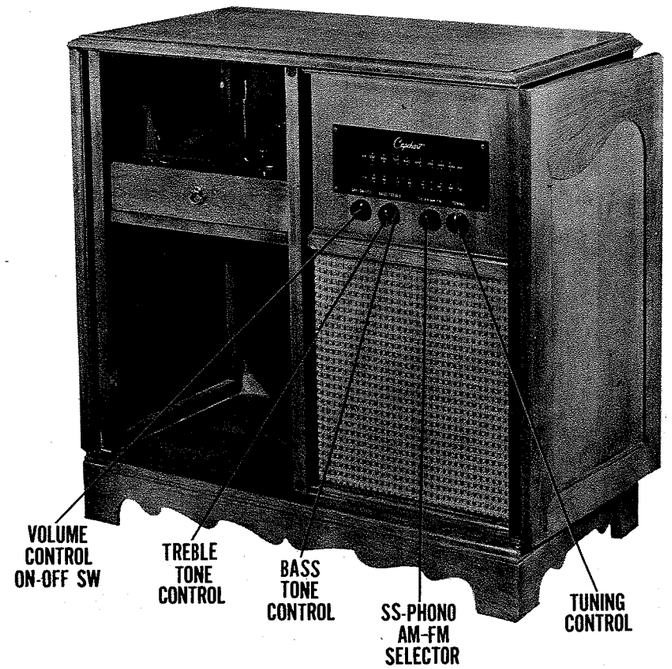
PHOTOFACT* Folder

*TRADE MARK

CAPEHART MODELS 35P7, 1002F, 1003M, 1004B

CAPEHART MODELS 35P7, 1002F, 1003M, 1004B

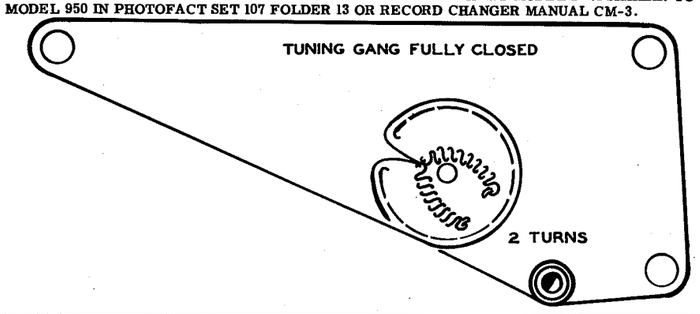


CAPEHART MODELS 35P7, 1002F, 1003M, 1004B

CAPEHART MODEL 1002F

TRADE NAME	Capehart, Models 35P7 (Ch. P-7), 1002F, 1003M, 1004B (Ch. P-8)
MANUFACTURER	Capehart - Farnsworth Corp., Fort Wayne, Indiana
TYPE SET	AC Operated Combination Phono-Radio, AM-FM Superheterodyne Receiver With Loop Antenna
TUBES (ELEVEN)	Types 6AG5 RF Amp., 12AT7 FM Converter, 6BE6 AM Converter, 6SK7 1st IF Amp., 6SK7 2nd IF Amp., 6SK7 3rd IF Amp., 6T8 Det.-AF-Amp., 6SQ7 Phase Inv.-AVC, (2) 6V6GT Power Output, 5Y3GT Rectifier
POWER SUPPLY	105-125 Volts AC — RATING .77 Amp. @ 117 Volts AC
TUNING RANGE-BROADCAST	540-1620KC — FREQ. MOD. 88-108MC

FOR SERVICE INFORMATION ON RECORD CHANGER SEE CAPEHART MODEL P-71 SIMILAR TO V-M MODEL 950 IN PHOTOFACT SET 107 FOLDER 13 OR RECORD CHANGER MANUAL CM-3.



DIAL CORD DRIVE

HOWARD W. SAMS & CO., INC. • Indianapolis 1, Indiana

DATE 6-51 SET 135 FOLDER 4

C37
C33
C38
C35
C34
C46
A
C36
C39
C41
C2
M7
C42
C53
C43
C50
C44
C51
C45
C52
C47
C30
C49
C31
C48
C32
C24
C3
C22
C27
C25
B
C23
C29
C13
C40
C12
C28
M6
C10
C6
C5
C4
C8
C9
C21
C26
C54
C56
C20
C19
C55
C17
C15
C14
C18
C7

