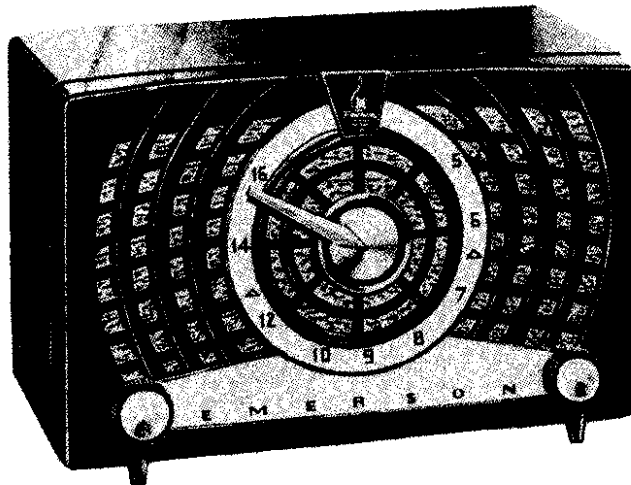


MODEL 778B,
Ch. 120199-BMODEL 778B
Chassis 120199-B**DESCRIPTION****TYPE:** Single-band (AM) superheterodyne.**FREQUENCY RANGE:** Broadcast 540-1620 kc**TYPE OF TUBES:**

- V-1--12BE6, converter
- V-2--12BA6, i-f amplifier
- V-3--12AT6, detector, a.v.c. a-f amplifier
- V-4--50C5, power output
- V-5--35W4, 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.**GENERAL NOTES**

1. If replacements are made or the wiring disturbed in the r-f section of the circuit, the receiver should be carefully realigned.
2. In operating the receiver on d.c., it may be necessary to reverse the line plug for correct polarity.
3. This model has a self-contained antenna and does not require additional antenna connections. For permanent home installations, however, if it is desired to improve reception of weak stations, an additional outdoor antenna may be used. For this purpose a lead has been brought out in the rear. Use no ground connection.
4. The self-contained loop antenna operates at maximum efficiency when its position is pointing to the broadcasting source. It is important, therefore, once the station is tuned in, to rotate the cabinet back and forth through a quarter of a circle (90 degrees), leaving it at the position where the station is received with maximum volume.

MODEL 778B,
Ch. 120199-B

CONDITIONS FOR VOLTAGE AND RESISTANCE READINGS

1. Voltages indicated are positive d.c., resistances in ohms, unless otherwise indicated.
2. Measurements made with voltohmmyst or equivalent.
3. All measurements taken from pin to B neutral unless otherwise indicated.
4. Voltage measurements taken with:
 - a) Line voltage maintained at 117 volts a.c.
 - b) Volume control set for maximum volume.
 - c) Variable condenser fully closed and no signal applied.
5. Resistance measurements taken with:
 - a) Power line cord disconnected from outlet.
 - b) Volume control set for maximum volume.
6. Nominal tolerance on component values makes possible a variation of $\pm 15\%$ in voltage and resistance readings.
7. N.C. denotes no connection, K is kilohms, Meg. is megohms. Resistances marked * are measured to Pin 7 of Rectifier 35W4 (B+).

ALIGNMENT INSTRUCTIONS

1. Use isolation transformer if available. If not, connect a .25 mfd. condenser in series with low side of signal generator and B neutral.
2. 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 screw driver for adjusting.

STEP	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.005 mfd.	High side to grid (pin 7) of V1 (12BE6). Low side to B-neutral (See Alignment Note).	455 KC	Variable condenser fully open.	Across voice coil.	T2, T1 (A3, A4, A1, A2)	Adjust for maximum output.
2		Form loop of several turns and radiate signal into receiver	1620 KC	"	Across voice coil.	Trimmer C-4 (Osc.)	Adjust for maximum output.
3		"	1400 KC	Tune for maximum output.	Across voice coil.	Trimmer C-2 (Ant.)	Adjust for maximum output.

RESISTANCE READINGS FOR CHASSIS 120199-B

SYMBOL	TUBE	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7
V-1	12BE6	22K	0.4 \sim	12 \sim	24 \sim	1500*	1500*	4 MEG
V-2	12BA6	4 MEG	0 \sim	24 \sim	36 \sim	1500*	1500*	120 \sim
V-3	12AT6	6.8 MEG	0 \sim	0 \sim	12 \sim	500K	0 \sim	470K*
V-4	50C5	150 \sim	480K	36 \sim	85 \sim	480K	1500*	180*
V-5	35W4	NC	NC	85 \sim	110 \sim	130 \sim	112 \sim	0*

*Resistance measured to Pin 7 of Rectifier 35W4 (B+).

