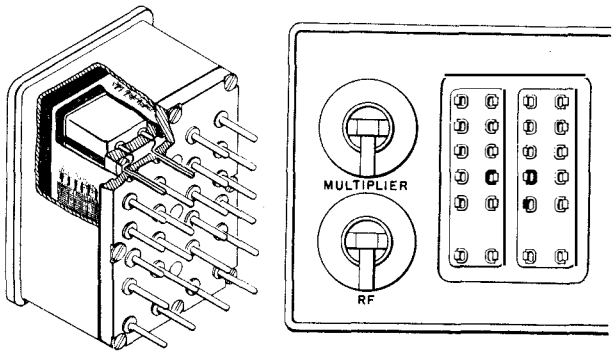
THE CRYSTAL OVEN

NAVY TYPE CFT-40148



The ten crystals controlling the basic frequency generated in the oscillator section of V504 are grouped and mounted in the compact unit shown in the illustration. The crystals are of the hermetically sealed miniature type CR-7E/U and the terminal pins of the individual crystal holders fit into jacks inside the unit that connect to pins on the rear of the unit. The cover may be removed from the unit for the replacement or installation of individual crystal holders.

The crystal oven has two built-in thermostatically-controlled heating units to maintain the crystals at a practically fixed temperature which prevents any shift in frequency that might occur with a change in crystal temperature.

Of the two heating units provided, one is a booster unit intended to bring the temperature of the oven to operating temperatures as rapidly as possible when the equipment is first switched on. When the proper temperature has been reached the booster heater cuts off and the second heating unit functions to take care of any further fluctuations of temperature.

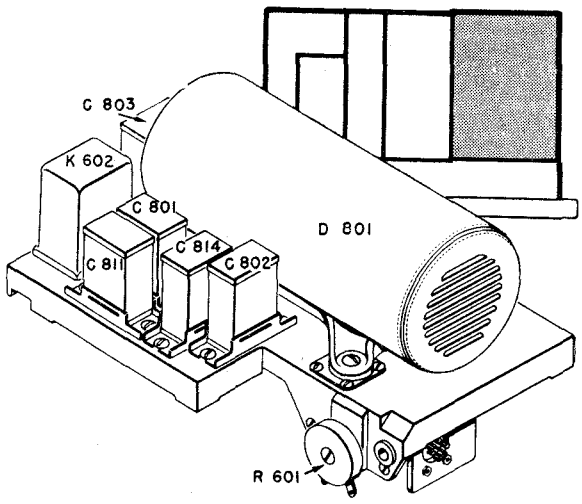
The crystal oven is fitted with twenty-four pins at the rear, twenty of the pins connecting to the ten pairs of crystal terminals while the other four pins are the heating unit terminals. The crystal oven plugs into a jack panel in the receiver selector unit, as shown in the illustration, to make the necessary connections to the switching mechanism behind the jack panel. The crystal switching mechanism is coupled to the tuning-motor gear-train and functions to connect the proper crystal into the circuit for any setting of the selector dials.

THE DYNAMOTOR

NAVY TYPE CAY-211483

The remaining section of the receiver chassis mounts the dynamotor, a device to provide the high voltage direct current for the tube plates and selector motor operation. This unit is essentially a motor-generator, in that it consists of a 13 volt, series wound motor at the input end that operates from the 13V, direct current power source. The output side is a 385 volt, direct current generator with a full load rating of 500 milliamperes.

Filter components, consisting of choke coils and capacitors, are provided to remove all commutator ripple from the generator end of the machine and suppress any brush noise generated in the motor that would cause interference in the receiver circuits.



The dynamotor is used only with a 13V, direct current power supply. The power switch on the panel of the receiver is arranged to switch the dynamotor on when moved to the Dyn. position and close the high voltage output circuit of the ma-