FUNCTION SWITCH IN EITHER AM OR FM POSITION
‡ TAKEN IN FM POSITION
▲ TAKEN IN AM POSITION

VOLTAGE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6AG5	-.1VDC	1.6VDC	0V	6.2VAC	‡185VDC ▲200VDC	‡110VDC ▲130VDC	1.6VDC		
V 2	12AT7	‡185VDC	0V	‡4.8VDC	6.2VAC	6.2VAC	‡175VDC	§‡6.3VDC	0V	0V
V 3	6BE6	§▲-11VDC	0V	0V	6.3VAC	▲200VDC	▲115VDC ‡80VDC	-.1VDC		
V 4	6SK7	0V	0V	0V	-.1VDC	.1VDC	▲90VDC	6.2VAC	‡175VDC ▲190VDC	
V 5	6SK7	0V	0V	0V	-.1VDC	‡3.2VDC ▲3.6VDC	‡100VDC ▲105VDC	6.2VAC	▲175VDC ▲190VDC	
V 6	6SK7	0V	0V	0V	0V	‡3VDC	‡85VDC	6.2VAC	‡170VDC	
V 7	6T8	-.4VDC	-.7VDC	-.4VDC	0V	6.2VAC	-.6VDC	0V	-.4VDC	120VDC
V 8	6SQ7	0V	-.6VDC	0V	.2VDC	-1.8VDC	145VDC	6.3VAC	0V	
V 9	6V6GT	0V	0V	‡255VDC ▲260VDC	‡205VDC ▲220VDC	.1VDC	.1VDC	6.3VAC	15VDC	
V 10	6V6GT	0V	0V	‡255VDC ▲260VDC	‡205VDC ▲220VDC	.1VDC	0V	6.3VAC	15VDC	
V 11	5Y3GT	-1.8VDC	270VDC	0V	285VAC	0V	285VAC	0V	270VDC	

