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## Yaesu FT-8800 Ham Radio Transceiver Servicing



This page provides servicing information for the Yaesu FT-8800R ham radio transceiver including how to access the hidden service menu settings to adjust and recalibrate the VCO reference oscillator

frequency (Tx and Rx), FM deviation levels and power output on the FT-8800E.

My own UK specification FT-8800E Yaesu amateur radio transceiver was off frequency (affecting Rx and Tx on both 2m and 70cm) after about 2 years of ownership, necessitating service menu access to correct the problem by recalibrating the VCO reference oscillator. There seems to be a lack of service information for the Yaesu FT-8800R on the web, so I expect this article will prove popular!

The FT-8800 circuit diagram makes it clear that alignment of this Yaesu transceiver has moved away from using conventional potentiometers and trim capacitors for Tx & Rx frequency adjustment, in favour of software service menu options.

In fact, the FT-8800 service menu provides a list of adjustments each with its own Hex value to allow fine tuning of each parameter. The individual service options have Hex values which (via a D to A converter) vary voltages on appropriately placed varicap diodes, changing the frequency and tuning of various RF circuits. One of the settings adjusts to the VCO reference crystal oscillator frequency. The radio uses non volatile memory to store settings.

### **Important Warning!**

Considerable care must be undertaken when making Tx frequency, deviation, tuning and power adjustments from the Yaesu FT-8800 service menu so as not to render the radio useless by resetting software values to their default parameters.

We emphasize that all adjustments made are at your own risk and that the guarantee on your FT-8800 may be invalidated. Worse still, some adjustments may lead to your transceiver being out of specification which could break applicable communication laws and lead to FCC violations in the USA. Unless you have the right test equipment, you must not carry out servicing or ham radio transceiver alignment or recalibration.

## **Accessing FT-8800 Service Mode**

To access service mode on the Yaesu FT-8800 transceiver, push the left hand "V/M" button and the Hyper memory 6 button concurrently, whilst turning on the radio by pushing and holding down the right hand volume knob.

The transceiver will then display "SETMOD" on the left hand side display and "RESET" on the right hand side display; [click here](#) for a picture.



Then perform following key sequence:

left band [LOW] -> left band [V/M] -> left band [HM] ->

left band [SCN] -> right band [LOW] -> right band [V/M] -> right band [HM] -> right band [SCN]

After instigating the above key sequence, the left hand side display will now show VHF frequency as shown in the picture. The right hand side display will show REF.xxH when "xx" is the current Hex value for adjustment of the reference oscillator frequency. Now momentarily press the right hand side dial knob to transfer the service menu (REF.xxH) to the left hand side of the display and to show UHF frequency on the right hand display.

Now turn the left hand side "Dial knob" to alter the Ref.xxH Hex value, allowing realignment of the transceiver reference oscillator frequency. Whilst "REF" changes both Rx and Tx frequency on both bands, adjustment should be made using a calibrated frequency counter to indicate the transceiver's UHF Tx frequency. It is advisable to allow the Yaesu FT-8800 to reach operating temperature before carrying out transmitter frequency recalibration. To start Tx frequency calibration, press the PTT with an accurate frequency counter connected to the transceiver and adjust the left hand side dial knob to correct any 432MHz Tx frequency error. When complete, check the Tx frequency on 2m (144MHz) by momentarily pressing the dial knob nearest to the service menu display to toggle the adjustment band.

### Menu Options

To change between FT8800 transceiver servicing menu options, press and hold the dial knob closest to the service menu display. I.E. if the service menu is being displayed on the right side, press and hold the right side dial knob to toggle through the adjustment options. A list of adjustments is given below: -

<b>REF</b>	Reference oscillator adjust (simultaneous Tx and Rx frequency adjustment)
<b>TUN</b>	front end tuning (do not adjust!)
<b>PWR</b>	transmitter power adjustment (band specific; change power with the "LOW" button to select the power level for individual adjustment.
<b>DEV</b>	FM deviation adjust (band specific)
<b>DCS</b>	DCS tone frequency deviation
<b>CTC</b>	CTCSS tone deviation
<b>CTR L/V</b>	No data available

<b>SM L/V</b>	S Meter reading (band specific)
<b>BAT SC</b>	Calibrates the battery voltage display on the transceiver. Set battery voltage to exactly 13.8V and then press the left band [SCN] key to store.

Momentarily press the right hand Dial knob to transfer the service menu options to left side of the display to allow 435MHz adjustment using the left hand side Dial knob. Some menu options (such as REF.xxH) contain the same data, whilst other adjustments like tuning, deviation and power settings are unique to each band.

When 145 MHz is displayed on left display, adjustment of 2m band parameters is made using the right DIAL knob. Similarly, when 435 MHz frequencies are displayed on right transceiver display, adjustments for 70cm band parameters are made with left DIAL knob.

### Exiting Yaesu Service Mode


To exit alignment mode (service menu) on the Yaesu FT-8800 just power off the ham radio transceiver. This is done in the normal way, by holding the right volume button pressed for around 2 - 3 seconds.

### Disclaimer

The FT-8800 Yeasu ham radio transceiver service information and tips contained in this article are supplied in good faith and may contain small errors or omissions. If you wish to provide further information to enhance or amend the article then please [Email Us](#).

Modifying ham radio transceivers like the Yaesu FT-8800 may contravene the law in certain countries. Please check with relevant authorities before making internal adjustments to any amateur radio transceiver.

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