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OLD RADIO

The Allure of Novice Stations

One popular aspect of collecting is replicating your old Novice station. We've talked about this before. There also seems to be a growing number of hams who were never active on the Novice CW bands who are now gathering, building and operating vintage Novice stations! Mike Silva, KK6GM, sent an interesting article about his station. Mike operates his Novice gear as often as possible. Listen for him on the air.—K2TQN

The Conar Twins

By Mike Silva, KK6GM

Anybody who entered Amateur Radio in the '60s probably daydreamed at some time over the "Conar Twins": the model 400 transmitter and model 500 receiver. The rigs were available both directly from Conar and as part of home-study courses offered by National Radio Institute. Both covered the 80, 40 and 15 meter bands, and were available both as kits (each under \$40) and assembled.

A pair of Twins recently popped up for sale and I jumped at the chance. What I found was not bad, not bad at all.

The Transmitter

The Conar 400 transmitter is a one-tube affair using the (then) popular 6DQ6B TV sweep tube. (For more than 10 years the transmitter in the ARRL's *How to Become a Radio Amateur* was based upon the same tube.) It is crystal



controlled and has a power input of 25 W. The controls are very basic: **ON/OFF**, **Band**, **Tune** and **Load**. There is a crystal socket and a key jack on the front panel, an antenna jack on the back, and that's it.

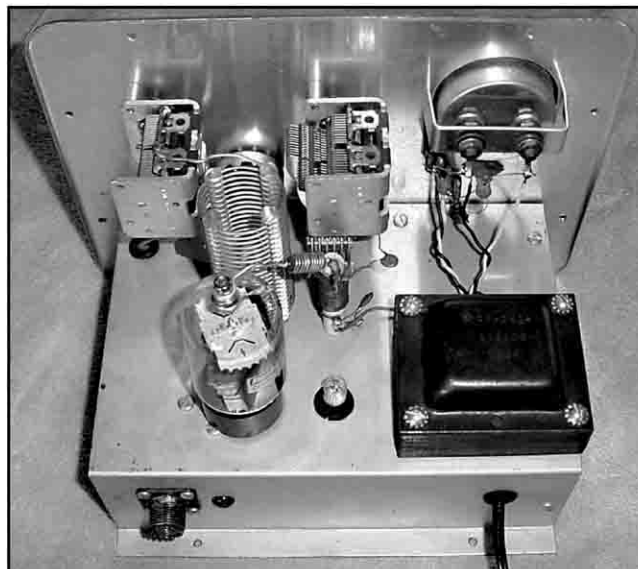
As soon as I had the 400 out of the box I naturally started twiddling the knobs, and did I get a surprise! The tuning control made a terrible metal-on-metal sound, and felt as though somebody had taken a pair of Vice Grips to the Tune cap. I quickly opened the rig and found the problem. The pi-net coil is held in position only by its leads, and it had shifted dur-

ing shipment so that the Tune cap rotor plates were rubbing against it. I just bent the coil back into a safe position and all was well. While I had the rig open I checked it over and took a few pictures.

After bringing up the rig on a variac, I plugged in a key, a dummy load and a 40-meter crystal. Setting the load cap to full mesh and pressing the key, the plate-current meter took off swinging unlike any I've ever seen. It took about 6 seconds to settle down. This is one high-Q meter! The manual calls for loading the transmitter to 90 mA, and at that