§ TAKEN WITH VACUUM TUBE VOLTMETER

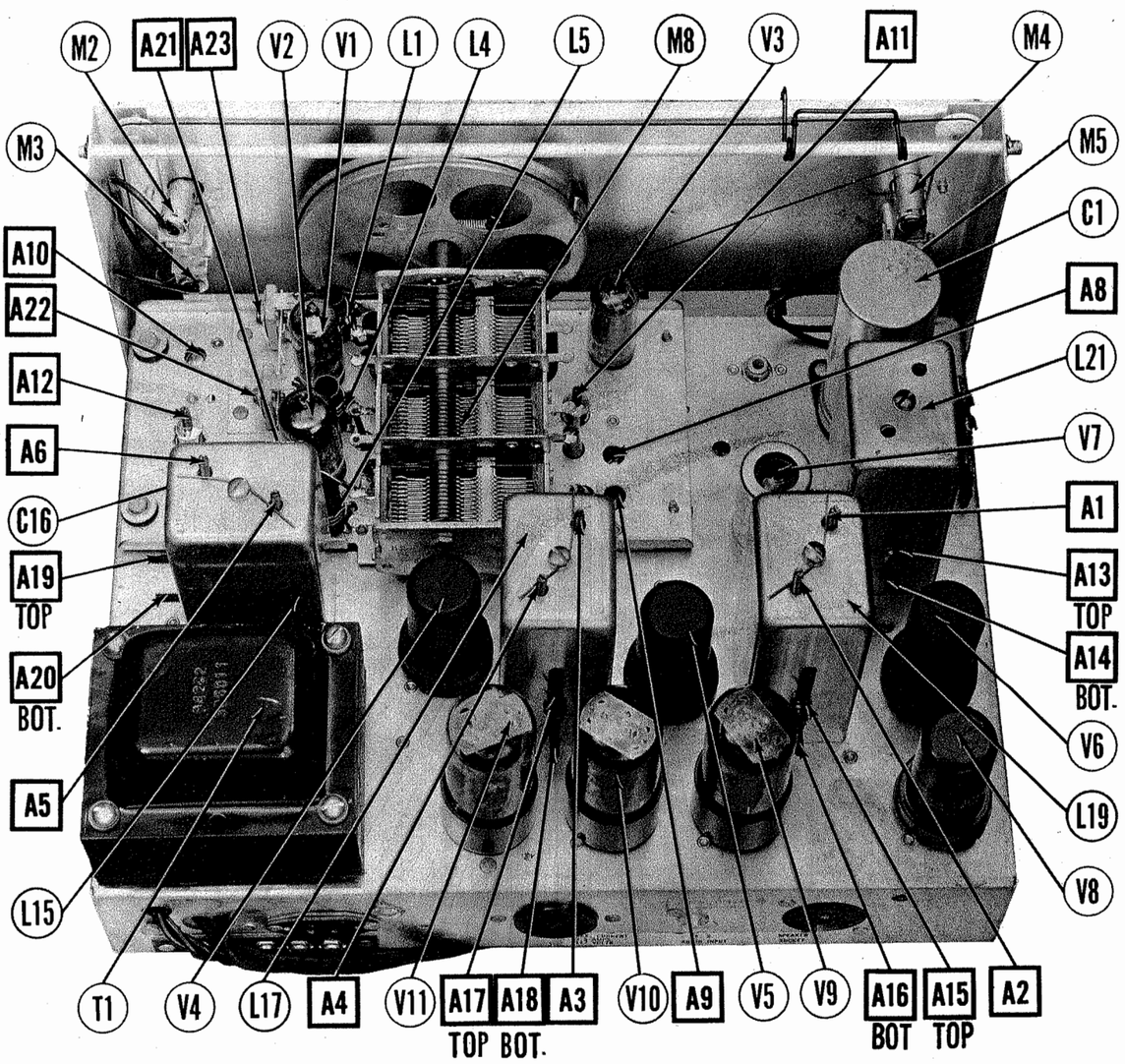
RESISTANCE READINGS

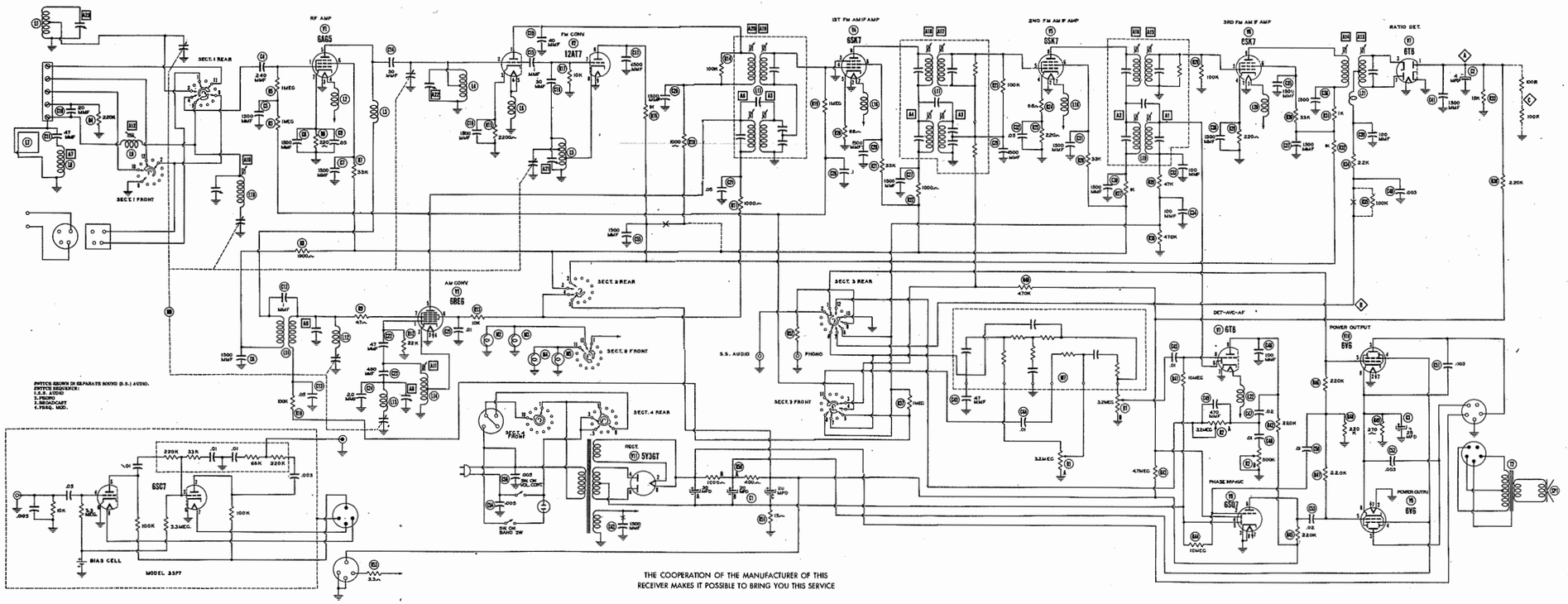
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6AG5	‡2.7Meg ▲3.5Meg	220Ω	0Ω	.4Ω	†2.4KΩ	†34KΩ	220Ω		
V 2	12AT7	††2.4KΩ	0Ω	2.2KΩ	.4Ω	.4Ω	††2.4KΩ	10KΩ	0Ω	0Ω
V 3	6BE6	22KΩ	.4Ω	0Ω	.1Ω	†▲2.4KΩ	†▲11KΩ	1.6Meg		
V 4	6SK7	0Ω	0Ω	0Ω	‡1.7Meg ▲2.5Meg	68Ω	†34KΩ	.4Ω	†2.4KΩ	
V 5	6SK7	0Ω	0Ω	0Ω	1.8Meg	290Ω	†34KΩ	.4Ω	†2.4KΩ	
V 6	6SK7	0Ω	0Ω	0Ω	.4Ω	220Ω	††35KΩ	.4Ω	††3.4KΩ	
V 7	6T8	Inf.	15KΩ	Inf.	0Ω	.4Ω	520KΩ	0Ω	10Meg	†220KΩ
V 8	6SQ7	0Ω	10Meg	0Ω	235KΩ	15Ω	†220KΩ	0Ω	.1Ω	
V 9	6V6GT	0Ω	0Ω	†180Ω	†1KΩ	440KΩ	2.2KΩ	.1Ω	270Ω	
V 10	6V6GT	0Ω	0Ω	†180Ω	†1KΩ	440KΩ	Inf.	.1Ω	270Ω	
V 11	5Y3GT	15Ω	35KΩ	Inf.	135Ω	Inf.	135Ω	Inf.	35KΩ	

† MEASURED FROM PIN 8 OF V11

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms.
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 ±15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

SET 135 FOLDER 4





THE COOPERATION OF THE MANUFACTURER OF THIS
RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn tuning gang fully closed and set pointer to the small dots at the low frequency end of the dial scale.

