

VOLTAGE TABLE
(BOTTOM VIEW OF CHASSIS)

POWER SUPPLY
THIS RADIO CAN BE OPERATED ON EITHER:
 110 to 120 VOLTS DIRECT CURRENT
 OR
 110 to 120 VOLTS, 50 to 60 CYCLE, ALTERNATING CURRENT
 OR
 BATTERIES—WITH ONE 4½ VOLT "A" and ONE 67½ VOLT "B"

I.F.-455 KC.
 NOTE
 NUMBERS SHOWN IN PARENTHESIS ARE ILLUSTRATION NUMBERS.
 UNDERWRITERS APPROVED MODELS HAVE A COMMON NEGATIVE.
 NON-UNDERWRITERS APPROVED MODELS DO NOT HAVE PARTS 13 AND 34, AND ALL CONNECTIONS TO THE COMMON NEGATIVE ARE GROUNDED DIRECTLY TO THE CHASSIS.

INSTALLATION OF REQUIRED BATTERIES

Diagram shows proper location and connections of the following required types of batteries:
 One 4½ Volt "A" Battery, such as SENTINEL Type A38, or Ray-O-Vac P88A or Eveready No. 736A, etc.
 One 67½ Volt "B" Battery, such as SENTINEL Type B7634, or Ray-O-Vac 4367 or Eveready No. 467, etc.
 NOTE: A 90 Volt "B" Battery, such as Eveready Type No. 490B, may be used in place of the 67½ Volt "B" Battery. The use of a 90 Volt "B" Battery will provide somewhat increased sensitivity and more power output, but this battery will not last quite as long as the 67½ Volt "B" Battery.

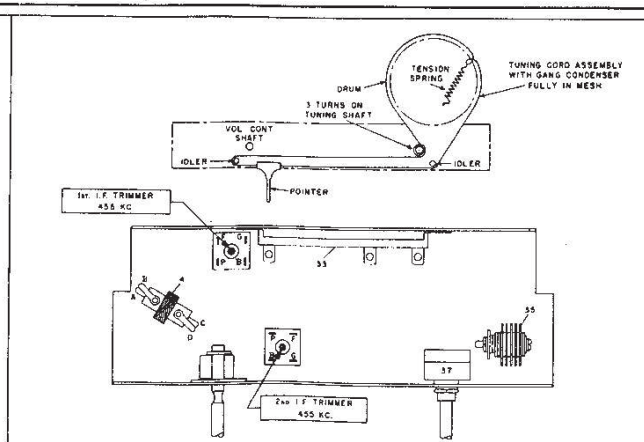
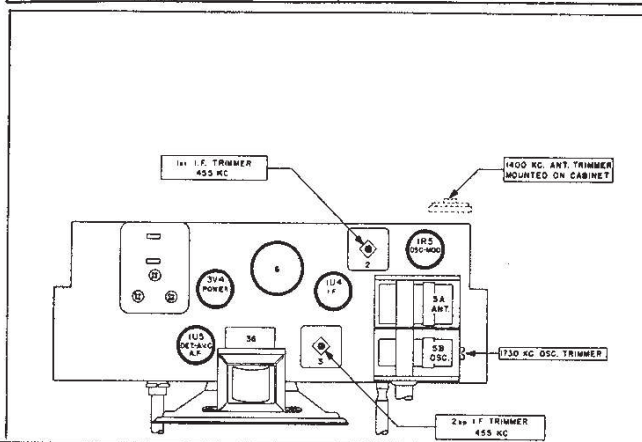
ALIGNMENT PROCEDURE

Be sure to follow procedure carefully and in the order given—otherwise the receiver will be insensitive and the dial calibration incorrect. For alignment procedure, read tabulations from left to right. Make the adjustment marked (1) first, (2) next, (3) third. IF RADIO HAS METAL PLATE ON BOTTOM OF CHASSIS BE SURE TO HAVE PLATE MOUNTED ON CHASSIS WHEN ALIGNING SET.

