

VHF/FM RADIO TELEPHONE JHS-500

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

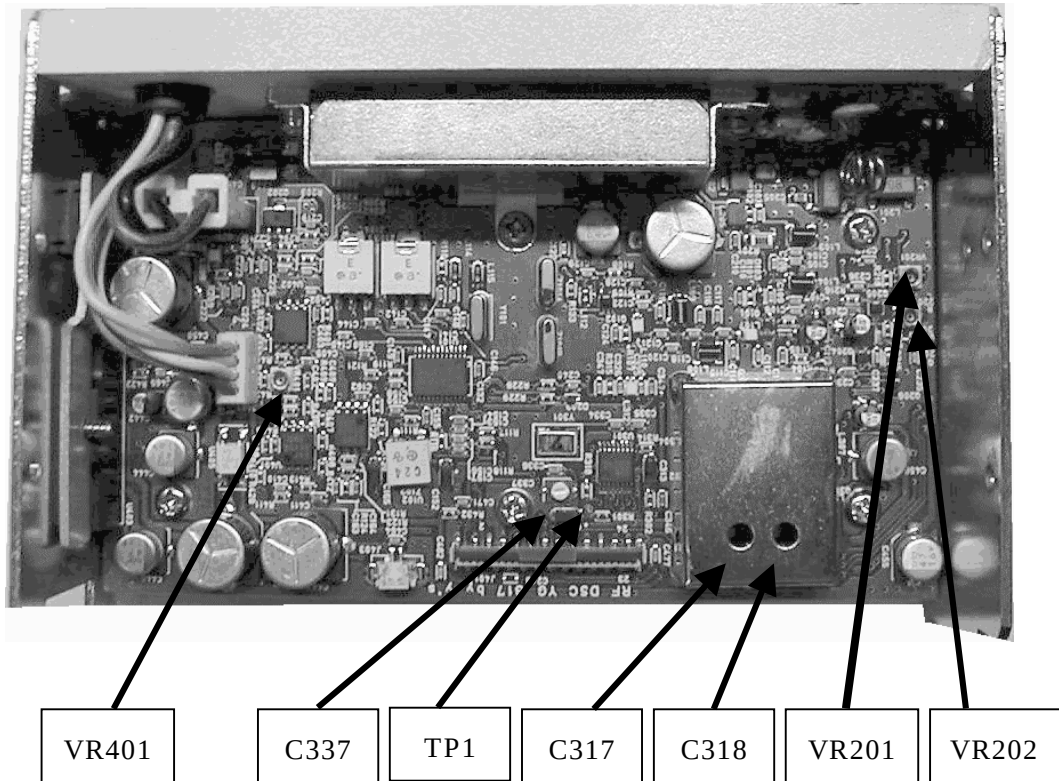
Note:

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

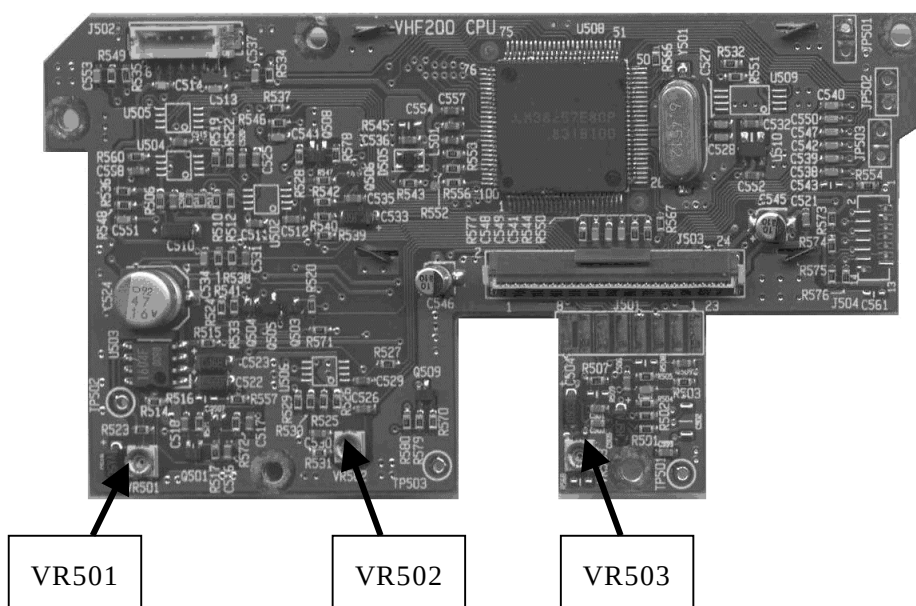
RX Tone Decoder

- > 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

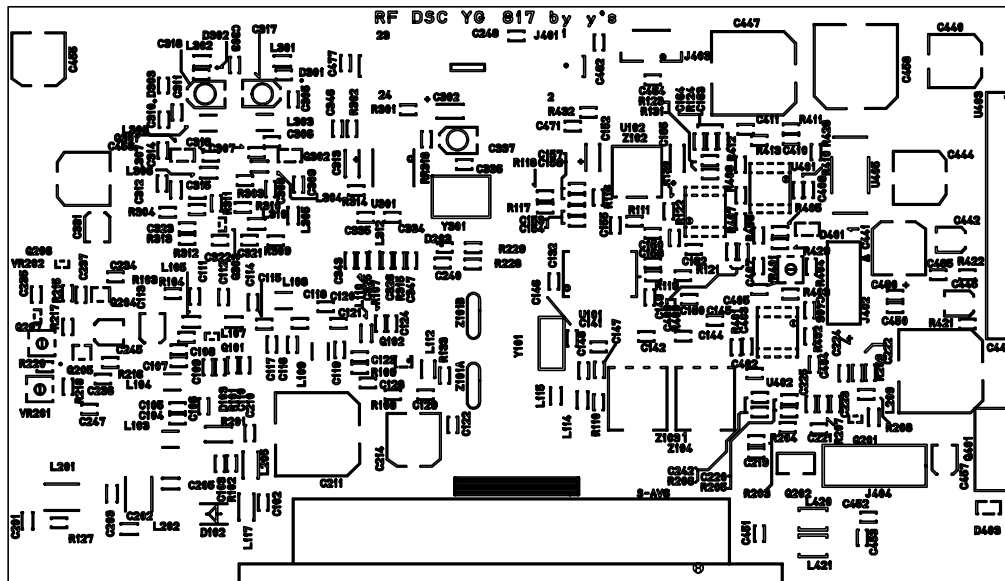
1. RF PCB Alignment Location



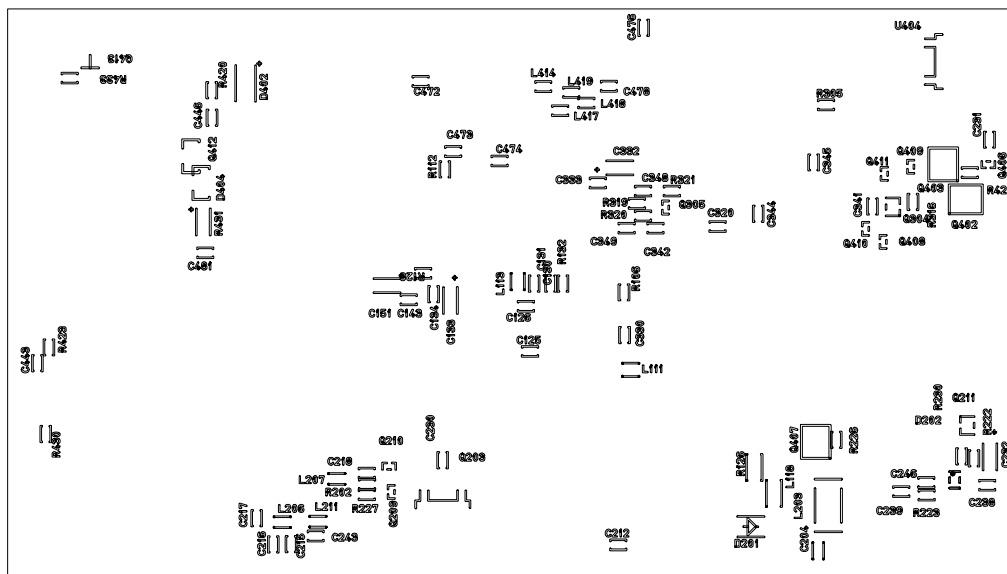
2. LOGIC PCB Alignment Location



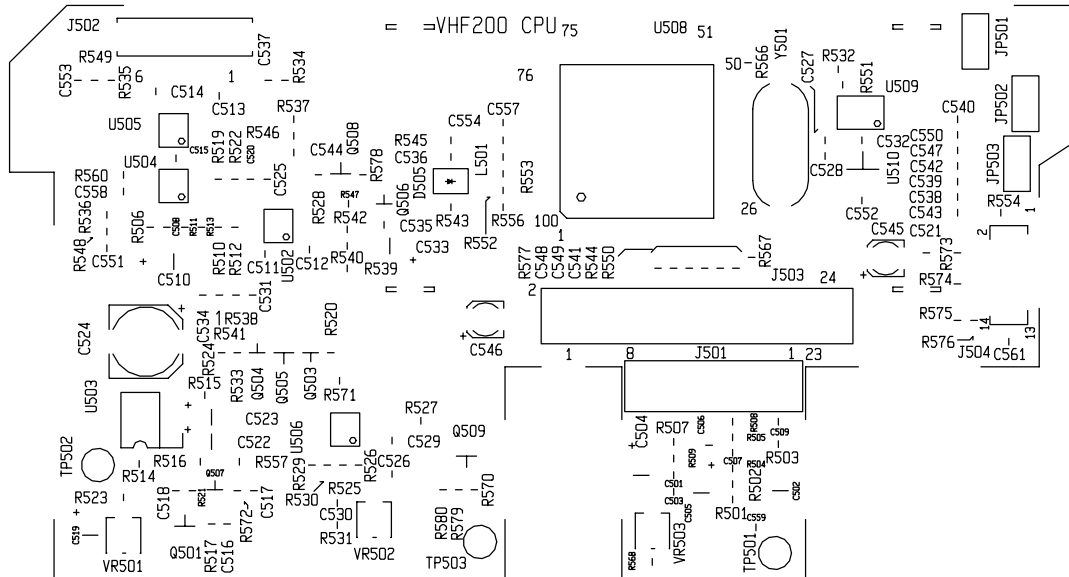
1) RF Unit Side A



2) RF Unit Side B



3) LOGIC Unit Side A



4) LOGIC Unit Side B