AM ALIGNMENT

Loop should be maintained in same relative position to chassis as when receiver is in cabinet. Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	.1MFD	High side to Pin 7 (grid) of 6BE6, (V3). Low side to chassis.	455KC (400 ∿ Mod.)	AM (Third pos. clockwise)	Tuning gang fully open	Across voice coil	A1, A2, A3, A4, A5, A6	Adjust for maximum output.
2.		Loop	"	"	"	"	A7	Fashion loop of several turns of wire and connect generator across loop to radiate signal into receiver loop. Adjust A7 for MINIMUM output.
3.		Loop	1600KC	"	1600KC	"	A8, A9	Radiate signal as in step 2. Adjust for maximum output.
4.		"	1500KC	"	1500KC	"	A10	"
5.		"	600KC	"	600KC	"	A11, A12	Adjust for maximum output. Repeat steps 3, 4 and 5 until no further improvement can be made.

FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

Connect two matched 100KΩ (± 1%) resistors in series from Point Ⓐ to chassis. The junction of these two resistors is alignment Point Ⓒ as shown on the schematic.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
6.	.001MFD	High side to Pin 4 (grid) of 6SK7, (V5). Low side to chassis.	10.7MC (Unmod.)	FM (Max. CW)	Tuning gang fully open	DC probe to Point Ⓐ. Common to chassis.	A13, A14	Turn A13 fully out, (CCW). Adjust A14 for maximum deflection.
7.	"	High side to Pin 4 (grid) of 6SK7 (V4). Low side to chassis.	"	"	"	"	A15, A16	Turn A15 fully out. Adjust A16 for maximum deflection, then adjust A15 for maximum deflection.
8.	"	High side to Pin 4 (grid) of 6SK7 (V3). Low side to chassis.	"	"	"	"	A17, A18	Turn A17 fully out. Adjust A18 for maximum deflection, then adjust A17 for maximum deflection.
9.	"	High side to Pin 2 (grid) of 12AT7, (V2). Low side to chassis.	"	"	"	"	A19, A20	Turn A19 fully out. Adjust A20 for maximum deflection, then adjust A19 for maximum deflection.
10.	"	"	"	"	"	DC probe to Point Ⓑ. Common to Point Ⓒ.	A13	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

Connect the synchronized sweep voltage from the signal generator to the horizontal input of the oscilloscope for horizontal deflection.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	SCOPE CONNECT	ADJUST	REMARKS
6.	.001MFD	High side to Pin 4 (grid) of 6SK7, (V5). Low side to chassis.	10.7MC (450KC SWP)	FM (Max. CW)	Point of non-interference	Vert. amp. to Point Ⓐ. Low side to chassis.	A13, A14	Disconnect stabilizer capacitor C2 and connect a 350MMF capacitor across secondary of L21. Adjust A14 for a single broad peak centered at 10.7MC. Then remove the 350MMF. capacitor and adjust A13 for a double peaked symmetrical curve similar to figure 1.
7.	"	High side to Pin 4 (grid) of 6SK7, (V4). Low side to chassis.	"	"	"	"	A15, A16	Turn A15 fully out. Adjust A16 and then A15 for maximum amplitude and symmetry as per figure 1.
8.	"	High side to Pin 4 (grid) of 6SK7, (V3). Low side to chassis.	"	"	"	"	A17, A18	Turn A17 fully out. Adjust A18 and then A17 for maximum amplitude and symmetry as per figure 1.
9.	"	High side to Pin 2 (grid) of 12AT7, (V2). Low side to chassis.	"	"	"	"	A19, A20	Turn A19 fully out. Adjust A20 and then A19 for maximum amplitude and symmetry as per figure 1.
10.	"	"	"	"	"	Vert. amp. to Point Ⓑ. Low side to chassis.	A13, A14	Reconnect capacitor C2. Adjust A13 so 10.7MC occurs at center of "S" curve as shown in figure 2. Adjust A14 for maximum amplitude and straightness of diagonal line.

FM RF ALIGNMENT

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
11.	300Ω carbon resistor	High side thru 300Ω to ungrounded "FM" terminal. Low side to chassis.	108MC (Unmod.)	FM	108MC	DC probe to Point Ⓐ. Common to chassis.	A21, A22, A23	Turn A21, A22 and A23 to MINIMUM capacity. Adjust A21 to first peak towards max. capacity. Then adjust A22 and A23 for maximum deflection.
12.	"	"	88MC	"	88MC	"	L5, L4, L1	Check coils with a tuning wand and if necessary expand or compress coil turns for maximum deflection. If coils are changed repeat steps 11 and 12 until no further improvement can be made.

