

harman kardon

# *Nocturne*

**MODEL SEVEN TWENTY**

**TECHNICAL MANUAL**

### ALIGNMENT PROCEDURES

Do not attempt alignment unless the following equipment is available.

### EQUIPMENT DESCRIPTION

1. FM Signal Generator
2. Oscilloscope
3. AC VTVM

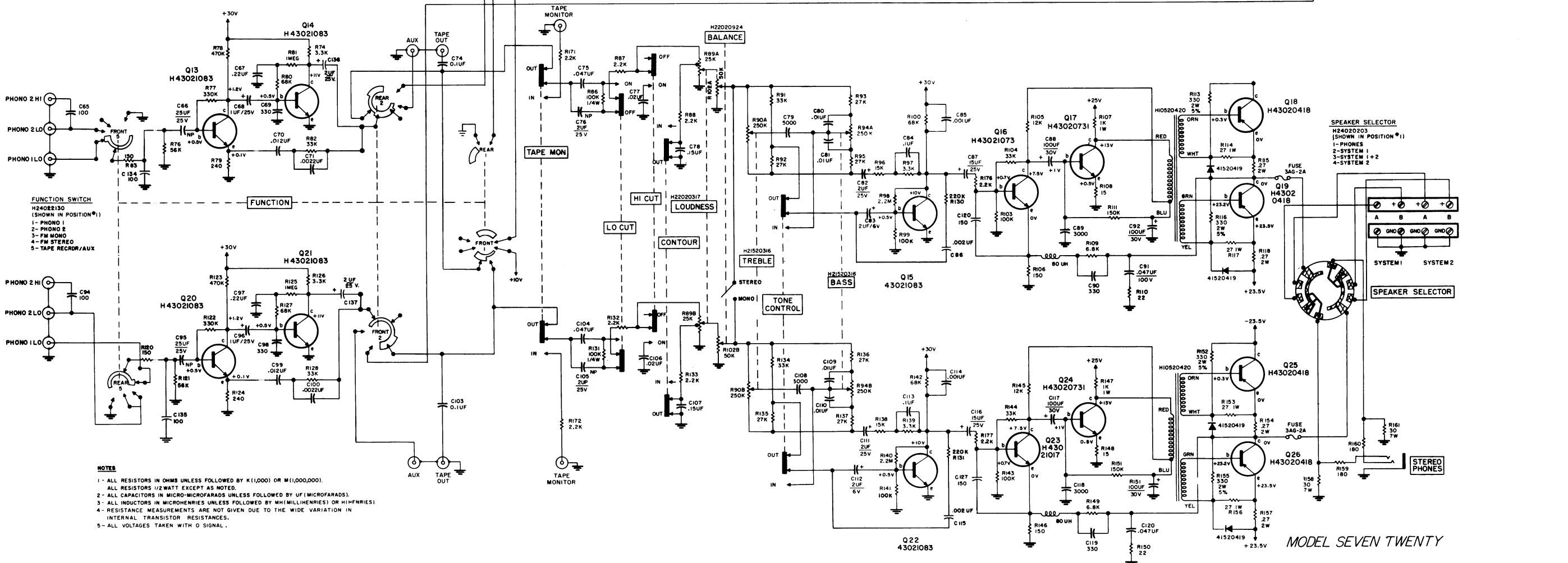
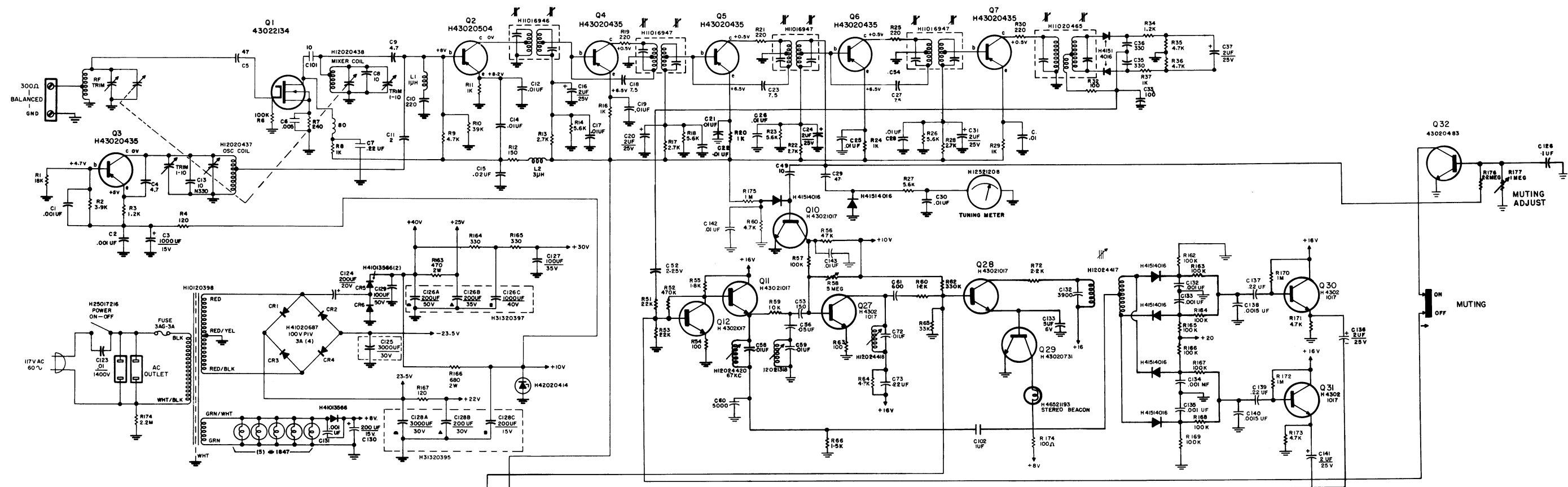
4. Audio Generator
5. Multiplex Stereo Generator

