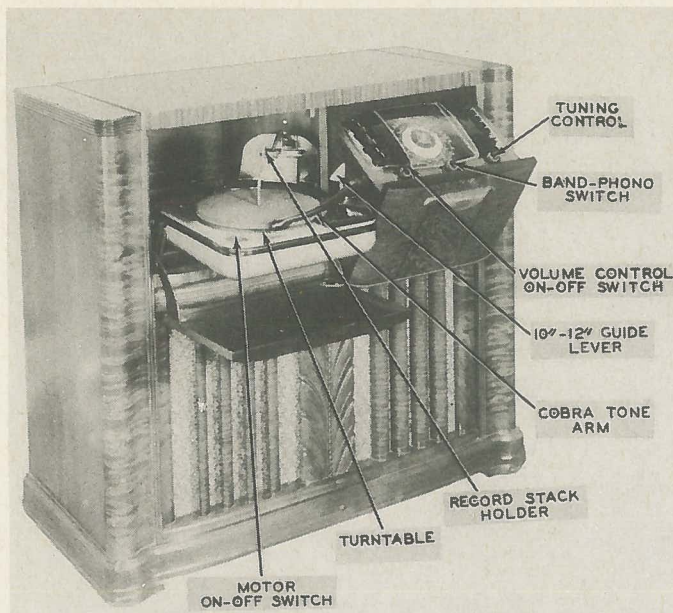
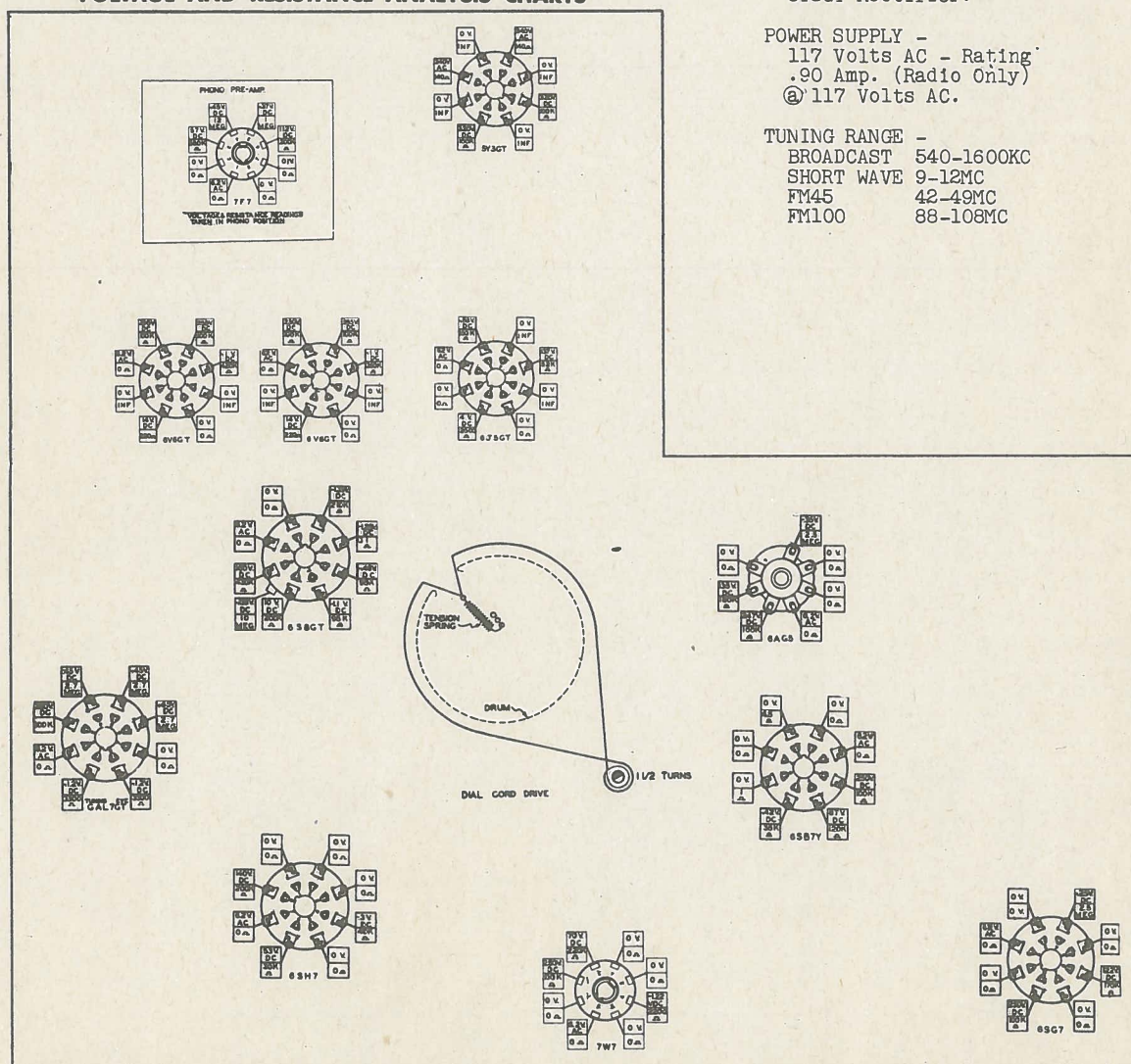


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TRADE MARK



VOLTAGE AND RESISTANCE ANALYSIS CHARTS



1. DC voltage measurements are at 20,000 ohms per volt; AC voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of $\pm 10\%$ in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

ZENITH

MODELS 12 H 090, 12 H 091, 12 H 092, 12 H 093, 12 H 094 (CHASSIS 11 C 21)

ZENITH MODEL 12H090

TRADE NAME -
Zenith, Models 12H090,
12H091, 12H092, 12H093,
12H094, (Chassis 11C21)

MANUFACTURER -
Zenith Radio Corp.,
6001 Dickens Ave.,
Chicago, Ill.

TYPE SET -
AC Operated Superhet-
erodyne Radio, Auto-
matic Phonograph
Combination for Stand-
ard Broadcast and FM
Bands.

TUBES -
Types, 6AG5 RF Amp.,
6SB7Y Converter, 6SG7
1st IF Amp., 7W7 2nd
IF Amp., 6SH7 Limiter,
6SC7 Discriminator-
Det.-AVC-LAF, 7F7
Phono. Osc.-Amp.,
6J5GT Inverter, Two
6V6GT Power Output,
5Y3GT Rectifier.

POWER SUPPLY -
117 Volts AC - Rating
.90 Amp. (Radio Only)
@ 117 Volts AC.