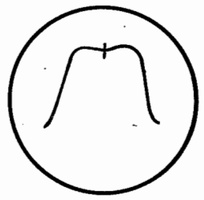
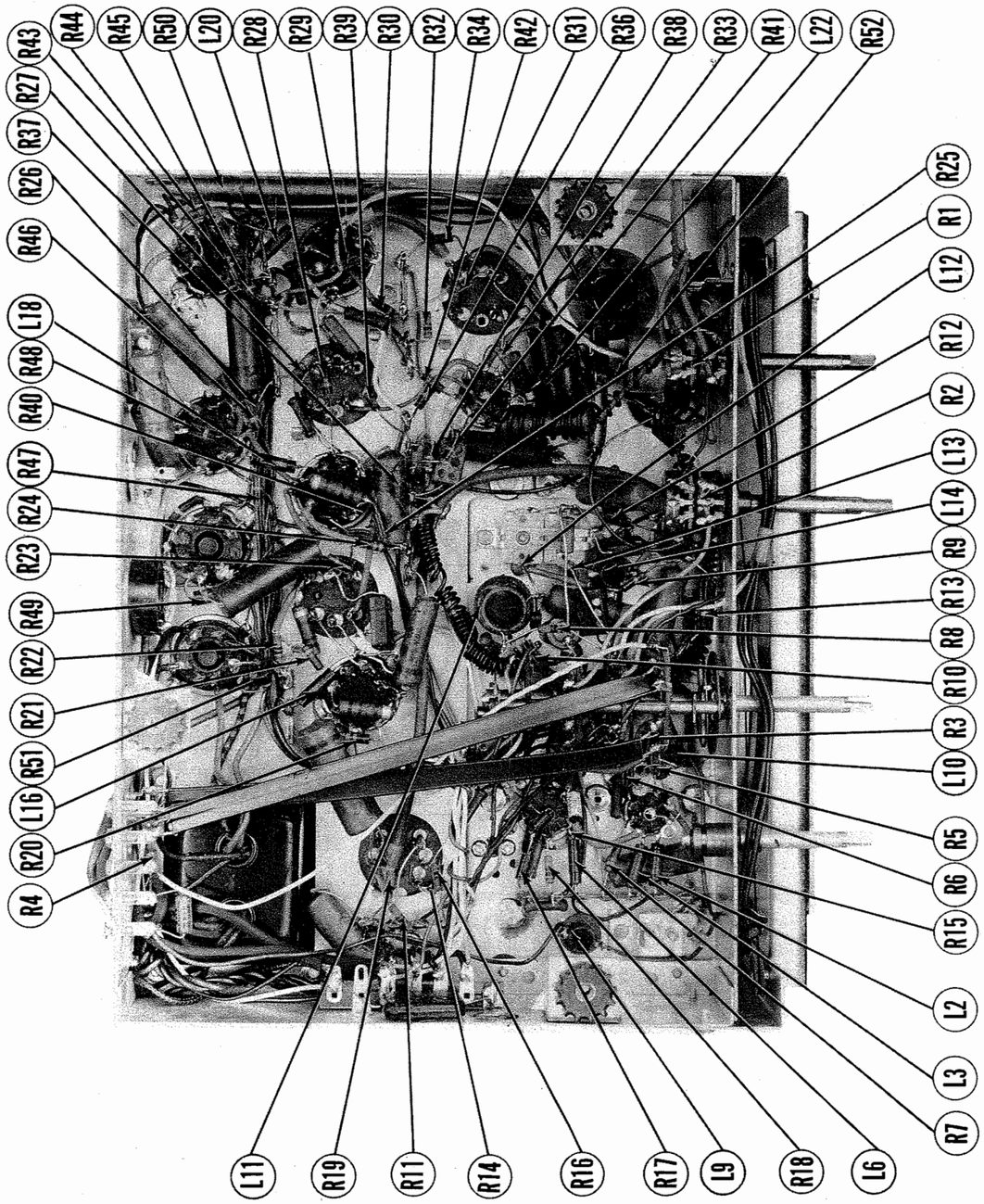


FIG. 1

FIG. 2



CAPEHART MODELS 35P7, 10O2E, 10O3M, 10O4B

PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA: CAPEHART PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
V1	RF Amplifier	6AG5	6AG5	7BD	
V2	FM Converter	12AT7	12AT7	9A	
V3	AM Converter	6BE6	6BE6	7CH	
V4	1st IF Amp.	6SK7	6SK7	8N	
V5	2nd IF Amp.	6SK7	6SK7	8N	
V6	3rd IF Amp.	6SK7	6SK7	8N	
V7	Det.-AF Amp.-	6T8	6T8	9E	
V8	Phase Inverter-AVC	6SQ7	6SQ7	8Q	
V9	Power Output	6V6GT	6V6GT	7AC	
V10	Power Output	6V6GT	6V6GT	7AC	
V11	Rectifier	5Y3GT	5Y3GT	5T	

