HAMTRONICS® KIT TO MODIFY R100, R451, R301, OR R304 RECEIVER FOR 9600 BAUD DATA OPERATION

GENERAL INFORMATION.

This sheet provides information on modifications for using various receivers with the MO-96 Packet Radio Networking Modem for 9600 baud fsk data reception. It is intended to give specific information on parts changes and alignment details peculiar to these versions of the transmitter and receiver, and it should be used along with information in the regular manuals for the receiver. General system information, interconnections, etc. are contained in the MO-96 manual along with information on construction and alignment of the M0-96 unit.

PARTS INCLUDED.

1 ea. 10.7MA ceramic filter*

1 ea. SFH455D ceramic filter*

*Note: The crystal filters and ceramic filter normally used in a receiver kit are not supplied when this option is ordered.

RECEIVER MODIFICATIONS.

If you are building a kit, please mark the parts list with the following changes before beginning construction and use the attached parts location view in place of the one which comes with the kit. If you ordered a wired unit, these changes have already been made.

a. Remove or do not install regular i-f filters FL1-FL5 and capacitors between sections of the crystal filter, which are C12-C14 for the R100, C11-C13 for the R451, or C41-C43 for the R301 or R304 Receivers.

b. In positions for FL1, FL2, and FL3, install pieces of bus wire (lead clippings from some components) between the two end holes (don't use center ground hole). Make the jumpers as short as possible to minimize inductance.

c. Install "10.7MA" ceramic filter (small 3 lead device) in position FL4. You may have to use something like a dental pick to enlarge the holes slightly, but don't remove the plating within the hole.

d. Install SFH455D (5 lead) ceramic filter in position FL5. This is a special filter having low group delay characteristics.

Note that it is necessary to make tradeoffs to use the special filter system for high speed data. Since a wider bandwidth is necessary for high speed data reception, the receiver is more prone to interference. The crystal filter normally adds a considerable amount of selectivity to the receiver, in addition to that provided by the ceramic filter. In this receiver, the normal 100 dB adjacent channel selectivity is reduced to about 50 dB. This is still adequate in most amateur installations; since they usually are located in suburban locations where interference is less of a problem.

Also note that the MO-96 Modem manual makes reference to connecting its AFC output to the receiver. These newer model receivers do not use AFC; so that connection is not necessary.

Finally, note that the I-f transformer at the output of the first mixer will not have a pronounced tuning effect with the new 10.7 MHz ceramic filter as it would with the crystal filter; so do not bother to tune it. Leave it set as you found it.