TUNING RANGE -
BROADCAST 540-1600KC
SHORT WAVE 9-12MC
FM45 42-49MC
FM100 88-108MC

ZENITH
MODELS 12 H 090, 12 H 091, 12 H 092,
12 H 093, 12 H 094 (CHASSIS 11 C 21)
Page 1

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	INSTALLATION NOTES
		ZENITH PART No.	STANDARD REPLACEMENT		
1	RF Amp. Converter	6A4G5	6A4G5	7BD	
2	1st IF Amp.	6SH7Y	6SH7Y	8R	
3	2nd IF Amp.	6SG7	6SG7	8BK	
4	1st AF Amp.	6SH7	7W7	8B1	
5	1st AF Amp.	6SH7	6SH7	8BK	
6	Det.-AVC-AF	6SG7	6SG7		
7	Tuning Eye	6AL7GT	6AL7GT		
8	Phono.-Osc.-Amp.	7W7	7W7	8AC	
9	Inverter	6J5GT	6J5GT	9Q	
10	Power Output	6V6GT	6V6GT	7AC	
11	Rectifier	5Y3GT	5Y3GT	5T	
12					

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REPLACEMENT DATA		SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
		ZENITH PART No.	MALLORY PART No.				
13(A)	30	22-1496	FF238	EL-240		UP9BJ39	Filter
14	30	22-1496	FF135	EL-33	AF6J	UP4AJ29	7F7 Plate Decoup.
15	300	22-1220	TP405	TC-22	694-.002	TP6D2	Audio Coupling
16	.002	22-1220	TP423	TC-12	484-.02	TP4S2	Osc. Grid Cond.
17	.02	22-327	TP412	TC-12	684-.02	TP6S2	Audio Coupling
18	.005	22-1257	TP459	TR-25	1084-.005	ML1696	6V6 Plate Bypass
19	.02	22-630	TP412	TC-12	684-.02	TP6S2	Audio Coupling
20	.05	22-629	TP426	TC-15	484-.05	TP4S2	Audio Cath. Bypass
21	.05	22-171	TP415	TC-15	684-.05	TP6S5	Audio Plate Feedback
22	.004	22-1448	TP407	TC-24	684-.004	TP6D4	Tone Compensation
23	.004	22-1362	TP410	TC-12	684-.02	TP6S2	Audio Coupling
24	.02	22-630	TP412	TC-12	684-.02	TP6S2	6SH7 Plate Bypass
25	.01	22-196	TP410	TC-11	384-.01	TP6S1	2nd IF Plate Bypass
26	.01	22-196	TP410	TC-11	684-.01	TP6S1	2nd IF Screen Bypass
27	.01	22-196	TP410	TC-11	684-.01	TP6S1	1st IF Plate Bypass
28	.05	22-629	TP426	TC-15	484-.05	TP4S5	AVC Bypass
29	.01	22-196	TP410	TC-11	684-.01	TP6S1	1st IF Screen Bypass
30	.05	22-629	TP426	TC-15	484-.05	TP4S5	AVC Bypass
31	.01	22-196	TP410	TC-11	684-.01	TP6S1	6SH7 Plate Bypass
32	.01	22-196	TP410	TC-11	684-.01	TP6S1	RF Bypass Pwr. Supp.
33	.01	22-196	TP410	TC-11	684-.01	TP6S1	Audio Coupling
34	.01	22-196	TP410	TC-11	684-.01	TP6S1	Tone Compensation
35	.02	22-1127	TP421	TC-12	484-.02	TP4S2	Audio Coupling
36	.01	22-1127	TP421	TC-12	484-.02	TP4S2	Tone Compensation
37	.02	22-1126	TP421	TC-11	484-.01	TP4S1	"
38	.01	22-319	TP408	TC-25	484-.005	TP6D5	RF Filter Tuning Eye
39	.005	22-1041	TP410	TC-11	684-.01	TP6S1	Line Filter
40	.01	22-196	TP410	TC-11	684-.01	TP6S1	Audio Coupling Phono.
41	.01	22-196	TP410	TC-11	684-.01	TP6S1	RF Screen Bypass
42	.01	22-196	TP410	TC-11	684-.01	TP6S1	AVC Filter
43	.05	22-629	TP426	TC-15	484-.05	TP4S5	RF Bypass
44	100	22-162	MC235	LM-31	1468-.0001	SW5T1	Osc. Feedback
45	50	22-1532	MC225	LM-45	1468-.00005	SW5Q5	Audio Plate Bypass
46	50	22-1532	MC225	LM-45	1468-.00005	SW5Q5	6SH7 Grid Cond.
47	500	22-1138	MC225	LM-35	1468-.0005	SW5T5	RF Bypass Diode
48	50	22-1367	MC225	MS-45	1469-.00005	SR5Q5	RF Bypass Vol. Cont.
49	100	22-162	MC235	LM-31	1468-.0001	SW5T1	Tone Compensation
50	100	22-162	MC235	LM-31	1468-.0001	SW5T1	F.M. Ant.
51	50	22-289	MC225	LM-45	1468-.00005	SW5Q5	6SH7 Plate Bypass
52	50	22-289	MC225	LM-45	1468-.00005	SW5Q5	6SH7 Screen Bypass
53	100	22-162	MC235	LM-31	1468-.0001	SW5T1	Osc. Grid Cond.
54	750	22-242	MC245	LM-31	1468-.0001	SW5T1	RF Fixed Trimmer
55	475	22-242	MC245	LM-31	1468-.0001	SW5T1	"
56	1000	22-1169	MC225	MS-45	1468-.00005	SR5Q5	"
57	50	22-1367	MC225	MS-45	1468-.00005	SR5Q5	FM Ant. Fixed Trim.
58	52	22-1509	MC225	MS-45	1468-.00005	SR5Q5	
59	52	22-1509	MC225	MS-45	1468-.00005	SR5Q5	
60	17	22-1506	MC220	MS-42	1469-.00004	SR5Q2	
61	35	22-1506	MC223	MS-44	1469-.00004	SR5Q4	
62	.22	22-1506	MC220	MS-42	1469-.00004	SR5Q2	

PARTS LIST AND DESCRIPTIONS

CAPACITORS (Cont'd)

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING	REPLACEMENT DATA		SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
		CAP.	VOLTS	MALLORY PART No.	SOLAR PART No.		
63	150	300	22-1503	MC238	MO-5-315	1FM-315	1468-.00015 SR5T15
64	25	500	22-1507	MC220	MO-5-425	MS-425	1469-.00002 SR5Q25
65	10	500	22-1504	MC215	MO-5-41	MS-41	1469-.00001 SR5Q1
66	480	500	22-868	MC245	MO-5-35	MS-35	1469-.0005 SR5T5
							P.B. Fixed Trimmer

