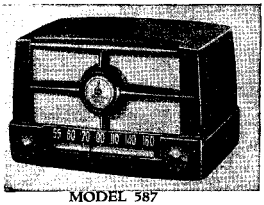
Emerson Radio & Phonograph Corp.

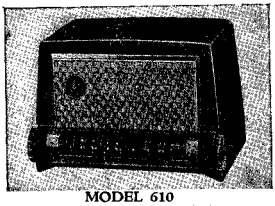
	Model: 610	**Chassis:**	**Year:** Pre 1951
	Power:	**Circuit:**	**IF:**
	Tubes:		
	Bands:		

Resources
Riders 20 (XX) EMERSON 20-9
Riders 20 (XX) EMERSON 20-10
Riders 20 (XX) EMERSON 20-11

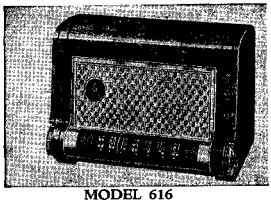
MODELS 587, Ch. 120033A, 120033B; 610,616, Ch. 120100A, 120100B



MODEL 587



MODEL 610



MODEL 616

REPLACEMENT PARTS LIST

CHASSIS 120033A, 120100A		
Symbol	† Part No.	DESCRIPTION
V1	12SA7GT	Converter
V2	12SK7GT	I-f amplifier
V3	12SQ7GT	Detector, a.v.c., a-f amplifier
V4	50L6GT	Power output
V5	35Z5GT	Rectifier
C1, C2	900023	Two-gang, variable condenser
C3	920040	.1 mfd., 200 volt, paper
C4	920515	.002 mfd., 400 volt, paper
C5, C6	910000	220 mmf., mica (Alt. part 928104)
C7	920180	.005 mfd., 400 volt, paper
C8	920020	.02 mfd., 400 volt, paper
C9	920030	.05 mfd., 400 volt, paper
C10, C11	925061	30-50 mfd., 150 volt, electrolytic
L1	700023FH	Loop antenna
L2	716018	Oscillator coil
R1, R4	351490	15 megohms, ½ watt
R2	Part of L2	22 kilohms, ½ watt
R3	351330	3.3 megohms, ½ watt
R5, R6	351130	470 kilohms, ½ watt
R7	340290	150 ohms, ½ watt
R8	370490	1000 ohms, 1 watt
R9	370150	39 ohms, 1 watt
R10	390024	.5 megohms, volume control (Alt. part 390062) #.
T1	720021	First i-f transformer
T2	720021	Second i-f transformer
T3	734023	Output transformer
SP1	180032H	P.M. speaker
SW1	Part of R10	Line switch
P.L.	807000	Dial light*
	507003	Dial light socket*
	583005	Line cord

CHASSIS 120033B, 120100B		
Symbol	† Part No.	DESCRIPTION
V1	12SA7GT	Converter
V2	12SK7GT	I-f amplifier
V3	12SQ7GT	Detector, a.v.c., a-f amplifier
V4	50L6GT	Power output
V5	35Z5GT	Rectifier
C1, C2	900023	Two-gang, variable condenser
C3, C9	920030	.05 mfd., 400 volt, paper
C4	920515	.002 mfd., 400 volt, paper
C5, C6	910000	220 mmf., mica (Alt. part 928104)
C7	920180	.005 mfd., 400 volt, paper
C8	923082	.02 mfd., 400 volt, paper
C10, C11	925061	30-50 mfd., 150 volt, electrolytic
C12	920040	.1 mfd., 200 volt, paper
L1	700023FH	Loop antenna
L2	716026	Oscillator coil
R1, R4	351490	15 megohms, ½ watt
R2	340810	22 kilohms, ½ watt
R3	351330	3.3 megohms, ½ watt
R5, R6	351130	470 kilohms, ½ watt
R7	340290	150 ohms, ½ watt
R8	370490	1000 ohms, 1 watt
R9	370150	39 ohms, 1 watt
R10	390024	.5 megohm, volume control (Alt. part 390062)°
R11	351050	220 kilohms, ½ watt
T1	720021	First i-f transformer
T2	720021	Second i-f transformer
T3	734024	Output transformer
SP1	180032H	P.M. speaker
SW1	Part of R10	Line switch
P.L.	807000	Dial light△
	507003	Dial light socket△
	583013P	Line cord

* Chassis 120033A only; # Chassis 120100A only.

