

73 Tests the Clegg 99'er

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IF you do much in the way of six meter operating the report to be given here on the Clegg 99'er will be old stuff to you. By now you've heard several fellows using this new transceiver and you've heard them telling anyone who would listen just how much they liked it. You've heard the fine signal it puts out and the punch that you get from the adequate audio gain and good modulation system. After checking over the parts list for the 99'er I just don't see how it is possible for Ed Clegg W2LOY to sell this fabulous rig for only \$139.95. He must do a lot of the wiring himself.

Until recently the ham on six meters had very little choice when purchasing a transceiver. He either had to spend about \$300 for a communicator or suffer with one of the less expensive units. The main trouble with these inexpensive transceivers was in their receivers sensitivity and selectivity. However now that Clegg has introduced the 99'er, the problem has been solved.

The receiver is much better than is usually found in a transceiver and compares favorably with most communications receivers. It uses dual conversion with *ifs* at 10.7 mc and 455 kc. A 6DJ8/ECC88 twin triode (see 73, Nov. 1960 for more info on this tube) is used as a low noise cascode *rf* amplifier. The first conversion osc-mixer uses a 6U8/6EA8 (see 73, Aug. 1961, p. 18), with the triode section working as a tunable oscillator covering 39.3-41.3 mc. As you can probably gather from this, the receiver tunes only the first two mc of the band, affording excellent electrical bandwidth.

The second mixer is a 6AN8. This is followed by a 6BA6 *if* amplifier and a 6AL5 detector, *avc* and *anl*. A line-up such as this provides plenty of gain while still retaining an excellent noise figure. The selectivity is very good because of the 455 kc *if*. Usually a transceiver has either selectivity or image rejection, mainly because of the choice of *if* frequency is a compromise between the two. The use of double conversion has the best features

of both a high and a low *if* frequency.

Incidentally, the 99'er is one of the only transceivers that I have seen that has a local oscillator stable enough to permit the use of high selectivity. There is virtually no noticeable drift after a four or five minute warmup. With a BFO this receiver would do fine for SSB reception. A large accurate, easy to read "s" meter is mounted on the front panel and doubles as a tuning meter for the transmitter. The transmitter is a somewhat conventional 8 watt crystal-controlled one using a 7558 in the final. The pi network permits the final to load a wide variety of load impedances. The final is very efficient and sounds like a lot more than 8 watts input, according to signal reports received. (Clegg's specs say that the unit puts out 4 to 5 watts.) The driver is a 6EA8 and will operate from either 8, 12 or 25 mc crystals. In addition, the unit will operate with a vfo and has input and control circuits thru the rear panel power plug for this operation.