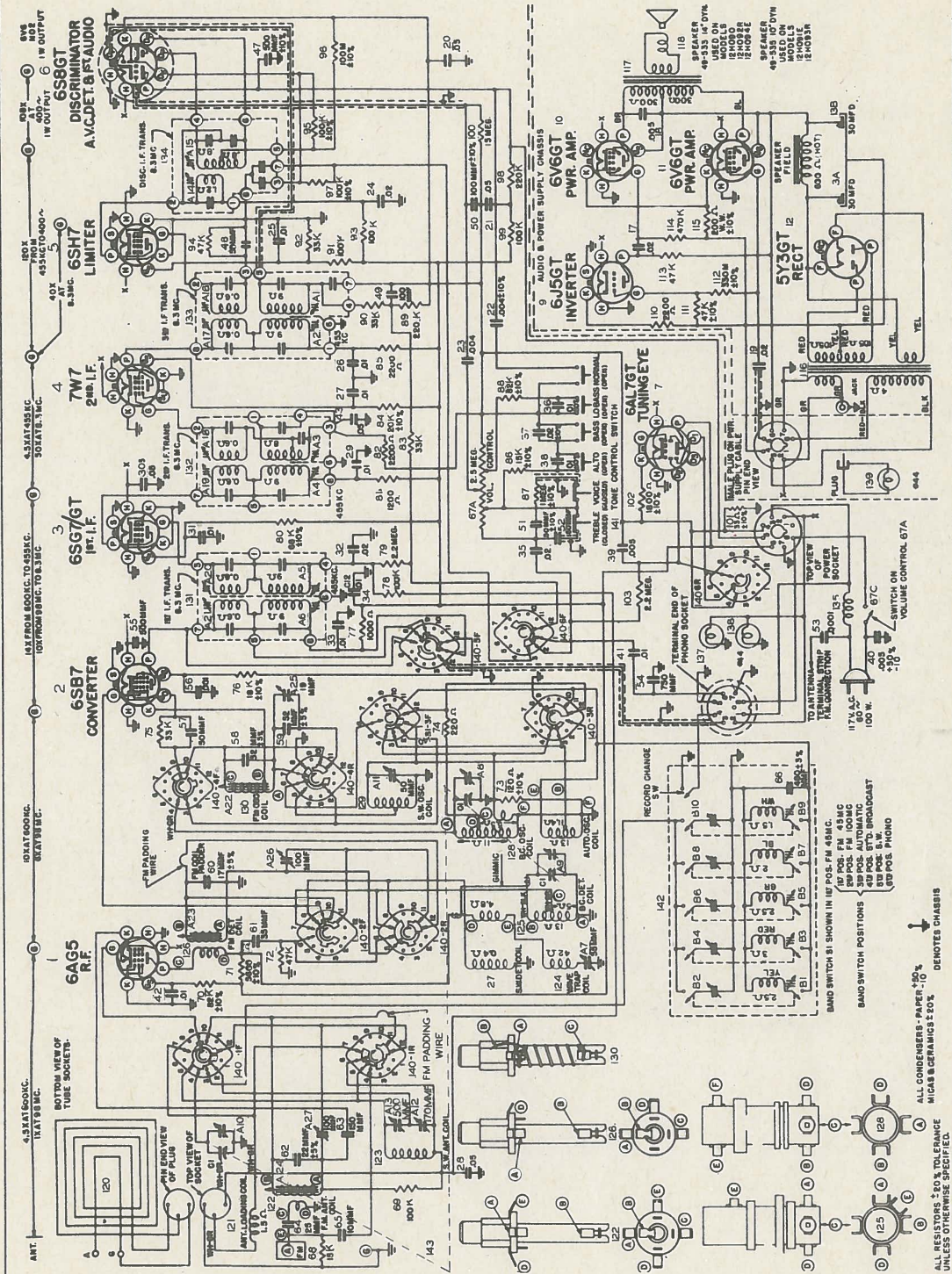
CONTROLS

ITEM No.	RATING	REPLACEMENT DATA		ZENITH PART No.	MALLORY PART No.	SOLAR PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
		RESISTANCE	WATTS					
67(A)	2.5 Meg	1		63-1349	DTM296	D13-139		Vol. Cont.
(B)	Shunt				SR25	E		Attach to 67A per instructions
(C)	Switch				M25	41		"

RESISTORS

ITEM No.	RATING	REPLACEMENT DATA		ZENITH PART No.	MALLORY PART No.	SOLAR PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
		RESISTANCE	WATTS					
68	15K			63-607	BTS-15K	BTS-15K		Br.-Grn.-Or. FM Ant. Load
69	100K			63-715	BTS-100K	BTS-100K		Br.-Blk.-Yl. AVC Network
70	82K			63-685	BTS-82K	BTS-82K		Grn.-Red-Or. Screen Dropping
71	560K			63-1448	BTS-560K	BTS-560K		Grn.-Blue-Red Plate Load
72	47K			63-593	BTS-47K	BTS-47K		Yl.-Vl.-Or. Converter Grid
73	120K			63-528	BW-2-120	BW-2-120		Br.-Red-Br. Suppressor
74	220K			63-579	BW-2-220	BW-2-220		Br.-Or.-Or. Osc. Grid
75	33K			63-712	BTS-33K	BTS-33K		Br.-Gray-Or. Conv. Screen Dropping
76	15K			63-510	BTS-15K	BTS-15K		Br.-Blk.-Yl. AVC Network
77	100K			63-605	BTS-100K	BTS-100K		Red-Red-Grn. AVC Network
78	100K			63-595	BTS-100K	BTS-100K		Blue-Gray-Or. 1st IF Screen Dropping
79	2.2 Meg.			63-600	BTS-2.2Meg	BTS-2.2Meg		Red-Red-Red 2nd IF Plate Filter
80	68K			63-1446	BTS-68K	BTS-68K		Br.-Red-Red 2nd IF Grid
81	120K			63-582	BTS-120K	BTS-120K		Br.-Or.-Or. RF Filter
82	220K			63-582	BTS-220K	BTS-220K		Br.-Red-Yl. 2nd IF Screen Dropping
83	33K			63-1447	BTS-33K	BTS-33K		Red-Red-Red 2nd IF Plate Filter
84	120K			63-503	BTS-120K	BTS-120K		Br.-Grn.-Or. Tone Compensation
85	220K			63-503	BTS-220K	BTS-220K		Br.-Blk.-Grn. " "
86	15K			63-441	BTS-15K	BTS-15K		Gray-Red-Or. " "
87	1 Meg.			63-651	BTS-1 Meg.	BTS-1 Meg.		Red-Red-Yl. Diode Load
88	82K			63-296	BTS-82K	BTS-82K		Or.-Or.-Or. RF Filter
89	220K			63-592	BTS-220K	BTS-220K		Br.-Blk.-Yl. Limiter Screen Dropping
90	33K			63-592	BTS-33K	BTS-33K		Or.-Or.-Or. Limiter Screen Bleeder
91	100K			63-592	BTS-100K	BTS-100K		Br.-Blk.-Yl. Limiter Plate Dropping
92	33K			63-593	BTS-33K	BTS-33K		Yl.-Vl.-Or. Limiter Grid
93	100K			63-593	BTS-100K	BTS-100K		Br.-Blk.-Yl. Diode Load
94	47K			63-260	BTS-47K	BTS-47K		" " Deemphasis
95	100K			63-260	BTS-100K	BTS-100K		Red-Red-Yl. 1st AF Plate Load
96	100K			63-260	BTS-100K	BTS-100K		Br.-Blk.-Yl. " " " "
97	100K			63-296	BTS-100K	BTS-100K		Br.-Orn.-Blue Output Grid
98	100K			63-595	BTS-100K	BTS-100K		Or.-Or.-Blk. Bias
99	15 Meg.			63-976	BTS-15 Meg.	BTS-15 Meg.		Or.-Or.-Red Cathode Bias
100	33K			63-820	BTS-33K	BTS-33K		Red-Red-Grn. Tuning Eye Filter
101	33K			63-886	BTS-33K	BTS-33K		Br.-Blk.-Grn. Pre-amp. Grid Leak
102	2.2 Meg.			63-500	BTS-2.2Meg	BTS-2.2Meg		Yl.-Vl.-Or. Pre-amp. Plate Load
103	47K			63-441	BTS-47K	BTS-47K		Br.-Grn.-Blue Pre-amp. Grid
104	1 Meg.			63-976	BTS-1 Meg.	BTS-1 Meg.		Yl.-Vl.-Yl. Pre-amp. Plate Load
105	47K			63-597	BTS-47K	BTS-47K		Red-Vl.-Red Pre-amp. Plate Load
106	15 Meg.			63-439	BTS-15 Meg.	BTS-15 Meg.		Or.-Or.-Or. Pre-amp. Plate Filter
107	470K			63-592	BTS-470K	BTS-470K		Red-Red-Red Inverter Cathode
108	270K			63-582	BTS-270K	BTS-270K		Yl.-Vl.-Or. Inverter Grid Divider
109	33K			63-582	BTS-33K	BTS-33K		Or.-Or.-Yl. Inverter Grid Load
110	220K			63-548	BTS-220K	BTS-220K		Yl.-Vl.-Or. Amplifier Grid Load
111	47K			63-548	BTS-47K	BTS-47K		Red-Blk.-Br. Amplifier Cathode Bias
112	330K			63-1187	BTS-330K	BTS-330K		
113	47K			63-597	BTS-47K	BTS-47K		
114	200K			63-1189	BTS-200K	BTS-200K		
115	200K			63-1189	BTS-200K	BTS-200K		