<b>RF AND IF ALIGNMENT</b>							
Control Settings: Function Selector FM STEREO MATIC							
STEP	CONNECT SIGNAL GENERATOR	GENERATOR FREQUENCY	DIAL SETTING	OUTPUT INDICATOR	ADJUST	ADJUST FOR	NOTES
1	To Antenna Terminals Through A 270 Ohm Resistor On Hot Side	10.7 MC 60 CPS MOD	Tuning Gang Wide Open (108 MC)	Scope At Output Tape Jack	1st, 2nd, 3rd, 4th IF Transformer. Primary of Ratio Detector Transformer	Maximum Gain & Symmetrical IF Response	Convert Ratio Detector to AM Detector by Rotating Top Fully CCW. Use Weakest Input Signal.
2	Same	90 MC 60 CPS MOD	90 MC	Same	Osc. Coil, Mixer Coil, RF Coil	Maximum	Osc., Mixer & RF Coils Adjusted by Squeezing or Spreading until Dial Calibration is Correct and Output is Maximum.
3	Same	106 MC 60 CPS MOD	106 MC	Same	Osc. Trimmer Mixer Trimmer RF Trimmer	Maximum	
4 Repeat Steps 2 and 3							
5	Same	100 MC 60 CPS MOD	100 MC	Same	Ratio Detector Secondary (Top of Can)	Symmetrical "S" Curve,	
					Ratio Detector Primary	Max. Gain	

### MULTIPLEX ALIGNMENT PROCEDURE

**DO NOT ATTEMPT ALIGNMENT UNLESS THE FOLLOWING EQUIPMENT IS AVAILABLE**

STEP	CONNECT SIGNAL GENERATOR	GENERATOR FREQUENCY	DIAL SETTING	OUTPUT INDICATOR	ADJUST	ADJUST FOR	NOTES
1	Antenna Terminals Through Dummy Resistor	100 MC Modulated by 67 KC 100%	100 MC	AC-VTVM at Tape Out Jack	67 KC SCA Trap	Minimum Output	FM Stereomatic
2	Same	100 MC Modulated 100% by Stereo Generator	100 MC	VTVM at Collector of 19 KC Amp	Stereomatic Bias Adjust	10 Volts D.C.	1K uv Input From Generator
3	Same	Same	Same	Scope at Collector of 38 KC Amp	Adjust 19 KC Coils and 38 KC Coil	Maximum Output	Stereo Beacon Should Be Lit After This Adjustment
4	Same	Same	Same	AC-VTVM and Scope at Tape Out Jacks	Slightly Re-Adjust 19 KC Coil	Maximum Separation Between Ch A & Ch B	