VOLTAGE READINGS ON SCHEMATIC DIAGRAM

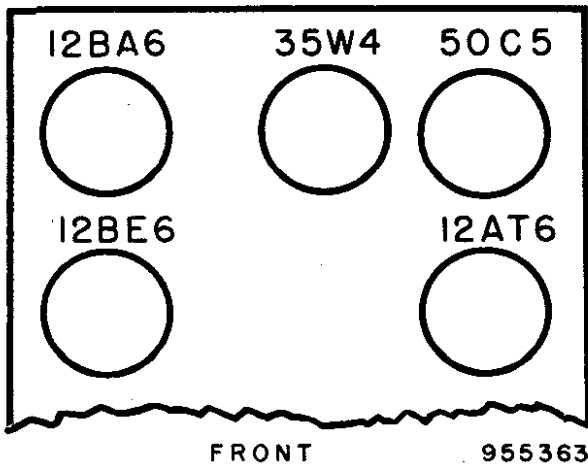


Fig. 2 - Tube Location Diagram of Chassis 120199-B

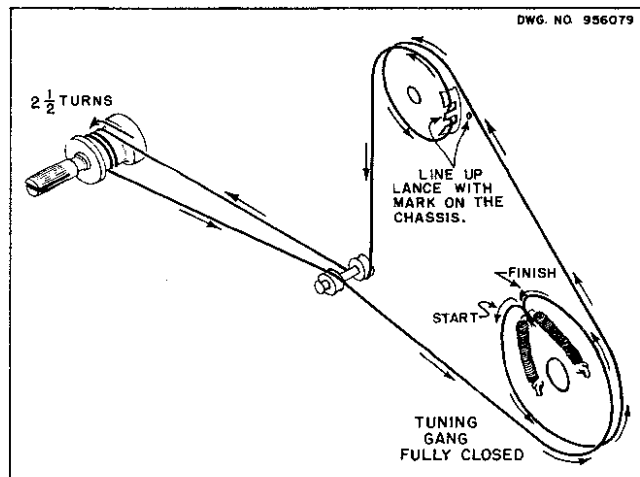
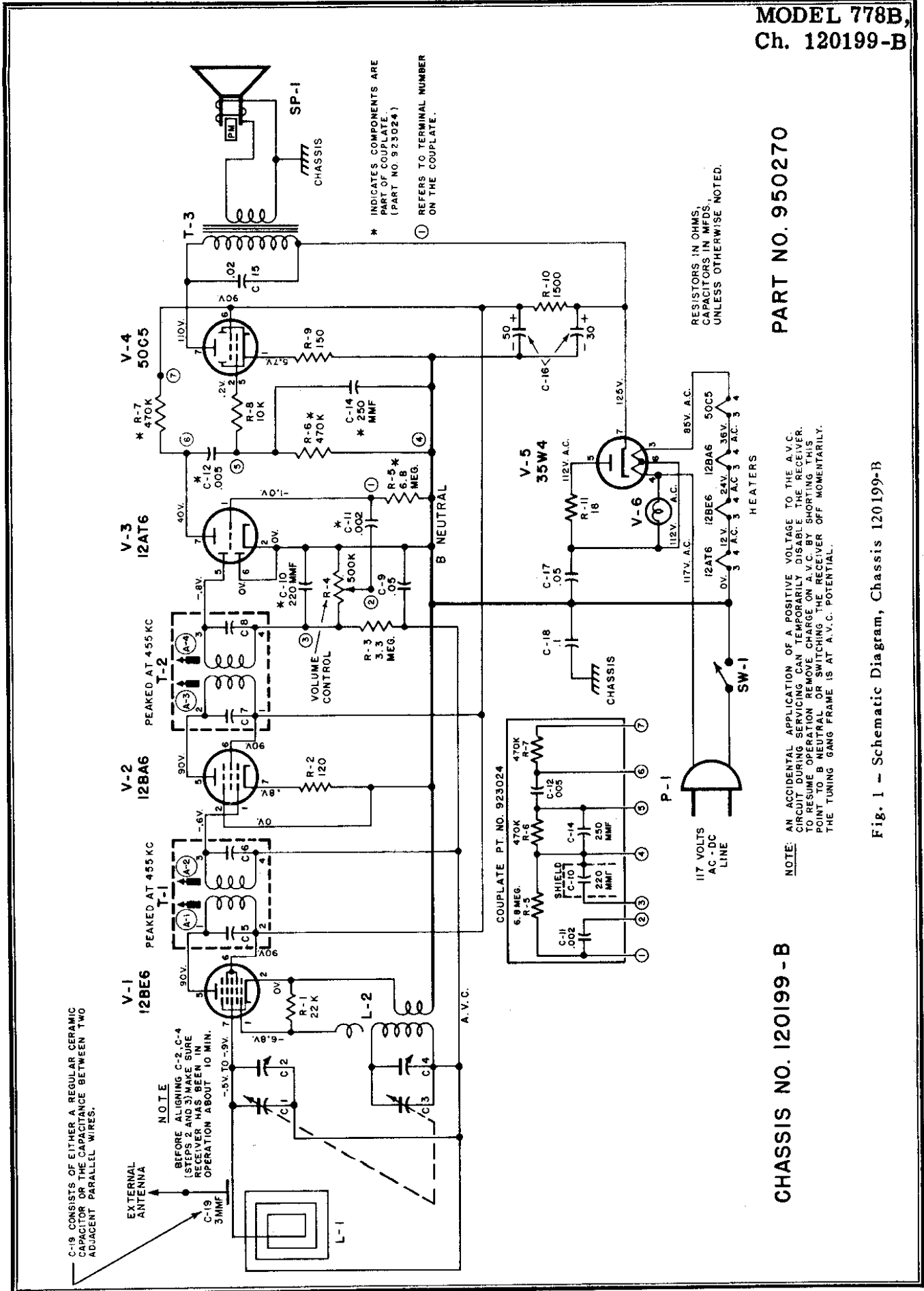