△Chassis 120033B only; °Chassis 120100B only.

CABINET AND DIAL PARTS

DESCRIPTION	Model 587	Model 610	Model 616
Cabinet	140265 (Brown)	460097	140239A (Wood)
Grille	140275 (Ebony)	140168 (Plastic)	460097
Baffle	470454 (Grille & baffle)	575448	575448
Knob	450115	460088	460088
Drive shaft	280035	280055	280055
Dial drive cord	530002 (28")	530002 (31")	530002 (31")
Dial drive spring	587040	587040	587040
Dial backplate	520048	520104	520104
Pointer	525023	525033	525033

MODELS 587, Ch. 120033A, 120033B;
610, 616, Ch. 120100A, 120100B

DESCRIPTION

TYPE: Single-band (AM) superheterodyne.

FREQUENCY RANGE: 540-1620 kc.

TYPE OF TUBES:

1—12SA7GT, converter

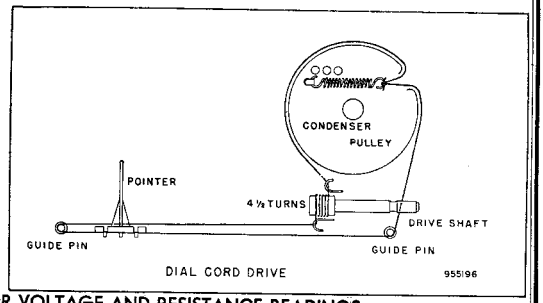
1—12SK7GT i-f amplifier

1—12SQ7GT, detector, a.v.c., a-f amplifier

1—50L6GT, power output

1—35Z5GT, rectifier

POWER SUPPLY: A.c. or d.c.
VOLTAGE RATING: 105-125 volts.
POWER CONSUMPTION: 30 watts.
CURRENT DRAIN: 0.24 amp. at 117 volts a.c.



DIAL CORD DRIVE 955196

INSTRUCTIONS FOR VOLTAGE AND RESISTANCE READINGS

1. Voltage readings are d.c. volts and resistance readings in ohms, unless otherwise specified.
2. All measurements made with voltohmyst.
3. Socket connections are shown as bottom views.
4. Measured values are from socket pin to common negative, unless otherwise noted.
5. Line voltage maintained at 117 volts a.c. for voltage readings.
6. Nominal tolerance on component values makes possible a variation of ± 15% in voltage and resistance readings.
7. Volume control at maximum with no signal applied, for voltage measurements.

VOLTAGE READINGS

SYMBOL	TUBE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8
V1	12SA7GT	0	25AC	92	92	-10	0	12AC	-1.0
V2	12SK7GT	0	36AC	0	-1.0	0	92	25AC	92
V3	12SQ7GT	0	-1.0	0	-.8	0	60	0	12AC
V4	50L6GT	0	36AC	110	92	0	0	83AC	5.4
V5	35Z5GT	NC	117AC	NC	NC	115AC	0	83AC	116

RESISTANCE READINGS

SYMBOL	TUBE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8
V1	12SA7GT	230K	32	880*	880*	24K	0	16	3 Meg.
V2	12SK7GT	230K	48	0	3 Meg.	0	880*	32	880*
V3	12SQ7GT	230K	14 Meg.	0	550K	0	450K*	0	16
V4	50L6GT	230K	48	220*	880*	500K	0	108	150
V5	35Z5GT	NC	150	NC	NC	190	0	108	0*

K=kilohms; Meg.=megohms; NC=no connection; * Measured to pin 8 of V5, 35Z5GT.

