Make no service shipments to the factory unless instructed to do so by letter, as The Hallicrafters Company will not accept responsibility for unauthorized shipments.

The Hallicrafters Company reserves the privilege of making revisions in current production and assumes no obligation to incorporate such revisions in earlier models.

#### 8-2. CABINET REMOVAL.

Access to tubes, pilot lights, crystals and most adjustments may be had by removing the top portion of the cabinet only. This is done by removing three Phillips type screws on each side of the cover and lifting cover straight up.

The bottom portion of the cabinet may be removed only after the top cover has been removed. To remove the bottom portion of the cabinet, turn set upside down. Remove six Phillips type screws and lift bottom straight up.

#### 8-3. DIAL CORD RESTRINGING.

Remove cabinet top cover (refer to paragraph 8-2). Follow the arrow and number sequence in figure 10. Maintain a spring expansion of 1/4 inch to 1/2 inch on the dial cord spring. After completing restringing place the pointer on the rail and engage the dial cord with the pointer clips. The pointer should be adjusted to just miss the nylon pulleys at the two extremes of its travel. After the pointer is adjusted, apply a drop of rubber cement to the dial cord and the pointer clip to hold the clip in place.

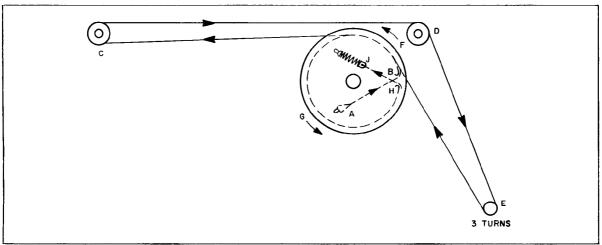


Figure 10. Dial Cord Restringing Diagram.

156-005903

# SECTION IX 100KC CRYSTAL CALIBRATOR MODEL HA-19

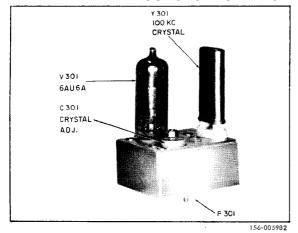


Figure 11. Model HA-19 Crystal Calibrator.

9-1. GENERAL.

The Model HA-19 Crystal Calibrator is an accessory which provides marker signals at every 100 KC on the dial of the SX-146 enabling the operator to check calibration accuracy. The HA-19 is placed into operation by plugging it into the appropriate socket (J5) on the receiver chassis (see figure 11) and placing the front panel OFF-CAL switch in the CAL position.

### IMPORT ANT

The OFF-CAL switch should be returned to the OFF position after calibration to prevent spurious signal generation.

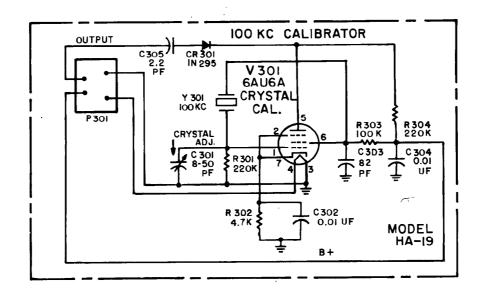
## 9-2. ADJUSTMENT.

A trimmer capacitor, C301, permits adjustment of the calibrating crystal to exactly 100 KC.

This capacitor has been set at the factory and normally should not require readjustment unless extreme calibration accuracy is required.

### HA-19 PARTS LIST

Schematic Symbol	Description	Hallicrafters Part Number	Schematic Symbol	Description	Hallicrafters Part Number
	100 KC Crystal Cali- brator Assembly (Model HA-19)	001-004979	CR301 P301	Diode, Type 1N295 Plug, 4-pin (connects to J5 on SX-146)	019-301980 010-003253
C301	Capacitor, Variable 8 to 50 PF	044-200404	R301,304	Resistor, 220K Ohms, 10%, 1/2 watt, Carbon	451-252224
C302,304	Capacitor, 0.01 $\mu$ F, 20%, 500V, Ceramic	047-100354	R302	Resistor, 4.7K Ohms, 10%, 1/2 watt, Carbon	451-252472
	Disc		R303	Resistor, 100K Ohms,	451-252104
C303	Capacitor, 82 PF,	493-110820-333		10%, $1/2$ watt, Carbon	
	2%, 500V, Plastic Mica		V301	Electron Tube, Type 6AU6A	090-001495
C305	Capacitor, 2.2 PF, 1/4%, 500V, Plastic Mica	493-140220-631	Y301	Crystal, Quartz, 100 Ko Socket, Crystal (Y301) Socket, Tube (V301)	019-002712 006-100320 006-001094



155-000425

Figure 12. Schematic Diagram, Model HA-19 Crystal Calibrator.