Yaesu VX-1R
Frequency Shift Problem and Deviation Adjustment

(Thanks to http://home.comcast.net/~sllewd/ for the frequency shift fix info contained herein. Pictures however are copyright © 2006 B&B Technical Services and William Leahy)

If your VX-1R (any version) has suddenly changed frequency by up to 15 kHz; that is, the actual transmit or receive frequency is 13-15 kHz off of what the display indicates, the problem is a surface mount diode on the main circuit board that has been knocked loose by the speaker in normal use.

First remove the battery. Then remove the two screws on the side near the PTT switch that hold the case halves together. Remove the antenna and the rubber cover for the mic/ear jack. Remove the encoder knob. Remove the two retaining ring nuts for the antenna connection and the encoder. Remove the small phillips head screw on the top panel (it is revealed when you remove the rubber ear/mic boot).

Carefully separate the two halves of the radio case; start on the side that the long screws were on.

Be careful not to loose the battery cover pin, it is very small!

Carefully lift the radio main unit from the front panel (or vice versa). It should look like this:

Fig. 1 VX-1R opened and main board removed from front panel

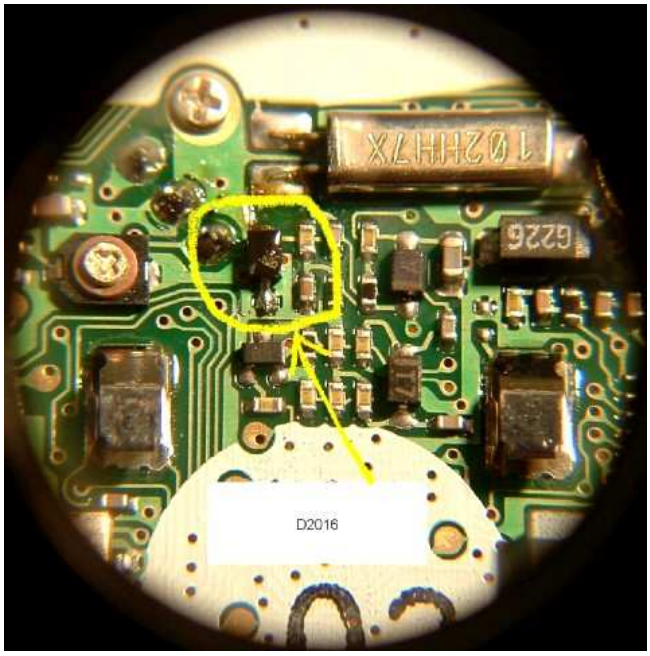

Fig. 2 D2016 location

Now locate D2016 based on Fig. 2. Using liquid flux (preferably) and a GROUNDED 25 watt soldering iron, resolder both ends of D2016. Don't reassemble your radio just yet.

The original problem was caused by the black stabilizing compound "blob" on the top-back of the speaker. I was going to scrape a bit of it off to make room for D2016 but figured that the hair-fine wires for the speaker cone run through that stuff, and thought better of it. Better to just leave it be and repair D2016 again later if needed. See Fig. 3

Fig 3, Speaker detail showing black "blob" between the speaker contacts

While you are at it, you can adjust the deviation limit of the VX-1R. Almost all rigs are shipped with low deviation limits; a simple turn of two pots will do the trick. See Fig. 4. Use a small fine screwdriver and just turn the pots clockwise about 10-15 degrees rotation. If you start getting complaint of dropping out of a repeater on voice peaks you may need to turn them back down a little, so don't move them more than about 10-15 degrees. This gave us a good solid +/- 5 kHz deviation with sub-tone turned "on".

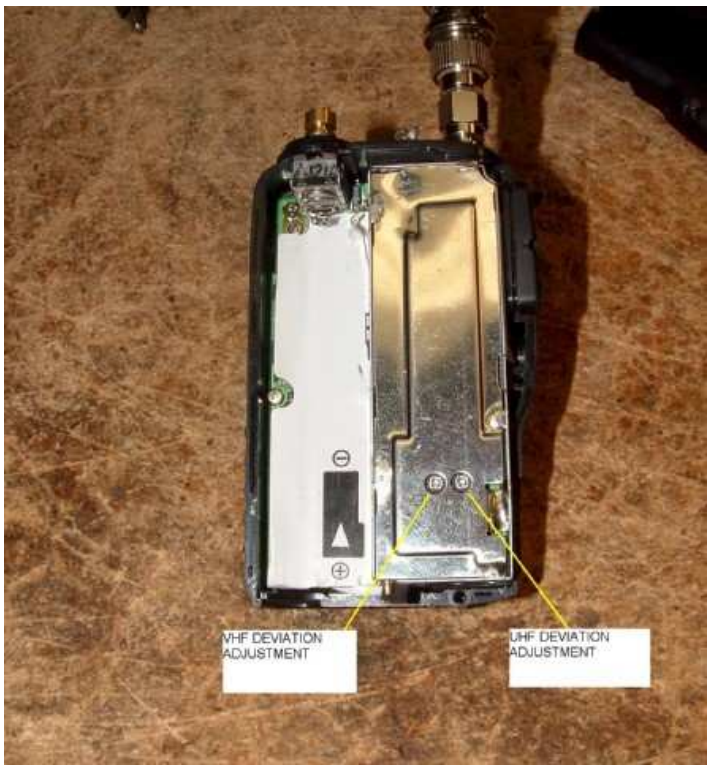

Fig. 4 Deviation adjustment for the VX-1R. VHF is on the left, UHF is on the right. Don't turn more than about 10-15 degrees CLOCKWISE to increase deviation.