Before starting alignment:

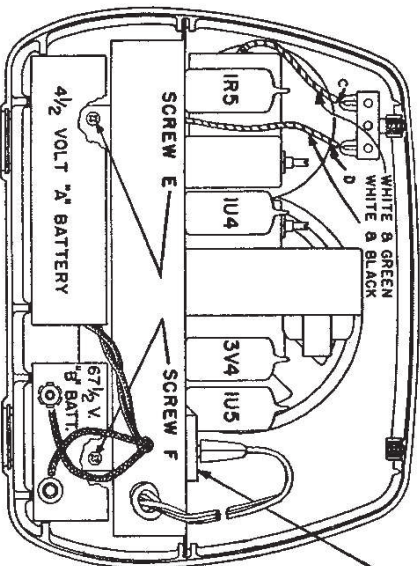
- (A) Check tuning dial adjustment by tuning gang condenser until plates touch maximum capacity stop (completely in mesh) at which point the dial indicator must be exactly even with the outside edge of the first 5 in the 55 calibration number at the low frequency end of the dial scale. If dial indicator does not point exactly to the outside edge, move pointer to correct position.
- (B) Use an accurately calibrated test oscillator with some type of output measuring device.
- (C) WHEN ADJUSTING THE 1730 KC OSCILLATOR TRIMMER, remove chassis from cabinet and disconnect the loop connection wires from the loop terminal strip. Attach a 1 megohm resistor across these connections and feed output of test oscillator across the 1 megohm resistor.
- (D) THE 1400 KC LOOP ANTENNA TRIMMER should be adjusted only after all other adjustments have been made and with the set mounted in the cabinet. When aligning the 1400 KC Antenna Trimmer, couple test oscillator to receiver loop by: (1) make loop consisting of five to ten turns of No. 20 to No. 30 size wire, wound on a 2" or 3" form; (2) connect this loop across output of test oscillator; (3) place test oscillator loop near radio loop. BE SURE THAT NEITHER LOOP MOVES WHILE ALIGNING.

Steps	Set receiver dial to:	TEST OSCILLATOR			Refer to parts layout diagram for location of trimmers mentioned below:
		Adjust test oscillator frequency to:	Use dummy antenna in series with output of test oscillator consisting of:	Attach output of test oscillator to	
1	Any point where no interfering signal is received	Exactly 455 K. C.	0.2 Mfd. Condenser	High side to grid of 1R5 tube, Low side to chassis.	Adjust each of the 2nd I.F. transformer trimmer adjustment screws for maximum output, then adjust each of the 1st I.F. transformer trimmer adjustment screws for maximum output.
2	Rotate gang condenser to minimum capacity	Exactly 1730 K. C.	See Paragraph (C) above	See Paragraph (C) above	Adjust 1780 K. C. oscillator trimmer for maximum output.
3	Approximately 1400 K. C.	Approx. 1400 K. C.	See Paragraph (D) above	See Paragraph (D) above	Adjust 1400 K. C. antenna trimmer for maximum output.

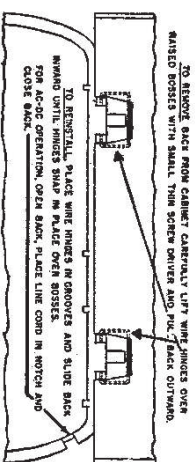


SENTINEL RADIO CORP.

MODELS 316PM, 316PT,
1U-316PM, 1U-316PT



FOR BATTERY OPERATION THE AC LINE CORD PLUG MUST BE FIRMLY INSERTED INTO THIS RECEPTACLE.
TO REMOVE BATTERIES FROM CABINET:
1. REMOVE BATTERIES.
2. UNSOLDER ANTENNA WIRES C & D.
3. REMOVE SCREWS E & F.