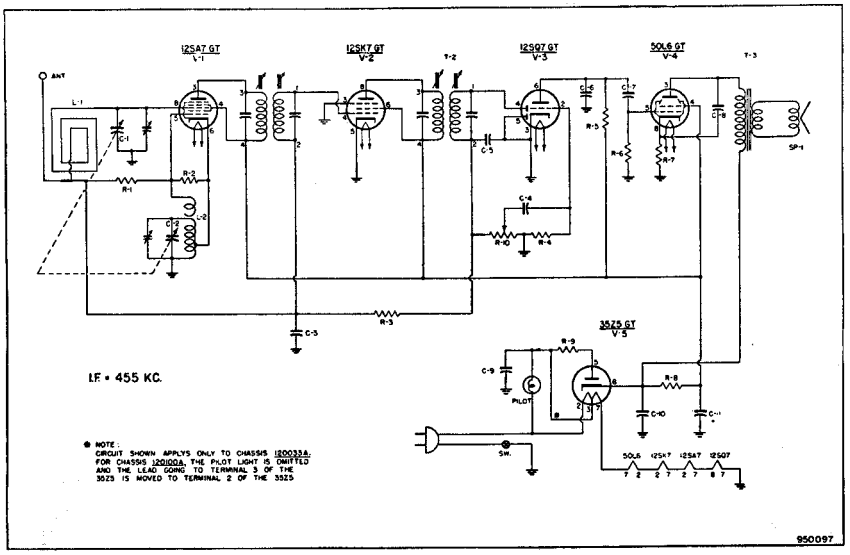
ALIGNMENT INSTRUCTIONS

1. To position pointer, turn variable condenser fully closed and set pointer to reference mark at low frequency end of dial backplate.
2. Use isolation transformer if available. If not, connect a 0.1 mfd. condenser in series with low side of signal generator and chassis.
3. Volume control should be at maximum position; output of signal generator should be no higher than necessary to obtain an output reading.
4. Use an insulated alignment tool for all adjustments.

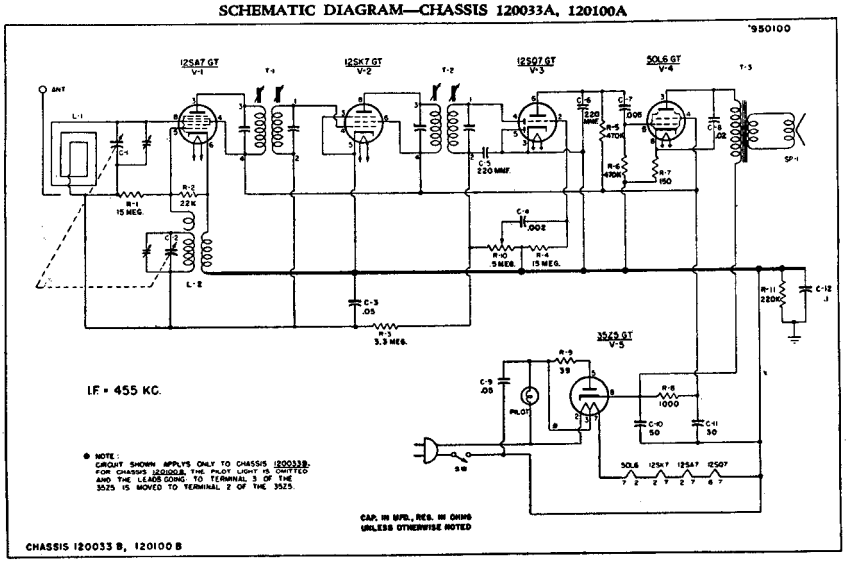
ALIGNMENT PROCEDURE

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	METER OUTPUT	ADJUST	REMARKS
1	0.1 mfd.	High side to grid (pin 8) of 12SA7GT(V1). Low side to chassis.	455 kc.	Variable condenser fully open.	Across voice coil.	Second i-f trans. T2 and first i-f trans. T1.	Adjust for maximum output. If isolation transformer is not used, reduce dummy antenna to .001 mfd. to reduce hum modulation.
2	200 mmfd.	High side to external antenna lead. Low side to chassis.	1620 kc.	Variable condenser fully open.	Across voice coil.	Oscillator trimmer on C2.	Adjust for maximum output.
3	200 mmfd.	High side to external antenna lead. Low side to chassis.	1450 kc.	Tune for maximum output.	Across voice coil.	Antenna trimmer on C1.	Adjust for maximum output.

MODELS 587, Ch. 120033A, 120033B;
610, 616, Ch. 120100A, 120100B



SCHEMATIC DIAGRAM—CHASSIS 120033A, 120100A



SCHEMATIC DIAGRAM—CHASSIS 120033B, 120100B