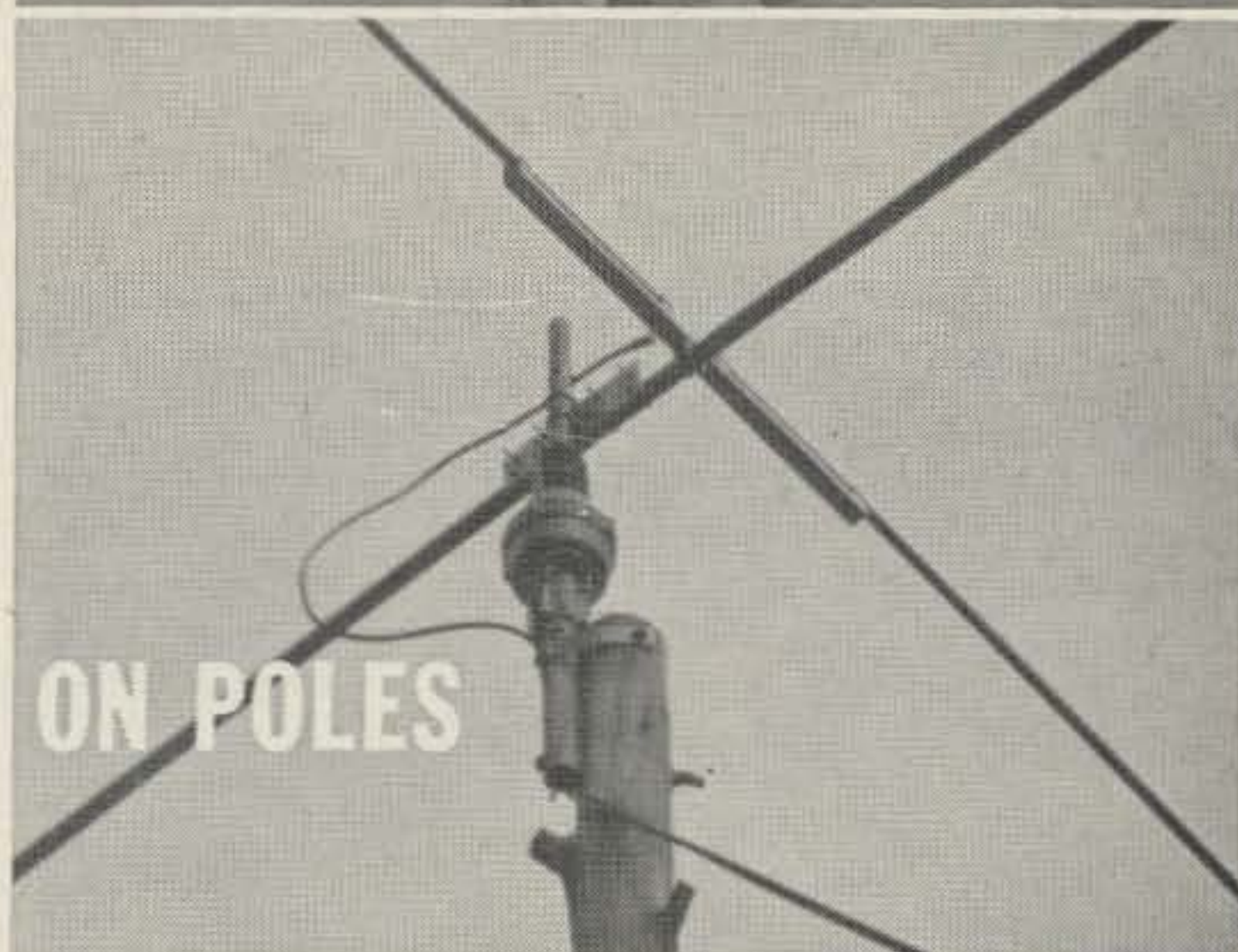
A very important feature is the spot switch, mounted on the front panel, which warns you before you louse up your frequency. The final amplifier is plate modulated by a 6AQ5 which doubles as the audio output in the receiver. The quality of the modulation is excellent and there is plenty of it. The 99'er has a gain control for the mic preamp which is a feature usually left out. While on the subject of features, the 99'er is loaded with them. The meter is automatically switched from "transmit" to a receiver "s" meter when the transmit switch is thrown.

The noise limiter works very well and it is in operation at all times. Clegg probably feels (as do I) that the limiter is used most of the time anyway, so why confuse the issue with an ANL switch. The power supply is not like most others. It uses a full wave rectifier (6BW4) instead of a half wave voltage doubler. I could never understand the use of voltage multiplier circuits in transceivers because for safety they have to use a power transformer anyway. If you are going to use a power transformer it is possible to get any necessary voltage without multipliers.

The full wave supply is much more efficient and easier to filter. The regulation of a full wave supply is far superior to any form of voltage doubler, which probably is the reason for the excellent stability of the receiver. The rig will work fine in the car if used with a 100 watt inverter. This can be reduced considerably if the tube heaters are connected directly to the battery.

I have been using the 99'er for some time now and I feel that there is little left out of the unit. It is quite attractive and a worthwhile addition to any hamshack. With the 99'er you get more than your money's worth. Congratulations to W2LOY and the rest of the crew in Mt. Tabor on a job well done.

... WA2HVK



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