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**A.R.C.--The National Publication For Buyers And Sellers
Of Old Radios And Related Items--Published Monthly**

Salvaging A Novice Special

BY LOUIS L. D'ANTUONO, WA2CBZ

Web Edition

During the 1950s, home brewing was still popular and practical. Solid-state devices had not yet replaced vacuum tubes, and circuitry was still relatively simple. The Novice Class Amateur license was drawing new Hams to the hobby, and basic receivers and transmitters provided an easy path to getting on the air. In this article, Louis D'Antuono describes how he found and restored one of these classics from the 1950s. (Editor)

While making the rounds at a Hamfest sponsored by the Long Island Mobile Amateur Radio Club (LIMARC), I spotted a "Novice Special." I had seen this home-brew receiver pictured on the cover of the 1958 issue of "How to Become a Radio Amateur" published by the ARRL. However I never got around to building one. But there it was, right on the ground -- a replica of the Novice Special. I could not believe my eyes.

When I was in high school, I asked a salesman at Harrison Radio how much it would cost to build the radio from scratch, and he told me, "Fifty dollars." Fifty dollars! That was too much for me at the time. Now I had a chance to buy this long coveted home brew.

When I asked the seller at the Hamfest if the set was a Novice Special, he confirmed that it was, and then made an offer I couldn't refuse. He was not the owner of the set, but he had instructions from its owner to give this classic radio to anyone who could identify it. The restored receiver is shown in Figures 1 and 2.

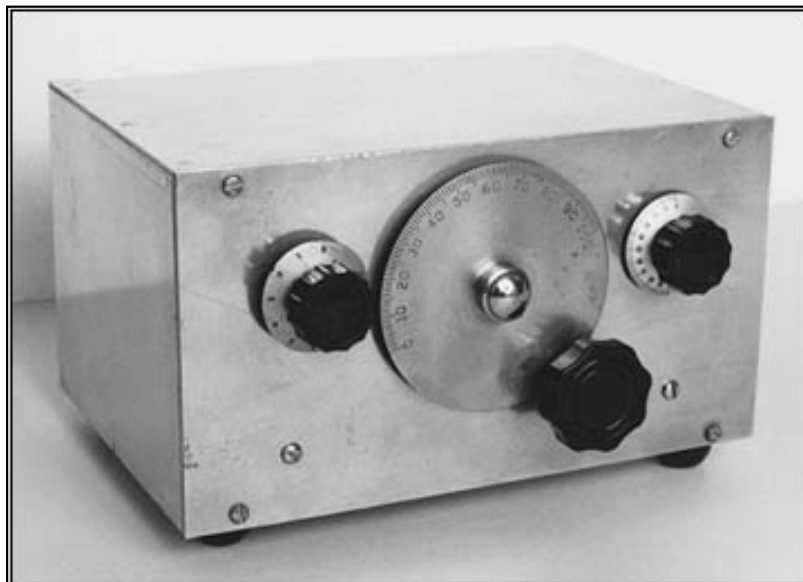


Figure 1. The Novice Special receiver in its restored state.

The set was in rough shape, but the price could not be beaten. The back panel of the cabinet and its three dials were missing. The front panel was in poor condition. On a positive note, all of the electrical components seemed to be there, including two tubes and a plug-in coil for 80 meters. And a definite plus was the fact that the radio came with its companion power supply.

Description

The Novice Special, as its name implies, is a low-cost, easy-to-build, entry-level regenerative receiver. This receiver uses two Type 6AQ5 tubes, one as a regenerative detector and the other as an audio amplifier. The audio output level is sufficient to drive a small speaker. The set's tuning range is 3 to 30 MHz using four plug-in coils.

The companion power supply was described in the article "Twenty-Five Watts for the Beginner" that appeared in the July 1956 issue of *QST*. This power supply was designed to operate both the 25-watt CW transmitter covered in that article and the Novice Special.

The power supply uses a clever design to allow its dual application. In the receive mode, the power supply uses a choke input filter that produces about 260 volts. In the transmit mode, the input choke is shunted and a capacitor input is used. The result is a higher B voltage, about 325 volts, needed to power the transmitter.

Restoration of the Receiver

My first task was to find the correct dial and control knobs. I found two E.F. Johnson knobs in my junk box for the regeneration and band set controls. The National Type K vernier dial for the band spread control was obtained by a wanted ad. I was surprised to get one still in its original box.