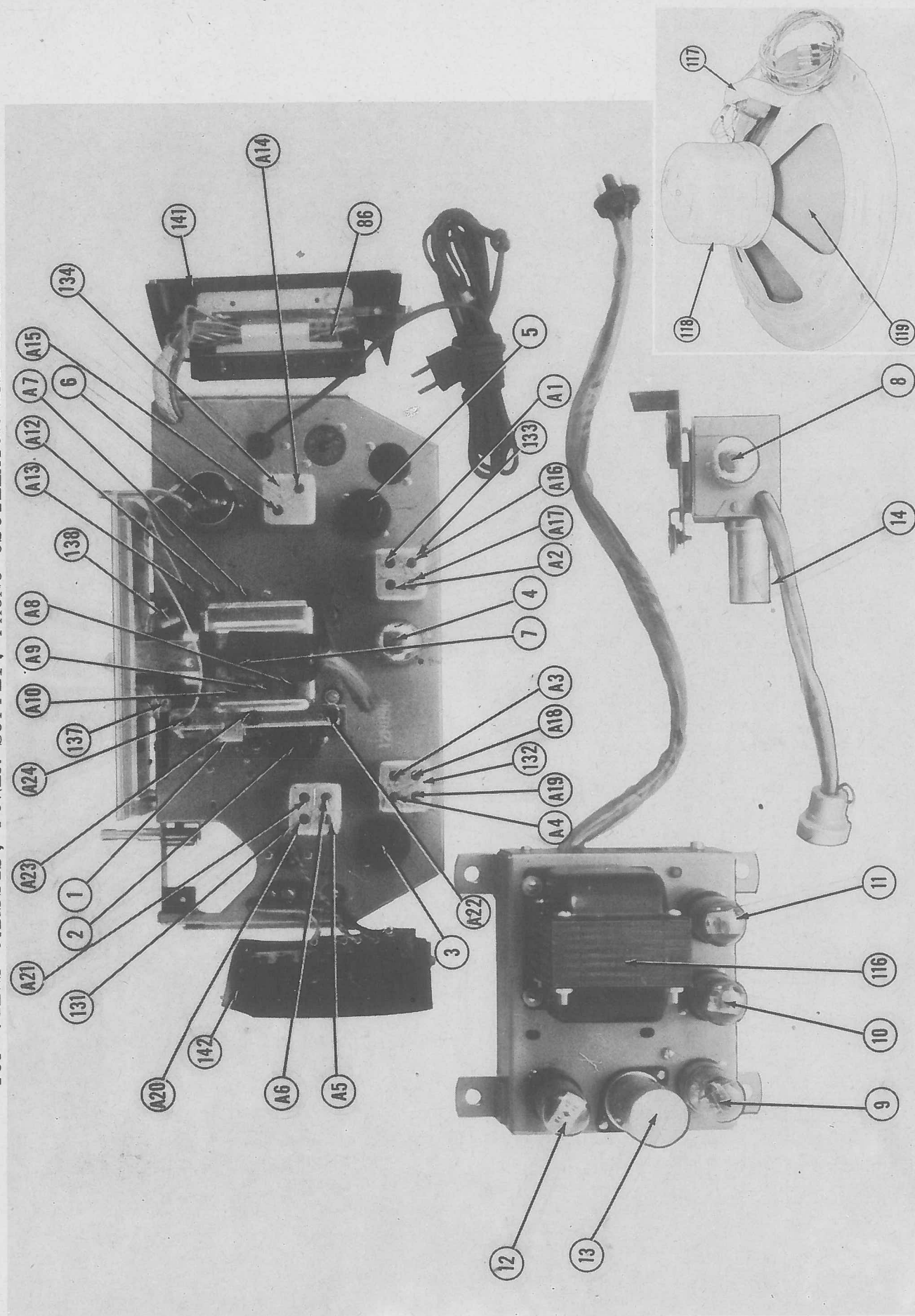
SCHEMATIC DIAGRAM



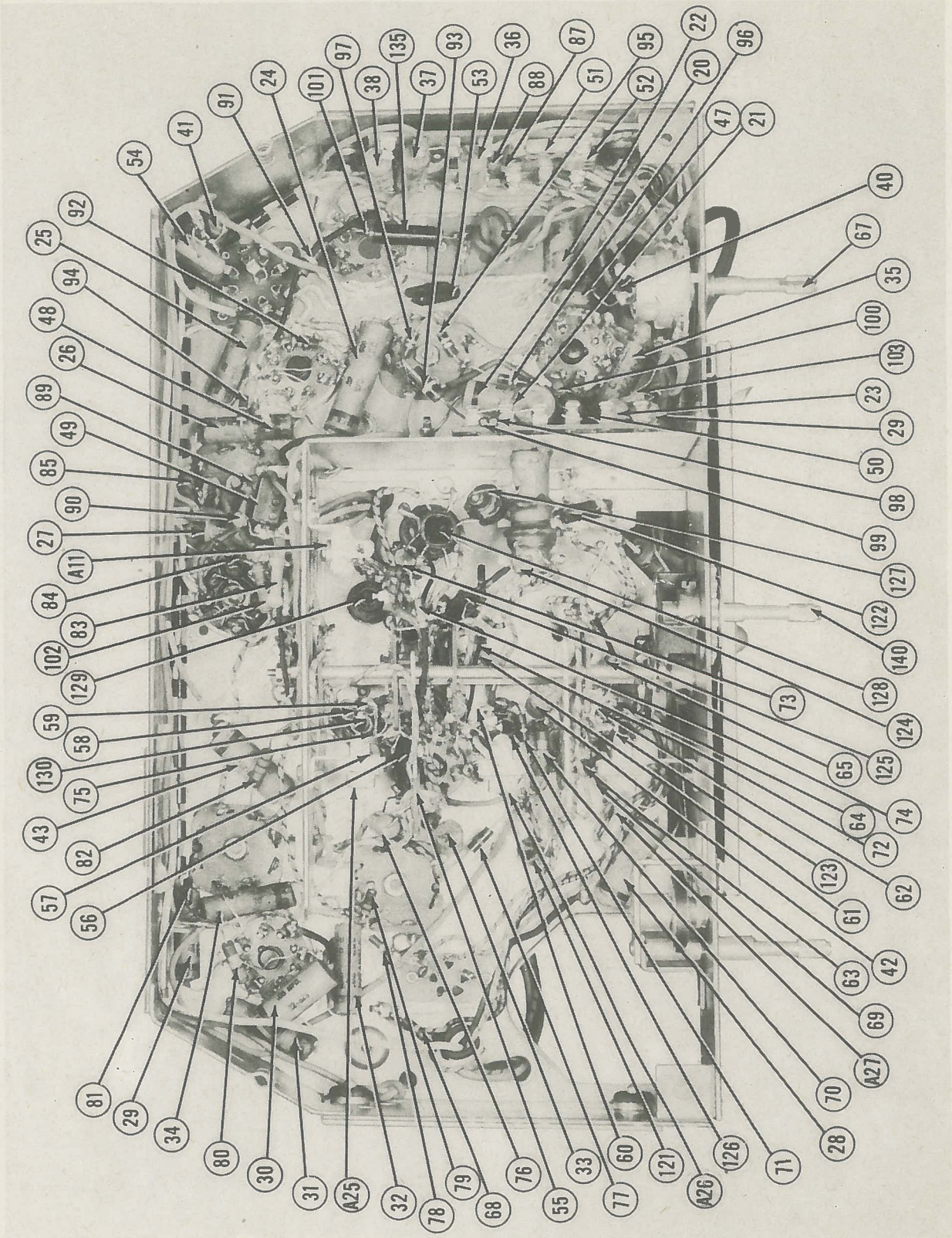
The stage gain measured values listed above are approximate values for average operative stages, rather than absolute values. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3 volt battery bias substituted for measurement.

