformer Ratio Detector	1.90	23521828	Control, Driver Board, 5 Meg.	1.50
12022767	Coil, AM OSC	.90	TRANSISTORS		
12021329	Coil, 7 mh	.60	43021771	Transistor, Output	3.00
12021765	Coil, MX 67KC (PC Lugs)	1.10	43022134	Transistor, AM Board, (FET)	4.80
12021766	Coil, MX 71KC (PC Lugs)	1.15	43022860	Transistor, AM Board	.85
12021767	Coil, MX 19KC (PC Lugs)	1.55	43022861	Transistor, AM Board	.80
12021768	Coil, MX 38KC (PC Lugs)	1.50	43021083	Transistor, AM Board, GE 3391A	1.00
DIODES			43021017	Transistor, FM IF, GE 3391	.95
41522875	Diode IN542	.75	43021198	Transistor, MX Board, RCA 40232	1.80
41622859	Diode Silicon	.75	43021168	Transistor, Driver Board, Fairchild	1.35
41020618	Diode Solitron Rec. 2A/100 PIV	.80	43021415	Transistor, Driver Board	2.00
41021007	Diode IRC 10D2	.80	MISCELLANEOUS		
42020737	Diode Zener 1W 10V 10%	1.25	24022640	Function Switch	7.45
CAPACITORS			46522250	Stereo Indicator Bulb	.65
31521884	Lytic, Com. Pos. 200MFD 15V / 200MFD 15V	1.90	46512117	Lamp #1847	.20
31522639	Lytic, Com. Pos. 1000MFD 20V	1.55	46522834	Lamp 6.3V	.75
31521760	Lytic, Com. Neg. 200MFD 20V / 200MFD 20V	1.55	00322614	FM Front End, G.I. (FET)	30.00
31521761	Lytic, Com. Neg. 200MFD 20V / 1000MFD 15V	2.10	12523017	Tuning Meter	4.95
31521762	Lytic, Com. Neg. 100MFD 20V / 100MFD 20V	1.40	63622615	Wooden Enclosure	30.00
31521874	Lytic 2000MFD 20V	2.05	63022569	Escutcheon	9.50
31521340	Lytic, 500MFD 15V	.70	61622616	Plexiglass Insert	2.80
			30822780	AM Gang	5.75
			43122874	Integrated Circuit	6.00
			65420331	Headset Jack	.75
			20522851	Loopstick	2.10

NOTE: To speed handling of your order be sure to include both the model and serial numbers which appear at the back of the chassis, in addition to the quantity, part number and part description of the items ordered. Orders from independent dealers, independent servicemen, and retail customers will be shipped on a C.O.D. basis. Harman-Kardon reserves the right to substitute equivalent parts for those originally installed in this chassis. All parts should be ordered from Harman-Kardon, Plainview, L.I., N.Y., Att: Parts Department. All prices are subject to change without notice.





- NOTES**
- 1-ALL RESISTORS IN OHMS UNLESS FOLLOWED BY K(1,000) OR M(1,000,000).
 - 2-ALL CAPACITORS IN PF (PICOFARADS) UNLESS FOLLOWED BY UF (MICROFARADS).
 - 3-ALL VOLTAGES TAKEN WITH V.T.V.M. WITH ZERO SIGNAL UNLESS OTHERWISE SPECIFIED.
 - 4-ALL VOLTAGES TAKEN WITH R703B R709 SET FOR MAX OUTPUT AT 4 μ .
- VOLTAGES FOR MULTIPLE PLUG CONNECTOR SHOWN ABOVE**
- | | |
|-------------|----------|
| A-STEREO | G-GND |
| B-GND | H-+10V |
| C-+15V | |
| D-PHONE GND | J-+13V |
| E-GND | K-+16.5V |
| F-6 V AC | L-+16V |

MODEL NO. SC 7

RUN # 312

90722703A