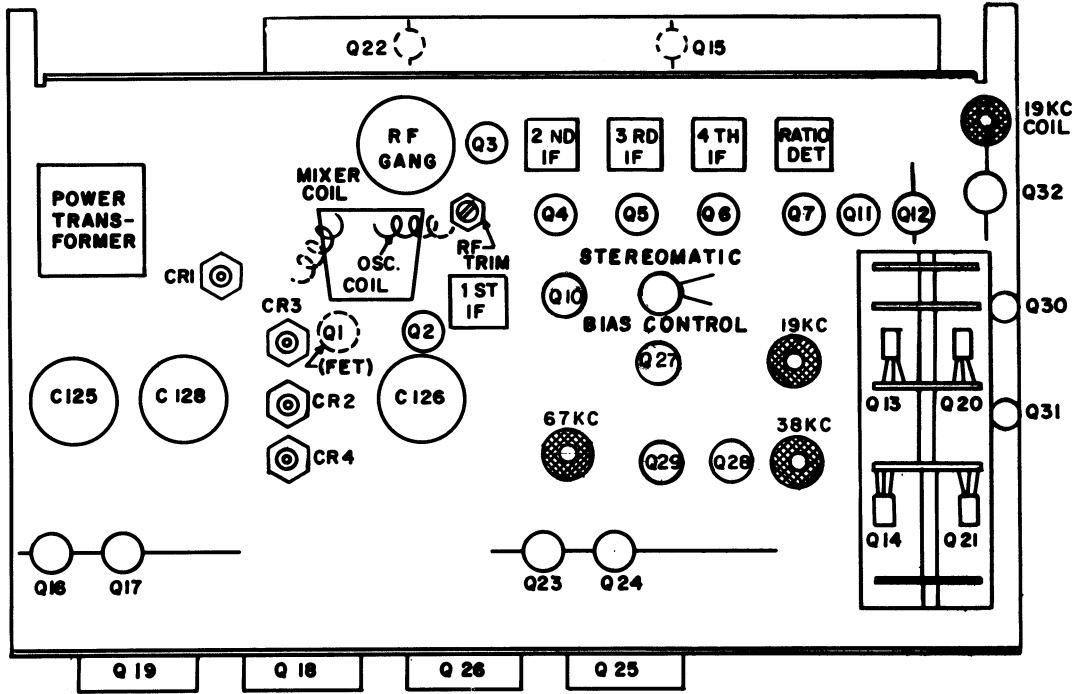


- NOTES**
- 1 - ALL RESISTORS IN OHMS UNLESS FOLLOWED BY K(1,000) OR M(1,000,000). ALL RESISTORS 1/2 WATT EXCEPT AS NOTED.
  - 2 - ALL CAPACITORS IN MICRO-MICROFARADS UNLESS FOLLOWED BY UF (MICROFARADS).
  - 3 - ALL INDUCTORS IN MICROHENRIES UNLESS FOLLOWED BY MH (MILLIHENRIES) OR MHFN (MHFNRIES).
  - 4 - RESISTANCE MEASUREMENTS ARE NOT GIVEN DUE TO THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCES.
  - 5 - ALL VOLTAGES TAKEN WITH 0 SIGNAL.

