



## NOTES:

1. REVERSE CABLES TO J105 AND J106 USE J103 AS ANTENNA INPUT JACK.
2. SHORTING PLUG REQUIRED ON J104.

Figure 3-2. Antenna Input Connections Modified by Field Change 5 For Shipboard Installations

**3.2.8 Third Mixer and VFO.** Third mixer V204 heterodynes the output signals from V203 with the output of variable frequency oscillator V701. The signal generated by this oscillator varies continuously from 2.955 to 2.455 MHz as the receiver is tuned from 0.5 to 8 MHz, and varies from 3.455 to 2.455 MHz as the receiver is tuned from 8 to 32 MHz. Z702 includes the plate tank circuit for the oscillator and the coupling circuit to the cathode of the third mixer. The two input signals are so coordinated that they produce a fixed difference frequency, 455 kHz, which is tuned by T208 and coupled to the first of four IF amplifiers.

**3.2.9 First IF Amplifier.** The first IF amplifier stage incorporates bandpass filters that permit IF bandpass selection between the limits of 0.1 and 16 kHz. Six selections are provided: the two lower values by means of a crystal filter in the input circuit, and the four upper values by means of mechanical filters in the output circuit.

**3.2.9.1** The crystal filter (figure 3-4) is used to obtain selectivities of 0.1 and 1 kHz. When the BANDWIDTH switch is set to .1 or 1, this filter is connected between the output of third mixer V204 and the input to first IF amplifier V501. The 455 kHz output signal is coupled from third mixer transformer T208 to crystal filter Z501. The crystal passes only those signals at or very close to 455 kHz. Crystal holder and stray capacitances are neutralized by adjusting C520. Coil L503 and capacitor C524 are tuned to 455 kHz.