

EXP-1750 LF Transceiver Kit

By Kevin Carey

There was a time when you had to build equipment from scratch if you wanted to get on the 1750 meter (160-190 kHz) license-free "Lowfer" band. Usually, this meant assembling a breadboard transmitter and a separate receiving converter for use with an HF receiver. The result was often a complicated arrangement that took many hours to get working properly. Dave Curry (WD4PLI) is helping to change all that. With his EXP-1750 meter SSB/CW Transceiver kit, you can be on the air in a rather short time (transmit and receive) using a compact, single board solution.

The EXP-1750 is an advanced hobby-grade transceiver, and includes many features that are highly desirable for longwave operation. It is clear that serious thought was given to the needs of weak-signal Lowfer work. In addition, the rig contains some features that, while not essential, add considerable flexibility to the rig (e.g., squelch control, adjustable RF output, illuminated "S" Meter, etc.). See Table 1 for a full list.

The instruction manual for the transceiver includes a brief introduction to 1750 meters and tells what you can reasonably expect to achieve on the band. Dave is quick to tell you that the longwave band is not for the faint of heart. It can, at times, be plagued with natural and man-made interference that will test the patience of even the best operators. As such, don't expect to switch on your rig and instantly raise your buddy 45 miles away—as you might expect through a 2-meter repeater.

On the other hand, there will be times when 1750 meter signals can reach out to 200 miles or more. Communication range depends heavily on propagation conditions, the antenna system being used at both ends, and operator skill. Most operators consider the unpredictability of the band to be its biggest attraction.

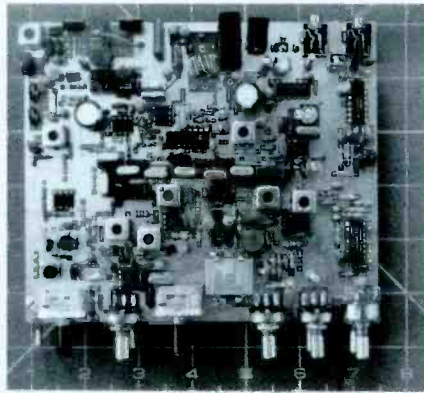


FIGURE 1. The completed EXP-1750 Transceiver board

Kit Assembly

Although most parts in the EXP-1750 kit are common through-hole components, some intermediate skill in electronic assembly and soldering is recommended. Builders who are not comfortable working with printed circuit boards and small parts should enlist the help of an experienced builder—at least for the trickier parts, such as soldering heat-sensitive IC's and other delicate components.

I was quite impressed with the clarity and completeness of the instruction manual. It begins with a brief discussion of building strategy and a list of the necessary tools for construction (all of which are commonly available).

Next, come the main assembly procedures. Construction is eased by the fact that the transceiver uses a printed circuit board. You simply insert the parts as they are called out in the instructions, and solder them in place from the underside of the board.

Rather than installing all parts on the board at once, however, the procedures are broken down into logical sections (e.g., Power Circuit, Receiver Preselector, Audio Amplifier, etc.). Each section is followed by a test/alignment procedure to verify that it is working before advancing to the next step. If each

circuit passes the test/alignment procedure, you can expect the entire transceiver to work properly when you're done. If it does not, a troubleshooting section at the back of the manual provides helpful guidance.

Besides the main assembly instructions, a section on transmitting antennas is included. It is illustrated with easy-to-understand drawings of antennas, ground radials and loading coils. The tips and ideas offered here should allow any enthusiast to construct a workable antenna for 1750 meters.

A Word About Power

Current U.S. and Canadian regulations allow no more than 1 watt of input power and a maximum antenna length of 15 meters (50 feet) for operation on the 160-190 kHz band. Since the EXP-1750 is capable of up to 20 watts output, users must ensure that the RF power is set within legal limits. (If an LF ham band becomes a reality in the USA, the transceiver's higher power capability could prove very useful.)



FIGURE 2. The EXP-1750 Transceiver mounted in a prototype enclosure. This cabinet is not included with the transceiver, but is expected to be available as an option in the near future.

Bottom Line

I am impressed with the features and quality of the EXP-1750 kit. It provides a no-hassle way of getting on the license-free Lowfer band, and doing it in high style. With a modest amount of time invested in building the kit, you'll have a versatile rig that should provide many years of service.

For additional information on the EXP-1750, visit Dave Curry's longwave web page at: www.fix.net/~jparker/currycom.htm. In the near future, the web site will also carry information for an optional enclosure for the transceiver board, which is currently being designed (see Figure 2).

Ordering Information: The EXP-1750 is priced at \$189 plus \$10 shipping & handling in the United States (\$15 elsewhere). An optional Bandpass/Notch Filter is available for \$45. The EXP-1750 may be ordered direct from Dave Curry, P.O. Box 1884 Burbank, CA 91507.

TABLE 1. SPECIFICATIONS FOR EXP-1750 METER SSB/CW TRANSCEIVER

Parameter	Specification
DC power requirement:	12-18 Vdc
Current Draw, typical:	100 mA Receive, 2.0 Amperes @ 10 watts RF output
RX Audio Output:	2.5 Watts into 8 Ohms @ 2% distortion
Operating Frequency Range:	160 to 190 kHz
Transmitter Output:	0.5 to 20 Watts (adjustable)
Operating Modes:	Single Sideband (SSB) and CW
Microphone impedance:	High or Low-Z
Metering/Indications:	Front panel illuminated "S" meter, RF Limiting LED
Front panel controls:	Power, Preselector, Tuning, Mic Gain, Volume, IF Gain, Notch, Blanker, Bandwidth
Rear Panel Connectors:	Key, Microphone, Speaker, Power, Ground, Antenna
Case Dimensions:	5.56" (14.12 cm) D x 6.56" (16.70 cm) W x 2.63" (6.70 cm) H
Weight:	1.9 Lbs. (8.6 Kg)