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: CAP.	RATING: VOLT	REPLACEMENT DATA: CAPEHART PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C1A	30	450	25424	AF663J6B		UP32245C		TVL-4742	▲ Filter
B	20	450							■ Filter
C	20	450							▲ Filter
C2	4	100	25270	PRS150/4		BR415		TVA-1402	Stabilizing Cap
C3	25	25	25156	PRS25/25		BR252A		TVA-1205	Output Cathode
C4	240		25427	SI240	D6-251	5W5T25	GP2K-241	19C13	RF Coupling
C5	1500		25273	SII500	D6-152	1W5D15	GP2L-152	29C8	AVC Filter
C6	1500		25273	SII500	D6-152	1W5D15	GP2L-152	29C8	RF Amp. Plate Dec.
C7	1500		25273	SII500	D6-152	1W5D15	GP2L-152	29C8	RF Amp. Screen
C8	1500		25273	SII500	D6-152	1W5D15	GP2L-152	29C8	RF Amp. Cathode
C9	.05	200	25196	P288-05	DF-503	PTE4S5		2TM-S5	RF Amp. Cathode
C10	20		25492	SI20	TCZ-20	5W5Q2	GP1K-200	MS-42	Fixed Trimmer
C11	47	500	25193	1469-00005	TCZ-47	5R5Q5	GP1K-470	MS-45	Fixed Trimmer
C12	1		25497		TCZ-1				RF Coupling
C13	.05	200	25196	P288-05	DF-503	PTE4S5		2TM-S5	AVC Filter
C14	50		25493	SI50	D6-500	5W5Q5	GP1K-500	19C28	RF Coupling
C15	1		25497		TCZ-1				Osc. Coupling
C16	30		25329	SI30	D6-300	5W5Q3	GP1K-300	19C24	Osc. Grid Cap
C17	1500		25273	SII500	D6-152	1W5D15	GP2L-152	29C8	Osc. Plate Bypass
C18	1500		25273	SII500	D6-152	1W5D15	GP2L-152	29C8	Conv. Cath. Bypass
C19	40		25507	SI39	D6-390	5W5Q4	GP1K-390	1FM-44	Fixed Trimmer
C20	1500		25273	SII500	D6-152	1W5D15	GP2L-152	29C8	Conv. Plate Dec.
C21	.05	600	25196	P688-05	DF-503	PTE6S5		6TM-S5	Conv. Plate Dec.
C22	47	500	25193	1468-00005	D6-470	5W5Q5	GP1K-470	1FM-45	Osc. Grid Cap
C23	480	500	25504						Fixed Padder
C24	20		25492	SI20	TCZ-20	5W5Q2	GP1K-200	MS-42	Fixed Trimmer
C25	.01	600	25186	P688-01	D6-103	PTE6S1	821-01	6TM-S1	Osc. Anode Bypass
C26	.1	200	25182	P288-1	DF-104	PTE4P1		2TM-P1	AVC Filter
C27	1500		25273	SII500	D6-152	1W5D15	GP2L-152	29C8	1st IF Plate Dec.
C28	1500		25273	SII500	D6-152	1W5D15	GP2L-152	29C8	1st IF Screen
C29	1500	500	25299	1467-0015	D6-152	1W5D15	GP2L-152	29C8	AVC Filter
C30	1500		25273	SII500	D6-152	1W5D15	GP2L-152	29C8	2nd IF Plate Dec.
C31	1500		25273	SII500	D6-152	1W5D15	GP2L-152	29C8	2nd IF Screen
C32	.05	200	25196	P288-05	DF-503	PTE4S5		2TM-S5	2nd IF Cathode
C33	100	500	25188	1468-0001	D6-101	5W5T1	GP1K-101	1FM-31	Diode RF Filter
C34	100	500	25188	1468-0001	D6-101	5W5T1	GP1K-101	1FM-31	Diode RF Filter
C35	1500		25273	SII500	D6-152	1W5D15	GP2L-152	29C8	3rd IF Dec.
C36	1500		25273	SII500	D6-152	1W5D15	GP2L-152	29C8	3rd IF Plate Dec.
C37	1500		25273	SII500	D6-152	1W5D15	GP2L-152	29C8	3rd IF Screen
C38	1500		25273	SII500	D6-152	1W5D15	GP2L-152	29C8	3rd IF Cathode
C39	100	500	25188	1468-0001	D6-101	5W5T1	GP1K-101	1FM-31	Diode Load Cap
C40	.003	600	25184	P688-003	D6-302	PTE6D3	GP2-333-302	6TM-D3	De-emphasis
C41	1500		25273	SII500	D6-152	1W5D15	GP2L-152	29C8	RF Bypass
C42	1500		25273	SII500	D6-152	1W5D15	GP2L-152	29C8	Filament Bypass *
C43	47	500	25193	1468-00005	D6-470	5W5Q5	GP1K-470	1FM-45	RF Bypass
C44	.01	600	25186	P688-01	D6-103	PTE6S1	821-01	6TM-S1	Audio Coupling
C45	.01	600	25186	P688-01	D6-103	PTE6S1	821-01	6TM-S1	Audio Coupling
C46	100	500	25188	1468-0001	D6-101	5W5T1	GP1K-101	1FM-31	AF Amp. Plate
C47	.02	600	25195	P688-02	DF-203	PTE6S2		6TM-S2	Audio Coupling
C48	.01	600	25186	P688-01	D6-103	PTE6S1	821-01	6TM-S1	Tone Comp.

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: CAPEHART PART No.	IRC PART No.	IDENTIFICATION CODES
R45	220KΩ	½	77178	BTS-220K	Phase Inv. Plate
R46	220KΩ	½	77178	BTS-220K	Output Grid
R47	220KΩ	½	77178	BTS-220K	Output Grid
R48	220KΩ	½	77178	BTS-220K	Output Grid
R49	270Ω	1	77174	BTA-270	Output Cathode
R50A	400Ω	10	77463		Filter - Wire Wound
B	1000Ω				Filter - Wire Wound
R51	15Ω	½	77491	BW-½-15	Bias Network
R52	680KΩ	½		BTS-680K	Series Phono - See Note 1
R53	3.3Ω	1	77492	BW-1-3.3	Filament Dropping - See Note 2

Note 1. Not used in all models.
Note 2. Not used in P-8 chassis.

