If you break a core, it may be drilled out and replaced. A drill slightly smaller than the coil will break the core into powder, which can be tapped out of the coil.

If all else fails, factory service is available at modest cost. Consult us first to obtain cost information before shipping unit back to the factory. Because we cannot do much that you can't, and because much of what we can do is checking everything described above, troubleshooting is time consuming no matter who does it. You can save the expense of factory service by your own diligent effort and that of friends. We are always available by phone to give technical advice-but please don't expect miracles.

TYPICAL DC VOLTAGES.

The following dc levels were measured with an 11 megohm fet vm on a sample 2 meter receiver with 13.6 Vdc B+ applied. All voltages may vary considerably without necessarily indicating trouble, and they may be somewhat different on other bands. The chart should be used with a logical troubleshooting plan. All voltages are positive with respect to ground except as indicated. Voltages are measured with no signal applied but oscillator running properly and with squelch open unless otherwise specified.

STAGE	E(S)	B(G1)	C(D)	(G2)
Q1	2.6[2.4]	3.2	9.1	-
Q2	2.5[0]	0	13.6	-
Q3	1.2	0	13.0	4
Q4	2[1.9]	0	2.9[3]	5.2

[ ] = crystal pulled, no rf

	1	6	8	14
U1 Unsquelched	7	0	6	13.6
U1 Squelched	2	0	2	13.6

U2					
	1	2	3	4	5
	6.8	6.2	6.6	6.8	1.05
	6	7	8	9	10
	1.05	1.06	6.8	3.4	2
	11	12	13	14	16
	2.5	.75	0	7	2
U2 Squelched		12	13	14	
		-0.6	6	0	

TYPICAL AUDIO VOLTAGES.

Following are rough measurements of audio levels expected at detector and speaker amplifier stages at normal [and maximum] listening levels. Measurements are with full deviation 1000Hz tone and are taken in Vrms with scope or vtvm. *Note: U2-9 has rf in addition to audio.

U2-9*	U1-6	U1-8
0.2V	15mV[150mV]	0.7V[3.5V]

MOUNTING.

Some form of support should be provided under the PC board, generally mounting the board with spacers to a chassis. 3/8 inch holes should be provided in a front panel for the bushings of the SQUELCH and VOLUME controls. After sliding bushings through panel, washers and nuts are installed on the outside of the panel. Be sure to provide support for the board; do not rely on the controls to support the board. If power switch is desired, a miniature SPST toggle switch can be mounted separately on the panel. For repeater applications, the receiver should be mounted in an rf tight box such as model A16 in catalog.

REPEATER CONNECTIONS.

If the R76 is used in a repeater, audio should normally be taken from speaker terminal E2. Control voltage to trigger a COR circuit can be taken from pin 14 of U2 by connecting to the lead of R22. Output is approximately +7 Vdc unsquelched and 0 Vdc squelched. A 10K resistor should be connected in series with this line to the input transistor of the COR. Further details can be found in our catalog and in instructions for COR unit.

DISCRIMINATOR METER.

If you wish to use a discriminator meter and you are handy in designing with op amps like a 741, you can run a decoupled sample of the dc voltage at TP3 to one input of an op amp and tie the other input to a voltage divider pot set to provide a reference voltage of + 2.75 Vdc. Values in the circuit depend on your meter and are beyond the scope of this discussion. (We do not have a specific circuit to recommend.) Likewise, a sample of i-f signal from TP2 can be run into a log amp with high impedance input through a detector to make an S meter.