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## OLD RADIO

### A 1927 TGTP Transmitter

A popular transmitter circuit from the late 1920s was called the Tuned Grid-Tuned Plate, or TGTP. March 1927 *QST* had a very complete article on this popular circuit, called "A Flexible Transmitter." It was described "as one of the best circuits for short-wave transmission because of its inherent steadiness, efficiency, and ease of adjustment. It can be entirely controlled by two variable condensers, one in the grid and the other in the plate circuit, and is nearly fool-proof."

Another reason for its popularity was its "small size and pleasing appearance," the writer said. "It can be placed in the corner of a small room without undue crowding." He was comparing it to the older, noisier and much larger spark transmitter of the past.

F. J. Marco of the Aero Products Company, manufacturer of coils and other radio parts wrote the article, and of course Aero was selling a kit version of this transmitter. He described it in great detail. In fact it is so well written, that anyone today contemplating building or operating one of these vintage transmitters should read it, study it, and understand it completely before attempting to put one on the air.

I have admired this radio in the past, reading about it and seeing the ads in many magazines, but have never seen one in person. Gross Transmitter Kits also sold the same circuit, with their own version of coils. Aeros were made on plug-in forms and wound with enameled number 12 wire. Gross used 1/4 inch copper tubing in theirs. Copper tubing coils were also popular with hams who built their own transmitters. It was fairly easy to obtain, wind and mount.

When I first saw my transmitter advertised in California, I thought it was an Aero because of the shape. Then I thought it was a Gross because of the coils. Finally I realized it was a homebrew with the best of both designs. I bought it as quickly as I could.

It is a classic ham radio from the past. Many collectors have similar TGTP transmitters in their collections and use them on the air from time to time. Many hams are still building this circuit, using the original number 10-type tube, or substituting other available,



The TGTP CW transmitter from 1927. See the close-up on the cover of this month's issue.

compatible tubes. Often they are powered by more modern power supply designs.

This particular transmitter would be easy and fun to replicate, due to the few number of parts needed. The hardest part to find is the original Aero coils. They turn up fairly often at hamfests and vintage radio meets. You have to be careful, though, because Aero also made receiver versions with smaller wire. Make sure you get the heavier transmitter version.

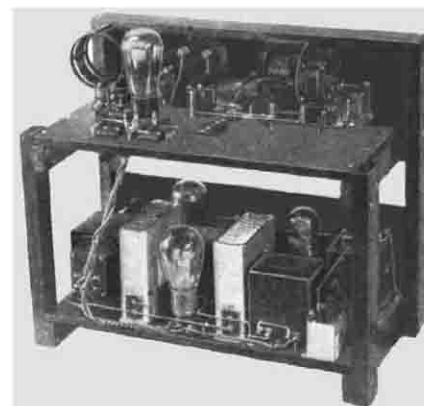
Or you can make the version like mine with the copper tubing coils. This might be the easiest to build, as copper tubing is available in almost every home plumbing supply store. If you want to get started, here is the information for constructing the wooden frame.

#### Building the Frame

The transmitter is a double-decker, with the heavy power supply going on the bottom level and the transmitter on the upper. I'll provide the dimensions from mine, which match the Aero exactly. The wood is hard pine, knot free and stained dark with a lacquer finish.

It is built much like a chair. The height overall is 16 inches. It is 18 inches wide, and 10 inches deep, not counting the front panel. The top transmitter board is 6.5 by 16.4 inches. The bottom power supply board is 10 by 16.4 inches.

The four legs are made from 1.5 by .75 wood. You need two each, 12 inches and 15.5 inches. Four shelf brackets are made from 1.5 by .5 wood 10 inches long. The top piece is also from 1.5 by .5 wood, 18 inches long.



This column is starting its third year. I have received many hundreds of e-mails and letters from you since the beginning. Your comments and suggestions are always appreciated. I am hoping to include more photos of your radios and your collector profiles this year, so keep sending them to me.