TRANSFORMER (POWER)

ITEM No.	RATING: PRI.	RATING: SEC. 1	RATING: SEC. 2	RATING: SEC. 3	REPLACEMENT DATA: CAPEHART PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.
T1	117VAC @ .77A	600VCT .108ADC	5VAC @ 2A	6.3VAC @ 4A	94262			

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: CAPEHART PART No.	STANCOR PART No.	MERIT PART No.	CHICAGO PART No.	INSTALLATION NOTES
T2	7.7KΩ CT	3.5Ω	360Ω CT	.3Ω	94235	A-3870	A-3027 ①	R0110 ①	① Drill one new mounting hole.

SPEAKER

ITEM No.	RATINGS	REPLACEMENT DATA: CAPEHART PART No.	VIKING PART No.	QUAM PART No.	INSTALLATION NOTES
	FIELD V. C. IMP.				
SP1	PM 3.5Ω	13892	12J12	12A4A	
	CONE DIA. V. C. DIA.				
SP2	11 3/8" 1"				

COILS (RF-IF)

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: CAPEHART PART No.	MEISSNER PART No.	NOTES
L1	FM Ant. Coil	0Ω		38958		
L2	Fil. Choke	.4Ω		38884		
L3	RF Choke	.4Ω		38884		
L4	FM RF Coil	0Ω		38959		
L5	FM Osc. Coil	0Ω		38960		
L6	Fil. Choke	.4Ω		38884		
L7A	Loop Ant.	.8Ω		13893		Chassis P-7
B	Loop Ant.			650189A-G1		Chassis P-8
L8	Wave Trap	13Ω		38996		
L9	AM Antenna Loading Coil	2Ω		38963		
L10	RF Choke	.4Ω		38884		
L11	AM RF Coil	65Ω	4Ω	38961		
L12	RF Choke	.4Ω		38884		
L13	RF Choke	.4Ω		38884		
L14	AM Osc. Coil	2.7Ω		38962		Tap at .4Ω
L15A	1st IF FM	.5Ω		38957		
B	1st IF AM	9.4Ω		38957		
L16	Fil. Choke	.4Ω		38884		
L17A	2nd IF FM	10Ω	.4Ω	38950		Includes Resistance on AM Pri.
B	2nd IF AM			38950		

PARTS LIST AND DESCRIPTIONS (Continued)

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: CAP.	RATING: VOLT	REPLACEMENT DATA: CAPEHART PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	SPRAGUE PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
C49	470	500	25285	1468-0005	D6-471	5W5T5	GP2K-471	1FM-35	Tone Comp.
C50	.01	600	25186	P688-01	D6-103	PTE6S1	821-01	6TM-S1	Audio Coupling
C51	.003	600	25184	P688-003	D6-302	PTE6D3	GP2-333-302	6TM-D3	Output Plate
C52	.003	600	25184	P688-003	D6-302	PTE6D3	GP2-333-302	6TM-D3	Output Plate
C53	.02	600	25195	P688-02	DF-203	PTE6S2		6TM-S2	Audio Coupling
C54	.005	600	25031	P688-005	D6-502	PTE6D5	811-005	6TM-D5	Line Filter
C55	1500		25273	SII500	D6-152	1W5D15	GP2L-152	29C8	RF Bypass *
C56	.005	600	25031	P688-005	D6-502	PTE6D5	811-005	6TM-D5	Line Filter *

* Not used in all models.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: CAPEHART PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	INSTALLATION NOTES
R1A	3.2Meg	½	78158	QI3-140			Volume Control - Front
B	3.2Meg	½		MI3-140			Volume Control - Rear
C	Switch			76-1			Attach to R1A Per Instructions
R2A	3.2Meg	½	78159				Bass Control - Front
B	500K	½					Treble Control - Rear

