



The Lafayette HA-650 Six Meter Transceiver

A battery-operated portable or fixed transceiver

Most hams would like to have a completely portable transceiver. Some want to be prepared for emergencies. Some like to mountaintop. Some just like the idea of having a completely independent rig to carry around for special events or picnics. The Lafayette HA-650 is perfect for these uses. It is small, light, has a sensitive receiver, and adequate power for most of these uses. Let's take a quick look at what's in it:

The receiver uses five modern silicon transistors in a single conversion superheterodyne. The rf amplifier is protected by a diode against nearby transmitters, and the oscillator is zener diode stabilized. Two *if* stages at 1650 kHz furnish plenty of amplification. A noise limiter is wired in the circuit and the AGC has a squelch-like action: when no signals are being received, there's very little output from the speaker until a signal is received. There's plenty of audio for use except in very noisy locations when earphones would probably be worthwhile. A spot switch lets you find your operating frequency.

The transmitter uses 8 MHz crystals and sockets and a switch are provided for six crystals. Five silicon transistors are used in the transmitter and the circuit has plenty of filtering and selective circuits to prevent TVI. Both the driver and final are modulated for full modulation. There were many excellent comments on the audio. It has a very clean, communications-shaped quality and gets through interference very well.

The HA-650 operates from 12 volts or so. The package includes space for eight flashlight batteries, which seem to last quite a while, or you can install the rig in your car (positive or negative ground) using the mobile mount, power cord and instructions provided. You can also buy an AC adapter from Lafayette.

A whip antenna is built into the transceiver, and it is convenient to use for walking-portable use with the nice leather carrying case that comes with the rig. As this area is horizontally polarized, results with the whip weren't particularly dramatic, but stations 40 or 50 miles away were worked from a good location. Using the HA-650 with a beam or dipole made from a couple of Lafayette 58 inch telescoping whips is another story. We worked a number of stations 150 miles away from Pack Monadnock. Reports were S9 and better and everyone commented on the excellent modulation. The receiver stands up well to strong stations unless they are very close, when some cross-modulation becomes evident. It's not too serious though.

The instruction book is satisfactory in comparison with many other equipment manuals. It answers most of the questions you're liable to have about installing or using the rig, and also gives alignment instructions and a large schematic. Someone who isn't very familiar with semiconductors isn't going to enjoy servicing the transceiver, but otherwise it shouldn't be too bad—if service is ever needed, since everything seems to be well made and the parts

Lafayette HA-650 Specifications

Receiver

Sensitivity: better than 1 μ V for 10 dB S/N ratio
 Selectivity: 6 dB down at $\pm$ 3 kHz, 40 dB at $\pm$ 8 kHz
 Image rejection: 55 dB
 Frequency range: 50-52 MHz
 Current drain: 80 mA

Transmitter

Input to final: 2½ watts
 Modulation: Class B, 100% capability
 Current drain: 400 mA maximum
 T-R switching: relay type
 Antenna output impedance: 50 ohms nominal

Miscellaneous

Power supply: 12 to 16 V dc
 Dimensions: 9½ W x 5½ H x 2¼ D.
 Weight: 9 pounds with battery
 Price: \$119.95

are conservatively rated. The driver and final transistors are made by Motorola, and the others would be easy to replace with standard American replacements if you had trouble finding the Japanese ones.

I was quite pleased with the HA-650. It's compact and well-made and offers excellent performance for its price. I think that anyone who buys or uses one will be very happy with it.

... WA1CCH

Removing Excess Soldering Flux

Appearance of much otherwise good electronic work is quite frequently spoiled by excess soldering flux on connections, and by the dust that eventually accumulates on the residual flux.

Larger accumulations of natural and synthetic rosin can be removed by careful scraping, followed by use of a solvent on a cotton swab or a small brush. Good solvents, in order of increasing strength, are carbon tetrachloride, denatured alcohol, rubber cement thinner, type cleaner, and acetone. All should be used with caution, with adequate ventilation, and away from flames and hot objects. Carbon tetrachloride will not burn, but oxidizes to phosgene if it falls on a hot object, such as a soldering iron.