ZENITH
MODELS 12 H 090, 12 H 091, 12 H 092,
12 H 093, 12 H 094 (CHASSIS 11 C 21)
Page 3

TOP VIEWS CHASSIS, POWER SUPPLY, PHONO OSCILLATOR AND SPEAKER

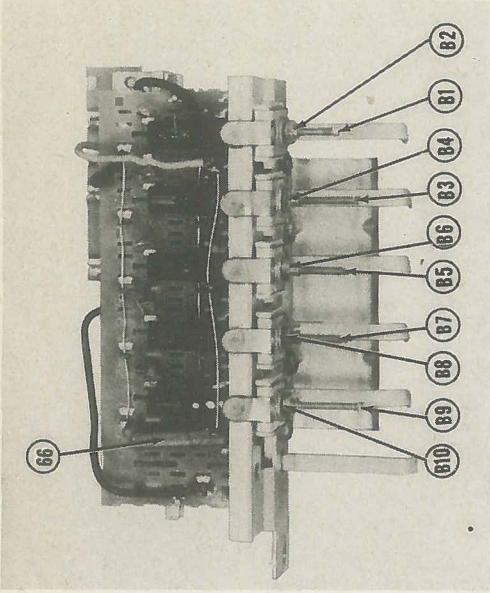


BOTTOM VIEW - RECEIVER CHASSIS

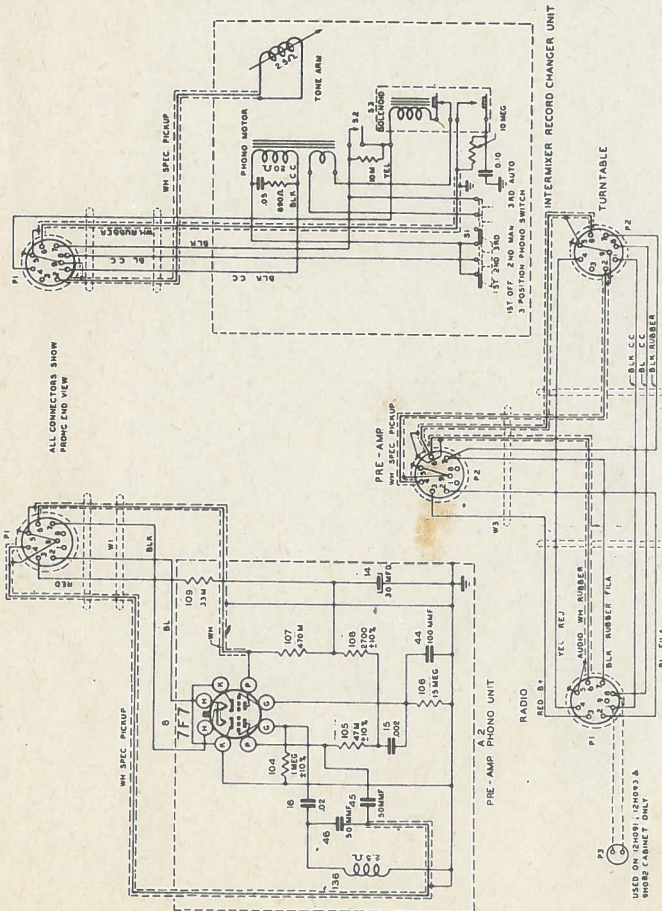
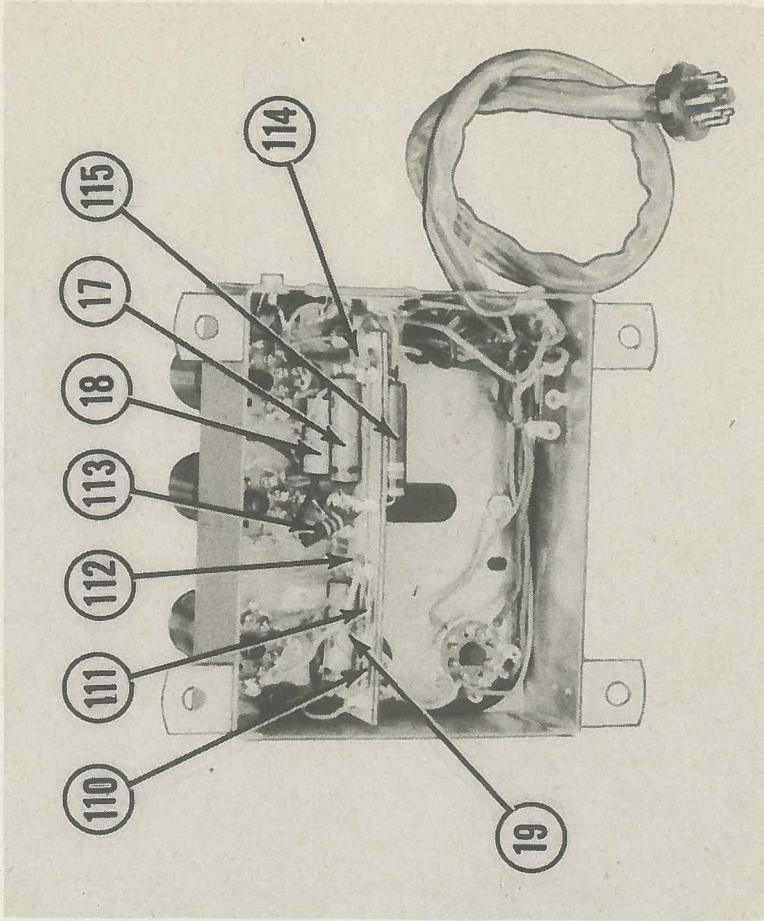


