

# VHF/FM RADIO TELEPHONE JHS-500

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## Alignment Procedure

This section describes the alignment procedure for the radio.  
Please refer to the alignment location diagram.

### 1. Test Equipment:

The following test equipment is recommended for radio alignment.

- \* Communication Monitor (HP8920B or equivalent)
- \* DC Voltmeter (>1 megohms input impedance)
- \* DC Power Supply ( 10 to 20 volts at 10 amp)
- \* RF Coaxial Cable
- \* Power Cable

### 2. Initial Setup

#### NOTE:

- > Connect DC power cable to radio and set voltage on power supply for 13.8 volts.
- > Connect radio to Communication Monitor.
- > Turn on radio and note 16 channel on LCD segments light.

#### VCO

- > Set the power supply voltage to 13.8 V
- > Select radio channel 16
- > Use high impedance probe to measure the VCO control voltage at TP1
- > Align the trimmer capacitor C317 for RX  
VCO control voltage : 1.6V
- > Key the radio under low power mode
- > Align the trimmer capacitor C318 for TX  
VCO control voltage : 1.8V

#### Reference OSC

- > Set the power supply voltage to 13.8V
- > Select radio channel 16 and key the radio under low power mode
- > Align the trimmer capacitor C337 to obtain 156.800+/-100Hz at the room temperature

#### RF Output Power

- > Set the power supply voltage to 13.8V
- > Select radio channel 16 and key the radio under low power mode
- > Align VR201 to obtain 0.9W RF output power
- > Set the radio for high power mode
- > Align VR202 to obtain 24W RF output power

#### Transmitter Modulation

- > Set the power supply voltage to 13.8V
- > Select radio channel 16 and key the radio under low power mode
- > Apply a 1KHz tone at 140 mV input level to the transmitter audio input (J503)
- > Adjust modulation control VR401 to obtain the maximum deviation 4.5KHz

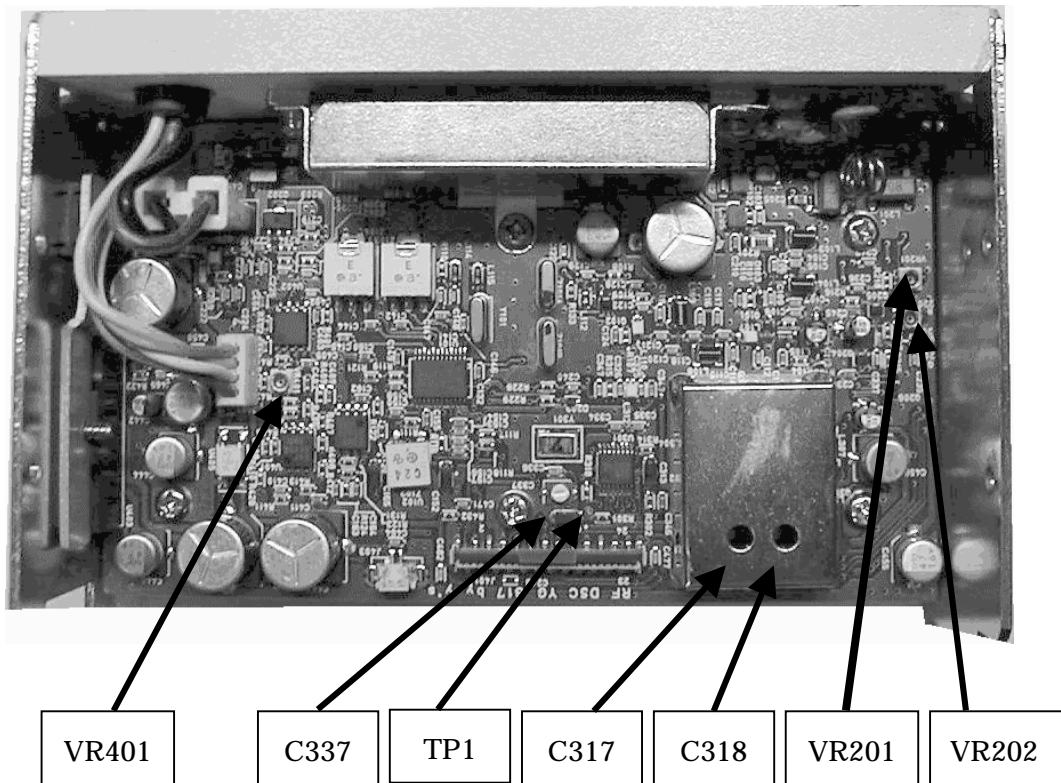
Note:

HP8920B : <20Hz HPF, 15k LPF, De-emph. off, Peak +/-Max

#### RX Tone Decoder

- > Set the power supply voltage to 13.8V
- > Press "WX" key and select radio channel WX1
- > Provide RF signal : 162.550 MHz, -113dBm modulated with 1050Hz tone at the standard deviation (3.0 kHz)
- > Rotate the volume control VR503 and note the location that "ALT" flashes on the LCD display
- > Rotate further the VR501 and note the location that "ALT" turned off  
Set the VR503 between them

## 1. RF PCB Alignment Location



## 2. LOGIC PCB Alignment Location