PARTS LIST

Illustr. No.	Part No.	Part Name	Description	Part No.	Part Name	Description
1	64E18	Antenna	Loop	13E103-9	Clip	Holds Back to Cabinet
2	20E337	Coil	1st I.F. Transformer	82E35-F10	Screw	6-20x1/4—Holds 13E103-9 Clip to Cabt.
3	20E337	Coil	2nd I.F. Transformer	82E37-F10	Screw	6-20x3/8—For Mounting Chassis to Cabinet
4	20E338	Coil	Oscillator	10E43	Stud	Trimount, for Mounting Speaker Baffle to Cabinet
5	20E339	Condenser	Tuning, Two Gang	35E8-8	Dial Pointer	Dial Indicator
6	25E28	Condenser	Dry Electrolytic, 40-40 Mfd. 150 V. & 100 Mfd. 10 V.	20E24-9	Batt. Connector B—	Battery Connector Assembly
OR	25E29	Condenser	Dry Electrolytic, 40-40 Mfd. 150 V. & 100 Mfd. 10 V. (Used in 1U-316P Only)	20E249-2	Batt. Connector B+	Battery Connector Assembly
7	23E211	Condenser	Tubular, .01 Mfd. 200 V.	20E340	"A" Batt. Cable	"A" Battery Cable with Plug
8	23E216	Condenser	Tubular, .05 Mfd. 200 V.	55E21-1	Handle Bracket	Bracket for Mounting Handle.
9	23E416	Condenser	Tubular, .05 Mfd. 400 V.	52E31	Plastic Cover	Plastic Cover
9	23E408	Condenser	Tubular, .005 Mfd. 400 V.	55E39	Handle Cover	Clock Spring Steel
10	23E320	Condenser	Tubular, .2 Mfd. 200 V.	65E27	Hinge	Spring Hinge for Cabinet Back
11	23E320	Condenser	Tubular, .2 Mfd. 200 V.	37E17-5	Knob	Maroon
12	23E220	Condenser	R. F. (Used in 1U-316P Only)	41E12	Line Cord	Tan
13	20E407	Choke	Ceramic, .0001 Mfd.			Line Cord and Plug
14	23E24	Condenser	Ceramic, .0001 Mfd.			
15	23E24	Condenser	Ceramic Condenser Plate			
16	23E2024	Condenser	Ceramic, 4.7 Megohm, 1/3 W.			
17	27E475	Resistor	Carbon, 4.7 Megohm, 1/3 W.			
18	27E475	Resistor	Carbon, 4.7 Megohm, 1/3 W.			
19	27E475	Resistor	Carbon, 4.7 Megohm, 1/3 W.			
20	27E225	Resistor	Carbon, 2.2 Megohm, 1/3 W.			
21	27E475	Resistor	Carbon, 4.7 Megohm, 1/3 W.			
22	27E105	Resistor	Carbon, 1 Megohm, 1/3 W.			
23	27E474	Resistor	Carbon, 470,000 Ohm, 1/3 W.			
24	27E683	Resistor	Carbon, 68,000 Ohm, 1/3 W.			
25	27E104	Resistor	Carbon, 100,000 Ohm, 1/3 W.			
26	27E682	Resistor	Carbon, 6,800 Ohm, 1/3 W.			
27	27E271	Resistor	Carbon, 270 Ohm, 1/3 W.			
28	27E331	Resistor	Carbon, 330 Ohm, 1/3 W.			
30	27E471	Resistor	Carbon, 470 Ohm, 1/3 W.			
31	27E330-2	Resistor	Carbon, 33 Ohm, 1/2 W.			
32	27E680-3	Resistor	Carbon, 68 Ohm, 1 W.			
33	27E1005	Resistor	Wire Wound, 1810 and 610 Ohms, 8 W.			
35	57E1-4	Rectifier	Selenium			
36	1E29	Speaker	4" P.M.			
37	28E30	Volume Control	With D.P.S.T. Switch, 2 Megohm			
38	29E20	Switch	Spring Return Type			
39	24E33	Condenser	Trimmer 3-35 MMF. Working Range			

MISCELLANEOUS PARTS

Part No.	Part Name	Description
20E343	Cabinet	Complete Cabt. Assembly with Handle, Baffle, Loop and Cabt. Back, Maroon
20E343-2	Cabinet	Complete Cabt. Assembly with Handle, Baffle, Loop and Cabt. Back, Tan
20E344	Cabinet, less Back	Cabinet Assembly, less Back, but with Handle, Baffle and Loop, Maroon
20E344-2	Cabinet, less Back	Cabinet Assembly, less Back, but with Handle, Baffle and Loop, Tan
7E165-4	Cabinet Back	Back for Cabinet with 65E27 Spring Hinge
17E3-2	Plug	"A" Battery Plug
20E345	Speaker Baffle	Baffle Assembly with Grille Cloth, Tan
20E345-2	Speaker Baffle	Baffle Assembly with Grille Cloth, Maroon
7E165-8	Cabinet Back	Back for Cabinet with 65E27 Spring Tan
20E253-19	Dial Cord	Dial Drive Cord
65E2	Dial Spring	Dial Cord Tension Spring
20E348	Dial Shaft	Drive Shaft Assembly

HARDWARE