ZENITH
 MODELS 12 H 090, 12 H 091, 12 H 092,
 12 H 093, 12 H 094 (CHASSIS 11 C 21)
 Page 5

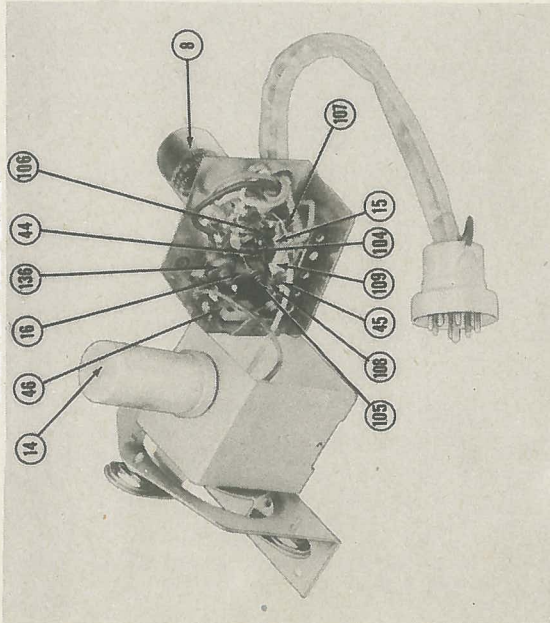
BOTTOM VIEW - PUSH BUTTON ASSEMBLY



BOTTOM VIEW - POWER SUPPLY



BOTTOM VIEW - PHONO OSC.-AMP.



PARTS LIST AND DESCRIPTIONS TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA		
	PRI.	SEC. 1	SEC. 2	ZENITH PART No.	STANCOR PART No.	THORDARSON PART No.
116	117VAC 640VCT @ 4.9V @ 6.2V @ @ .9 Amp 1.05 Amp 1.9 Amp 4.3 Amp			95-921	P-4080	T-13R14*
						*Use universal mounting brackets supplied with transformer.

TRANSFORMER (OUTPUT)

ITEM No.	RATING			REPLACEMENT DATA		
	IMPEDANCE	DC RES.		ZENITH PART No.	STANCOR PART No.	THORDARSON PART No.
117	11770Ω	3.5Ω	425Ω	Part of 49-533	A-3870	T-13S401
						†Drill one new mounting hole.

SPEAKER

ITEM No.	RATINGS			REPLACEMENT DATA		
	FIELD	VC IMP.		ZENITH PART No.	JENSEN PART No.	INSTALLATION NOTES
118	500Ω	3.5Ω		49-533	ST-103#	#Use filter choke in place of field coil of the original. Mount by 3/8" wood screws on the baffle. Change output transformer to match 6-8Ω voice coil.
119	COND DIA. 1 1/2"	VC DIA. 1"		NOT READILY	REPLACEABLE-USE COMPLETE SPEAKER UNIT.	

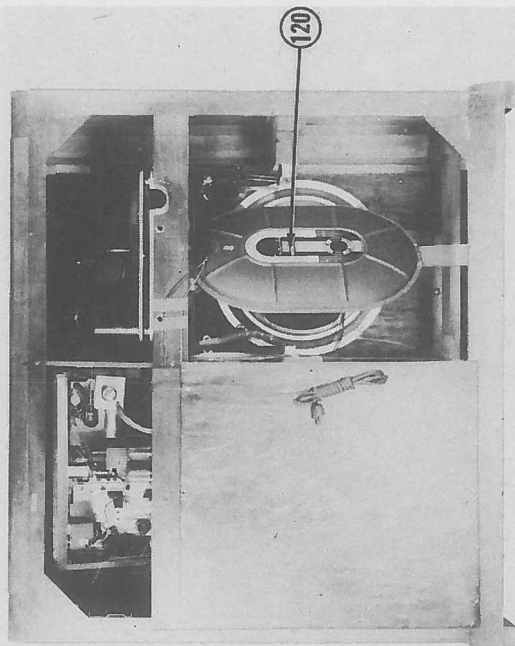
R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	ZENITH PART No.	MEISSNER PART No.	
120	Loop Ant. Coil	.2Ω	1Ω	S12111		
121	Ant. Loading Coil			S12529		
122	SW Ant. Coil		1.3Ω	S12282		
123	FM Ant. Coil		Ω	S12301		
124	BC Det. Coil		Ω	S12285		
125	SW Det. Coil		Ω	S12281		
126	FM Det. Coil		Ω	S12302		
127	Wave Trap		40Ω	S12281		
128A	5C Osc. Coil		9.6Ω	S11344		Wound on same form as auto osc. coil
128B	Auto Osc. Coil			S11344		" " " " BC "
129	SW Osc. Coil		12Ω	S12292		
130	FM Osc. Coil		Ω	S12303		
131	Input IF		9Ω	S12249		Top figures for 455KC bottom for 8.3MC
132	Inter. IF		.6Ω	S12250		" " " " " "
133	Output IF		.6Ω	S12251		" " " " " "
134	Disc. IF		.3Ω	S12252		" " " " " "
135	AC Line Rf Choke		1.2Ω	S12253		
136	Pre-amp Osc.		2Ω	S12603		

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	REPLACEMENT DATA		INSTALLATION NOTES
				BEAD COLOR	ZENITH PART No.	
137	Bayonet	6-8	0.25	Blue	100-36	Type 44
138	"	"	"	"	"	"
139	"	"	"	"	"	"

BACK VIEW



REMOVAL OF POWER SUPPLY, RECEIVER CHASSIS, PHONO PRE-AMP OSCILLATOR, SPEAKER, AND LOOP ANTENNA FOR SERVICE OPERATIONS.