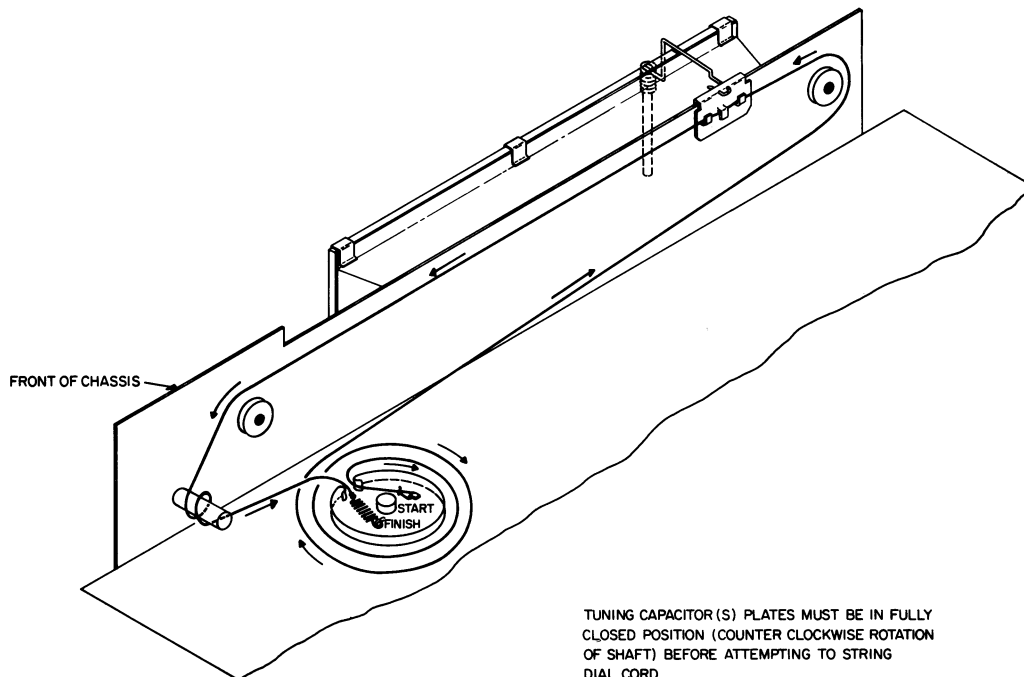
MODEL SEVEN TWENTY

# CHASSIS LAYOUT

FRONT OF CHASSIS



# STRINGING DIAGRAM



## REPLACEMENT PARTS LIST — SEVEN TWENTY

Part #	Description	List Price	Part #	Description	List Price
66016206	Transistor Socket	.15	31519981	Electrolytic 25 MFD/30v	
66020430	Transistor Socket	.35		Non-Polarized	.95
46512117	Pilot Light #1847	.20	31520461	Electrolytic 2 MFD/25v	
65420331	Head Set Jack	.75		Non-Polarized	.75
63022233	Escutcheon	14.75	30820523	Condenser, Variable	6.50
61622266	Plexiglass Insert (Top)	3.75	41020618	Diode 2 Amp — 100v	1.50
61622240	Plexiglass Insert (Bottom)	4.70	41013566	Diode .75 Amp. — 100v	1.75
61622468	Pointer	.15	41513361	Diode 1N87	.80
63422230	Jewel	.15	42020737	Diode Zener 1W 10V 10%	1.40
60122232	Top Cover	6.30	43020418	Transistor	6.25
63222149	Knob Small	.65	43021017	Transistor GE#3391	1.35
63222148	Knob Medium	.75	43020731	Transistor	2.45
63220285	Knob Large	.80	43020504	Transistor AmpereX 2N2495	4.40
25522547	Rocker Switch	.85	43022134	Transistor (FET)RCA	8.75
24020203	Speaker Selector Switch	2.45	43020435	Transistor GE#157	2.25
21520316	Bass Control	.95	43020735	Transistor GE#156	2.05
21520316	Treble Control	.95	11016947	FM IF Transformer	1.70
22020922	Balance Control	3.65	11016946	FM IF Transformer	1.65
24022130	Function Switch		11020465	FM Ratio Detector Transformer	2.70
	(no components)	9.75	30910688	Trimmer 1-10 UUF	.40
23520388	Muting Control	.75	43021198	Transistor RCA 40232	1.80
22020317	Loudness Control	3.70	12024418	19KC Transformer	3.30
25017216	Power Switch	.65	12024417	38KC Transformer	3.80
10120398	Power Transformer	16.05	12024420	67KC Coil	2.35
10520603	Driver Transformer	5.05	12021318	19KC Filter Coil	.95
23522116	Control Miniature 250K, 10%	1.10	23521826	50K Variable Control	.80
31120396	Electrolytic 3000 Mfd. 30v	3.25	41021007	Diode 10D2	.80
31320395	Electrolytic, 3000/30v,		12521208	Meter	7.15
	200/30v, 200/15v	3.45	90722237	Owners Manual	2.50
31320397	Electrolytic, 1000/40v,		90722522	Technical Manual	1.50
	200/35v, 200/50v	3.00			

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 except for orders \$1.00 or less, for which remittance should be enclosed. Harman-Kardon reserves the right to substitute equivalent parts for those originally installed in this chassis.



INCORPORATED

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