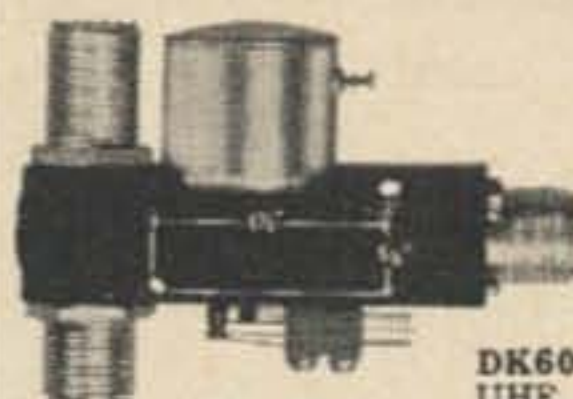
Do not use these solvents on plastics without a preliminary test. Some plastics soften on contact with acetone and similar substances.

... Donald Ives

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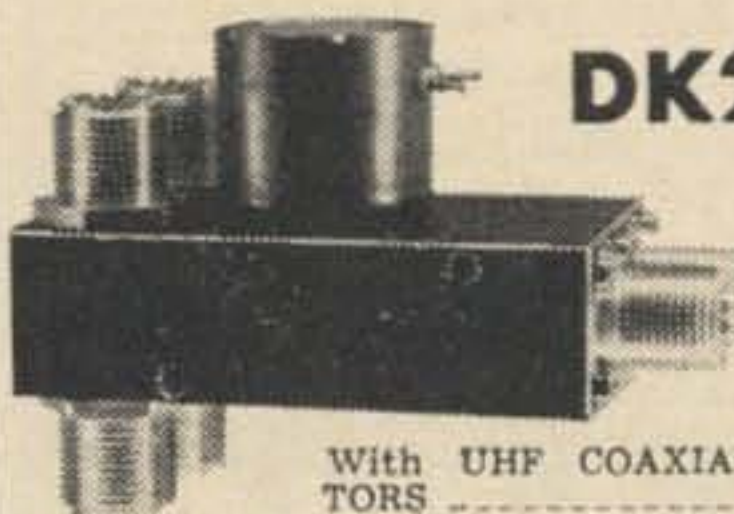
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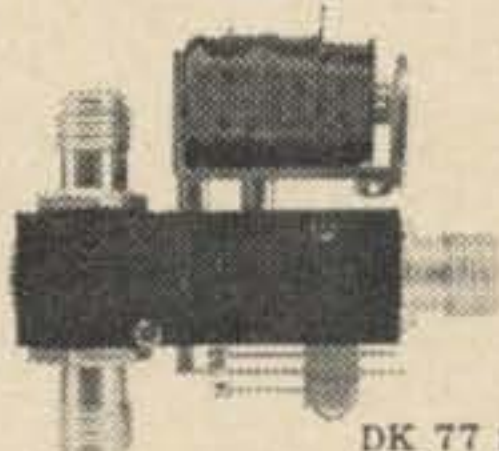
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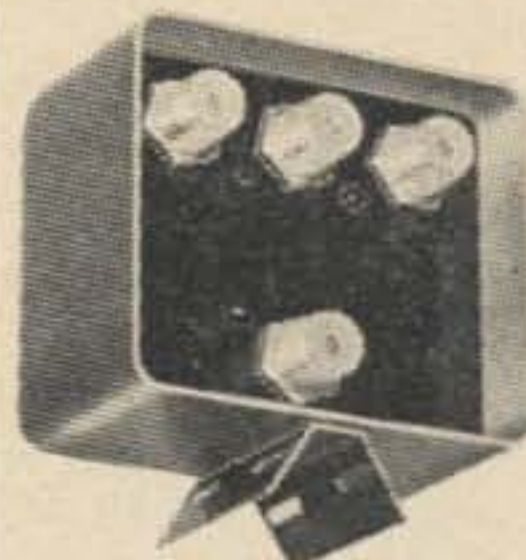
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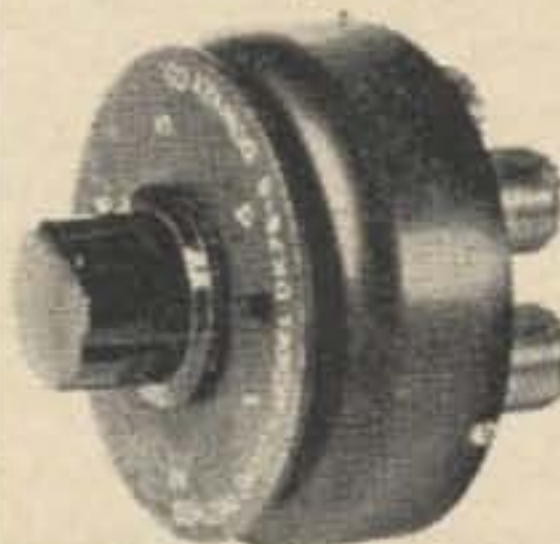
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