- 1 - Remove back panel covering phono-changer unit.
- 2 - Remove tacks holding fiber cable guides.
- 3 - Disconnect the main cable from the charger unit, phono pre-amp. oscillator unit, and the receiver chassis. Pull the cable through hole in the partition and remove from cabinet.
- 4 - Remove phono pre-amp. oscillator unit by means of three wood screws holding it to the partition.
- 5 - Remove small three-pronged fiber plug that connects the loop to the receiver.
- 6 - Remove the four bolts holding the audio and power supply chassis.
- 7 - Turn audio and power supply unit so it is possible to remove the speaker cable and the small dial light plug. Remove this chassis.
- 8 - Remove the tuning eye from its mounting bracket and let it hang free.
- 9 - Disengage snap fastener holding the automatic tuning bakelite pushbutton assembly by pulling up on small gold tab at the top of the unit.
- 10- The tone switch assembly is loosened by same type fastener as in Step No. 9.
- 11- Remove the escutcheon by removing the eight small wood screws.
- 12- Twist the tone button assembly sufficiently to permit it to go through the opening in the front panel. Lay this assembly across the receiver chassis.
- 13- Remove the two machine screws holding the automatic tuning assembly. Lower this unit and lay it across the chassis.
- 14- Remove the two Phillips head screws on each side of the compartment drawer. This releases the receiver chassis.
- 15- Close the compartment drawer and pull the receiver chassis back to the mid-point of the inside of the cabinet.
- 16- Open the compartment drawer.
- 17- Tilt the receiver chassis forward and back the receiver out of the cabinet.
- 18- Loosen the two screws holding the loop mounting bracket. Lift up until bottom pivot is free of its socket. Pull the 3-wire loop cable from the receiver side of the cabinet and remove the loop.
- 19- Remove the four nuts holding the speaker and pull speaker free.

ALIGNMENT INSTRUCTIONS			
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.
.05 MFD	Pin 8 on converter tube 6SB7 socket.	455KC modulated	BC
"	Pin 1 on RF tube 6AG5 socket.	"	Aut.
"	2 turn loop of wire.	1600KC modulated	BC
"	"	1400KC modulated	"
4000 res.	Antenna post (remove line ant.)	11.7MC	SW
"	"	9.7MC modulated	"
.05 MFD	Pin 4 (grid) on 6SH7 limiter socket.	8.3MC unmodulated	FM45
"	"	"	"
"	Pin 4 (grid) on 7W7 2nd IF tube socket.	"	"
"	Pin 4 (grid) on 6SG7 1st IF tube socket.	"	"
"	Pin 8 (grid) on 6SB7 converter tube socket.	"	"
2700 res.	Ant. post (remove line ant.)	98MC unmodulated	FM100
"	"	"	"
"	"	45MC unmodulated	FM45
"	"	"	"

OUTPUT METER	RADIO DIAL SETTING	ADJUST	REMARKS
Across voice coil	600KC	A1, A2, A3, A4, A5, A6, A7	Adjust for maximum output.
"	Press any button on auto.	A8	Adjust for minimum output.
"	1600KC	A9, A10	Set osc. to dial scale. Couple 2 turn loop loosely to wave-magnet by spacing.
"	1400KC	A11	Adjust for maximum output.
"	11.7MC	A12	Set osc. to dial scale.
"	9.7MC	A13	Adjust for maximum output. Repeat adjustment as given for A12.
VTVM pin 5	"	A14	Adjust for maximum reading on disc. trans. to chassis.
VTVM pin 7	"	A15	Adjust for zero reading. Use enough input signal to get positive & negative indication before setting for zero reading.
VTVM 6SH7 limiter grid (pin 4 to chassis)	"	A16, A17	Adjust for maximum reading.
"	"	A18, A19	Adjust for maximum output. Solder a 300Ω ½ watt resistor across secondary of second IF trans. (pin 2 to 3 of 2nd IF trans.) Use as short leads as possible.
"	"	A20, A21	"
"	"	"	Remove 300 ohm ½ watt resistor used above.
"	98MC	A22	Set osc. to dial scale. Secure shaft with speaker cement.
"	"	A23, A24	Adjust for maximum reading. Secure shafts with speaker cement.
"	45MC	A25	Set osc. to dial scale.
"	"	A26, A27	Adjust for maximum output.

Volume control at maximum volume and output from signal generator adjusted just high enough to give output reading. Use insulated alignment screwdriver for adjusting. VTVM (vacuum tube voltmeter) must have 200KΩ isolation resistor connected in series with hot lead. (Lead must be shielded).

PUSH BUTTON ADJUSTMENT

Each button and its associated tuning adjustment will tune over a portion of the broadcast band, any station within its tuning range may be selected for automatic tuning on that button.

The tuning ranges are as follows:

B1, B2 - 540 to 940KC
 B3, B4 - 600 to 1050KC
 B4, B5 - 660 to 1150KC
 B5, B6 - 740 to 1300KC
 B9, B10 - 880 to 1600KC

To adjust automatic tuning proceed as follows:

1. Remove the automatic cover plate by pulling up on latch pin and lifting the plate away from the escutcheon.

2. Select a station within the range of B1, B2 (540 to 940KC).

3. Turn the band switch to BC and tune in the selected station on the dial -- then turn the band switch to AUT position.

4. Press the lever associated with B1, B2 and tune in the same station by adjusting B1, B2 with the special wrench furnished with the receiver. First adjust the screw (B1) and then the hexagonal nut (B2) to the setting which gives the loudest and clearest signal of the desired station. This will be indicated when the tuning indicator is at its narrowest position. Repeat the operation for greatest accuracy.

5. Follow the above procedure for setting the remaining buttons. Always select a station within the range of the button being set.