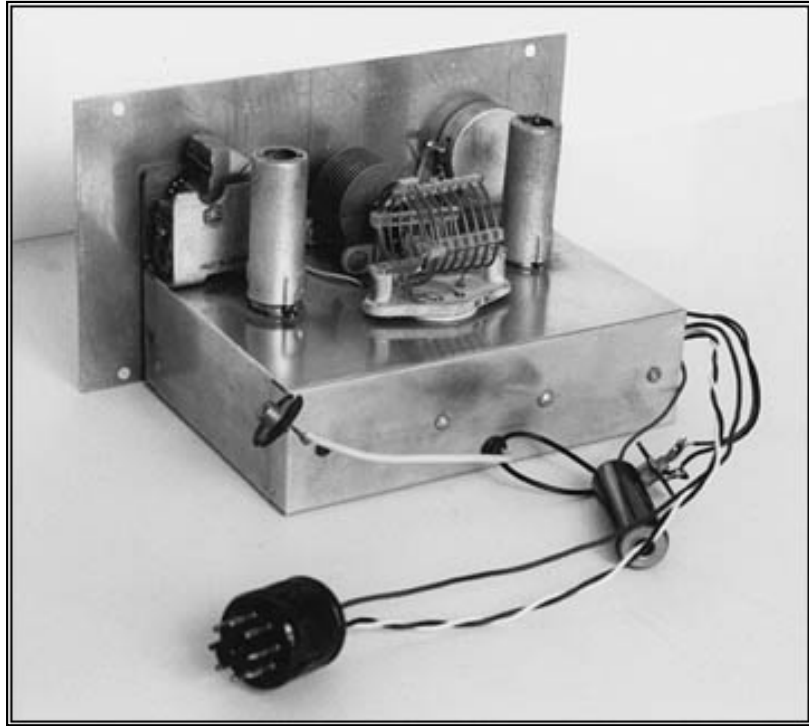


Figure 2. The rear view of the restored receiver shows its neat layout and its 80-meter coil.

The original front panel was in such poor condition that I replaced it with a new one cut from aluminum stock of about the same thickness. In a departure from the original design, I added a 50 pF variable capacitor in series with the antenna lead to prevent overload of the detector. I also replaced the cable to the power supply and included a ground wire to minimize AC hum. The use of twisted filament leads also reduced the AC hum level.

My good luck continued when I found a new-in-box coil for the 40-meter band at another Hamfest. With the radio restoration complete, it was on to the power supply.

The Power Supply

As is often the case, the power supply needed a new line cord. So, I replaced the line cord and added a pilot lamp -- a desirable feature not found in the original design. Some other changes seemed appropriate. I removed the Type 5Y3GT rectifier tube and its socket and replaced the tube with two 1000 PIV silicon diodes.

In the original design, the three tubular electrolytic filter capacitors were mounted under the chassis. I replaced them with a 3-section can type electrolytic capacitor and mounted it in the space vacated by the rectifier tube and socket. The restored receiver and power supply are shown in Figure 3.

Performance

Using the receiver to copy CW turned out to be very enjoyable. The set's stability was excellent, the band spread tuning was smooth, but volume was lacking. Although I had taken steps to minimize it, some AC hum was still present.

I tried to improve the set's performance by using the RF amplifier portion of a vacuum tube TR switch described in the 1964 edition of the *ARRL Handbook* and found that it was most useful on 40 meters. The radio would probably be adequate for QRP (low power) work, but I have not used it for 2-way communication.



Figure 3. The Novice Special receiver and its power supply. The power supply has been modified as explained in the text.

Restoring this receiver has been a very rewarding experience. I would like to locate one of the companion 25-watt transmitters. And hearing from other Hams who are familiar with this equipment would be most welcome.

References:

Mix, Don. "The Novice Special; Simple Two-Tube Receiver with Good Sock." *QST*, June 1956.

Chambers, C. Vernon. "Twenty-Five Watts for the Beginner." *QST*, July 1956.

"How to Become a Radio Amateur." ARRL, 1958.

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Louis D'Antuono holds an Extra Class Amateur radio license. He is a Social Studies teacher at the James Madison High School in Brooklyn, New York.

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