Fig. 3 - Dial Cord String for Chassis 120199-B



PART NO. 950270

Fig. 1 - Schematic Diagram, Chassis 120199-B

MODEL 778B,
Ch. 120199-B

CHASSIS PARTS LIST (Chassis 120199-B)

SYM-BOL	PART NO.	DESCRIPTION	LIST PRICE	SYM-BOL	PART NO.	DESCRIPTION	LIST PRICE
C-1	900105	Variable Capacitor - R.F. Section	3.40	R-1	PT.of L-2	22,000 ohm Carbon	
C-2	PT.of C-1	Trimmer - R.F. Section		R-2	340272	120 ohm Carbon 1/2W. ±10%	.10
C-3	PT.of C-1	Variable Capacitor - Oscillator Sec.		R-3	351332	3.3 megohm Carbon 1/2W. ±20%	.06
C-4	PT.of C-1	Trimmer - Oscillator Section		R-4	390062	500,000 ohm Volume Carbon	.90
C-5	PT.of T-1			R-5	PART	6.8 megohm	
C-6	PT.of T-1			R-6	OF	470,000 ohm R.C. Coupling Unit	
C-7	PT.of T-2			R-7	923024	470,000 ohm	
C-8	PT.of T-2			R-8	350732	10,000 ohm Carbon 1/2W. ±20%	.05
C-9	923554	.05 mf Paper 400V.	.25	R-9	340292	150 ohm Carbon 1/2W. ±10%	.10
C-10		220 mmf		R-10	380532	1,500 ohm Carbon 1W. ±20%	.16
C-11	PART	.002 mf		R-11	340072	18 ohm Carbon 1/2W. ±10%	.14
C-12	OF	.005 mf R.C. Coupling Unit	1.05	SP-1	180111	Speaker - PM - 4"	3.00
C-14		250 mmf		SW-1	PT.of R-4	On-Off Switch	
C-15	923524	.02 mf Paper 400V.	.25	T-1	720033	1st I.F. Transformer	1.80
C-16	925218	30-50 mf Electrolytic 150V.	1.35	T-2	720033	2nd I.F. Transformer	1.80
C-17	923554	.05 mf Paper 400V.	.25	T-3	734089	Output Transformer	1.55
C-18	923515	.1 mf Paper 400V.	.30	V-1	800525	Vacuum Tube - 12BE6	
C-19	PT.of L-1	3 mmf		V-2	800524	Vacuum Tube - 12BA6	
L-1	700088	Loop Antenna	1.40	V-3	800523	Vacuum Tube - 12AT6	
L-2	716076	Oscillator Coil	.75	V-4	800032	Vacuum Tube - 50C5	
P-1	583037P	Plug & Line Cord	.55	V-5	800526	Vacuum Tube - 35W4	
				V-6	807000	Pilot Light - No. 47 Bulb	.11

Prices subject to change without notice.

CABINET PARTS LIST - Chassis 120199-B

PART NOS.	DESCRIPTION	LIST PRICE	PART NOS.	DESCRIPTION	LIST PRICE
MODEL 778B			MODEL 778B		
140547	Cabinet - Ebony	4.05	411595	Insert - Gold	.70
140547A	Cabinet - Ivory	6.25	411596	Dial Ring - Gold	.95
140547B	Cabinet - Cherry Red	6.25	575934	Baffle	.90
140547C	Cabinet - Forest Green	6.25	575936	Back	.20
460162-S	Knobs -		541187	Trimount Fastener	.01
	Tuning & Volume - Gold	.10	542280	Compression Spring	.02
460382	Pointer - Gold	.20	635031	Jewel - Amber	.05

Prices subject to change without notice.

For best results replacements should be made with genuine Emerson parts and genuine Emerson tubes.