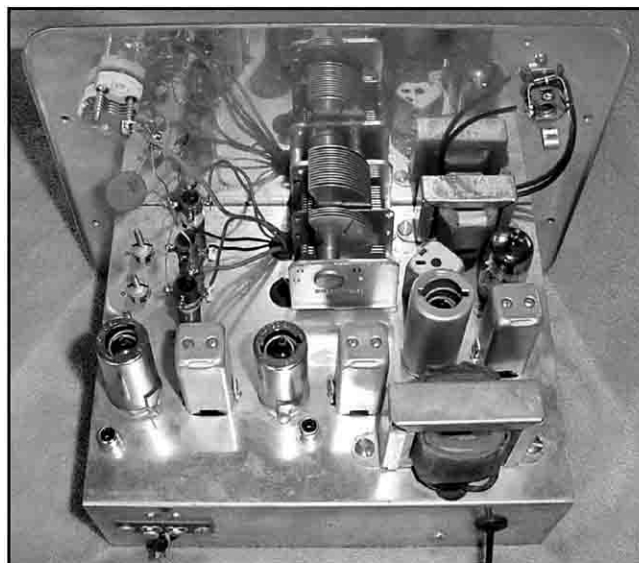
The Conar 400 transmitter.



The clean interior layout of the 400 transmitter.



A front view of the Conar 500 receiver.



On the "inside" of the 500 receiver.

Collector Profile

Mike Silva, KK6GM, was first licensed as WN6RRE in 1971. After some years of hamming, mostly with a Heath HW-101, he drifted into the computer field and has only become active again in the last few years. He has been drawn back to his Novice tube days and is determined to homebrew every rig he couldn't afford or understand in his previous WN6 life. When not building or operating he enjoys hanging out on the Glowbugs e-mail reflector (see main text).



Radio Museum Swap Meet

The annual New England Wireless and Steam Museum "Tune Up" radio meet in Rhode Island is scheduled for Saturday, July 21, 2001, 8 AM to 3 PM. Admission is \$10. Plan now to attend and see the museum Web site at users.ids.net/~newsml/. I'll be there, so look for the call letters on my hat and say hello.—K2TQN

plate current it was putting out almost 16 W. (For some reason other reviews I've seen of the 400 claim only 10 W out, though the manual does say 15 for straight-through operation.) Backing the plate current down to 80 mA still gave 15-W output. Listening to the rig on a receiver showed that my 400 had a case of the oft-mentioned Conar chirp. Looking at the schematic gave a clue as to where the problem might lie: the screen voltage drops almost 50%, from 320 V to 170 V, on key-down. As they say, "That's gotta hurt!" The 400 is definitely

a candidate for a VR tube on the screen, and a feedback adjustment trimmer cap as well.

The Receiver


The Conar 500 receiver is a single-conversion design using four tubes plus a selenium rectifier and a semiconductor diode detector. The IF is 455 kHz, and the receiver has two IF stages, unlike the single IF stages most cheaper receivers offered. The tube lineup is: 6BE6 converter, 6BZ6 IF amplifier, 6U8 (pentode section) IF amplifier, 6U8 (triode section) BFO, and another 6U8 AF triode section driving a 6U8 pentode for audio output. The controls are again quite basic: **AF Gain** (with **ON/OFF**), **RF Gain**, **Band-switch**, **Mode** (called **BFO**) **Ant Trimmer** and **Tuning**. The dial is silk-screened directly on the face of the receiver.

With two IF stages the receiver hears quite well, especially on the two low bands. Frequency drift settles down after about 10 minutes. The tuning rate is good for CW and AM on all bands. Audio output to the built-in speaker from the little

6U8 stage is adequate, and of course with phones it's more than enough. There is a modest amount of hum, and two modifications have been recommended for the 500s with this problem. It involves replacing the single rectifier diode with a bridge rectifier, and beefing up the filter capacitance.

Summary

A Novice in the '60s could have done a lot worse than a Conar setup. The receiver, especially, is a fine balance of decent performance and low price. I look forward to spending a lot of time with the Twins after tweaking them up and installing the modifications. Maybe I can even wear out the RadioShack 6DQ6B and have some fun trying to collect on their lifetime warranty!

For Conar schematics and manuals, or to subscribe to the tube and homebrew Glowbugs e-mail reflector, check K2TQN's Web page at www.eht.com/oldradio/arrl/index.html. 

Great Stations of the Past



Wouldn't you love to own this setup from 1961?