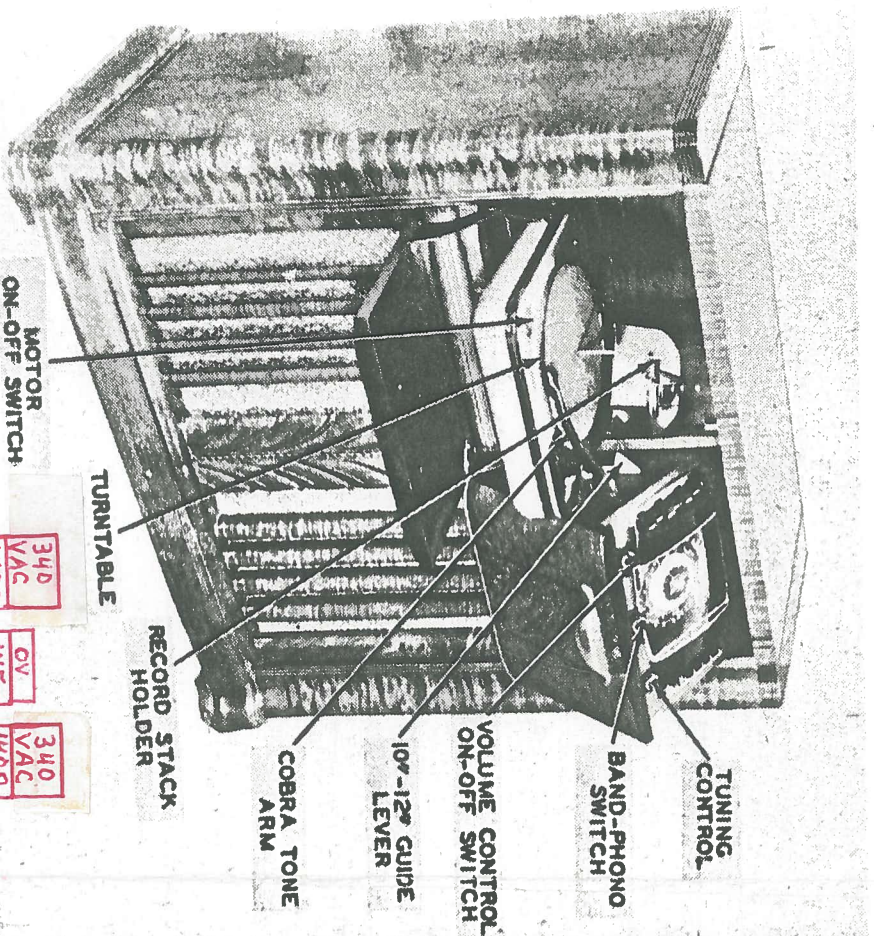
6. Remove the call letters of the stations selected from the call letter sheets furnished with the receiver. Press the top buttons in and slide the call letter tabs into the slots on the push buttons. Replace the automatic cover plate.

PHOTO FACT* Folder

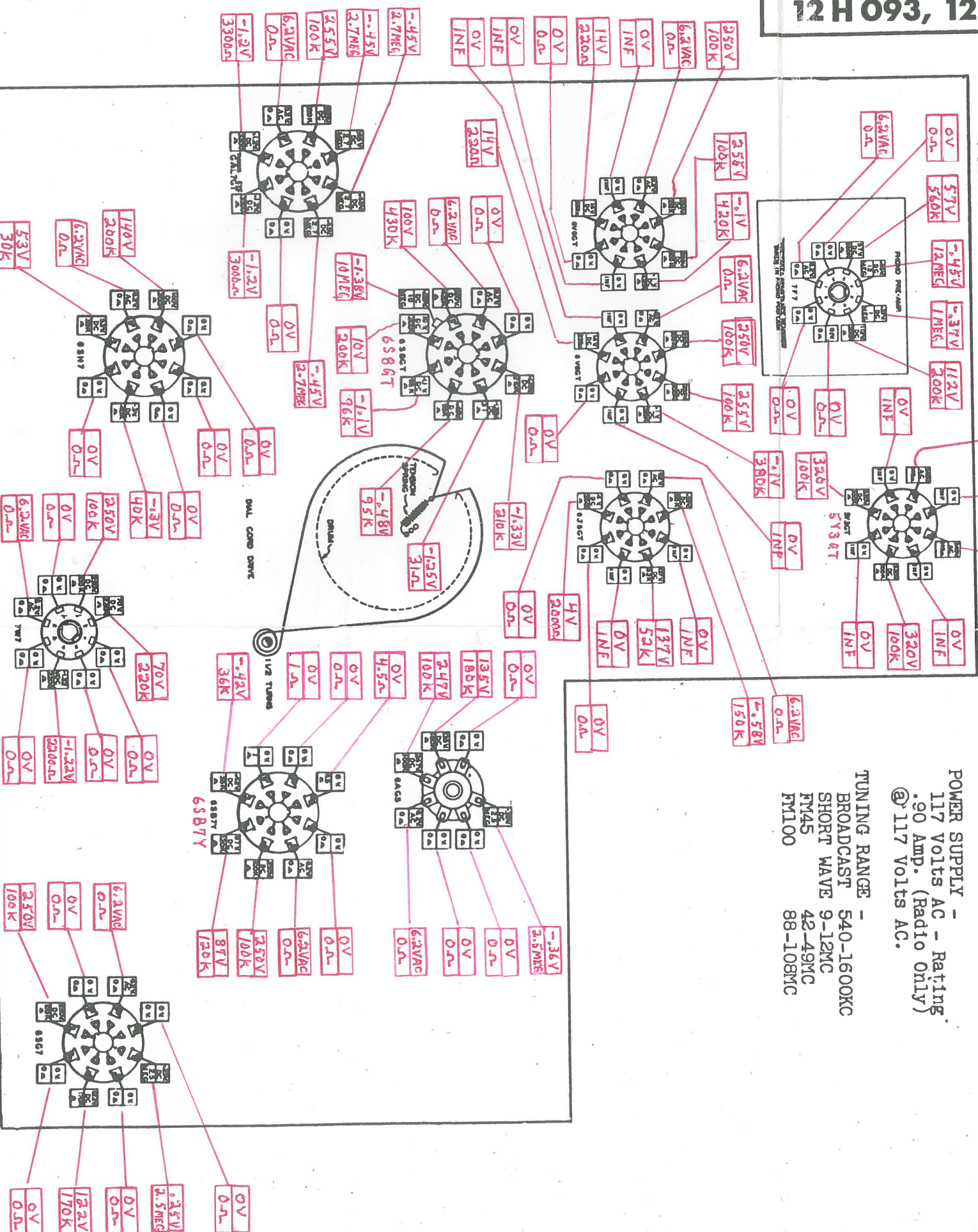
TRADE MARK

ZENITH

MODELS 12 H 090, 12 H 091, 12 H 092, 12 H 093, 12 H 094 (CHASSIS 11 C 21)



VOLTAGE AND RESISTANCE ANALYSIS CHARTS



1. DC voltage measurements are at 20,000 ohms per volt; AC voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of $\pm 10\%$ in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

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