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: CAPEHART PART No.	IRC PART No.	IDENTIFICATION CODES
R3	1Meg	½	77181	BTS-1Meg	AVC Network
R4	220KΩ	½	77178	BTS-220K	Antenna Loading
R5	1Meg	½	77181	BTS-1Meg	RF Amp. Grid
R6	220Ω	½	77186	BTS-220	RF Amp. Cathode
R7	33KΩ	½	77183	BTS-33K	RF Amp. Screen
R8	1000Ω	½	77233	BTS-1000	RF Amp. Plate Decoupling
R9	47Ω	½	77219		Parasitic Suppressor
R10	100KΩ	½	77167	BTS-100K	AM Converter Grid
R11	1000Ω	½	77233	BTS-1000	AM Converter Decoupling
R12	22KΩ	½	77169	BTS-22K	AM Osc. Grid
R13	10KΩ	1	77022		AM Osc. Anode
R14	100KΩ	½	77167		1st FM IF Transformer Shunt
R15	2200Ω	½	77184	BTS-2200	FM Converter Cathode
R16	1000Ω	½	77233	BTS-1000	FM Converter Decoupling
R17	10KΩ	½	77180		FM Osc. Grid
R18	1000Ω	½	77233	BTS-1000	FM Osc. Plate
R19	1Meg	½	77181	BTS-1Meg	1st IF Amp. Grid
R20	68Ω	½	77245		1st IF Amp. Cathode
R21	33KΩ	½	77183	BTS-33K	1st IF Amp. Screen
R22	1000Ω	½	77233	BTS-1000	1st IF Amp. Plate Decoupling
R23	100KΩ	½	77167		2nd FM IF Transformer Shunt
R24	68Ω	½	77245		2nd IF Amp. Cathode
R25	220Ω	½	77186	BTS-220	2nd IF Amp. Cathode
R26	33KΩ	½	77183	BTS-33K	2nd IF Amp. Screen
R27	1000Ω	½	77233	BTS-1000	2nd IF Amp. Plate Decoupling
R28	100KΩ	½	77167		3rd FM IF Transformer Shunt
R29	220Ω	½	77186	BTS-220	3rd IF Amp. Cathode
R30	33KΩ	½	77183	BTS-33K	3rd IF Amp. Screen
R31	1000Ω	½	77233	BTS-1000	3rd IF Amp. Plate Decoupling
R32	1000Ω	½	77233	BTS-1000	3rd IF Amp. Decoupling
R33	15KΩ	½	77246	BTS-15K	Ratio Det. Diode Load
R34	22KΩ	½	77169	BTS-22K	De-emphasis
R35	100KΩ	½	77167	BTS-100K	Tone Compensation - See Note 1
R36	220KΩ	½	77178	BTS-220K	AVC Network
R37	1Meg	½	77181	BTS-1Meg	AVC Network
R38	470KΩ	½	77173	BTS-470K	AVC Network
R39	47KΩ	½	77172	BTS-47K	Diode Filter
R40	470KΩ	½	77173	BTS-470K	AVC Network
R41	10Meg	½	77182	BTS-10Meg	AF Amp. Grid
R42	220KΩ	½	77178	BTS-220K	AF Amp. Plate
R43	4.7Meg	½	77187	BTS-4.7Meg	Delayed AVC Network
R44	10Meg	½	77182	BTS-10Meg	Phase Inv. Grid

PARTS LIST AND DESCRIPTIONS (Continued)

R F COILS

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: CAPEHART PART No.	MEISSNER PART No.	
L18	Fil. Choke	.4Ω		38884		
L19A	3rd IF FM	10Ω	.3Ω	38951		Includes Resistance on AM Pri.
B	3rd IF AM		10Ω	38951		
L20	Fil. Choke	.4Ω		38884		
L21	Ratio Det. Trans.	1.5Ω	.1Ω	38952		
L22	Fil. Choke	.4Ω		38884		

PHONO CARTRIDGE and NEEDLE

ITEM No.	REPLACEMENT DATA: CAPEHART PART No.	ASTATIC PART No. CARTRIDGE	ASTATIC PART No. NEEDLE	SHURE PART No. CARTRIDGE	SHURE PART No. NEEDLE	ELECTRO-VOICE PART No. CARTRIDGE	ELECTRO-VOICE PART No. NEEDLE	REMARKS
M1		ACD-2	A-1 A-3	W22AB	A62A A65MG	96-T	0-1 or S-1 and 0-3 or S-3	

ASTATIC, SHURE AND ELECTRO-VOICE NEEDLE LISTINGS SHOWN ABOVE ARE SPECIFIED FOR THE RESPECTIVE REPLACEMENT CARTRIDGES LISTED.

DIAL LIGHTS

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA: CAPEHART PART No.		NOTES
M2	Bayonet	6-8	.25	Blue	42185		Type # 44
M3	Bayonet	6-8	.25	Blue	42185		Type # 44
M4	Bayonet	6-8	.25	Blue	42185		Type # 44
M5	Bayonet	6-8	.25	Blue	42185		Type # 44

MISCELLANEOUS

ITEM No.	PART NAME	CAPEHART PART No.	NOTES
M6	Switch	90269	Function
M7	Printed Circuit	77462	Tone
M8	Tuning Gang	17210	
A8	Dual Trimmer	26278	AM Osc. Adjustment
A9			AM RF Adjustment
A10	Trimmer	26279	AM Antenna Adjustment
A21	Trimmer	26231	FM Osc. Adjustment
A22	Dual Trimmer	26280	FM RF Adjustment
A23			FM Antenna Adjustment
	AM Dial Glass	31439	
	FM Dial Glass	31440	
	Dial Pointer	04133	
	Knob	59492	Volume (Model 35P7)
	Knob	59495	Tuning (Model 35P7)
	Knob	59498	Switch (Model 35P7)
	Knob	59496	Bass Tone (Model 35P7)
	Knob	59497	Treble Tone (Model 35P7)
	Knob	59534	Volume, Tuning (Models 1002F, 1003M, 1004B)
	Knob	59535	Switch (Models 1002F, 1003M, 1004B)
	Knob	59537	Treble Tone (Models 1002F, 1003M, 1004B)