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OLD RADIO

The Heathkit AT-1

Few doubt that 1951 was an exciting year for ham radio. The introduction of the Novice class license made it possible for many to join our hobby. A good number of those joining were teenagers and young married people with limited amounts of money to spend. All of this helped the Heath Company enter the ham radio market.

Until that time, Heath had been successful selling surplus electronic parts and had just recently started selling test equipment kits such as their vacuum tube voltmeters and oscilloscopes. With all the new hams getting their licenses they determined that a good, inexpensive, transmitter kit was needed. The AT-1 would fill the bill.

The Genesis of the AT-1

Roger Mace was hired to design the transmitter and help Heath get their ham radio product line started. *QST* and the *ARRL Handbooks* had many designs that were popular and reasonably inexpensive to reproduce. Many of these designs had plug-in coils. Heath had tons of war surplus parts on hand and putting together a kit with these parts meant the selling price could be kept very low. Roger knew that adding band switching would be a plus.

One *QST* article of note was "How to Lay Out a Transmitter" by Byron Goodman in July 1951. It was centered on a 6AG7/6L6 transmitter designed earlier by Don Mix in the April 1950 *QST*. This classic transmitter had a similar

appearance to the AT-1. I can't help but believe that Goodman's 1951 article influenced Mace.

The AT-1 kit was introduced just in time for Christmas 1951. At \$29.50, it was an immediate success. It had everything one needed to build and finish it without having to purchase any additional parts. Its main features were: a built-in power supply, band switching, a built-in meter (switchable for either grid or plate measurements), a front-mounted crystal socket, a complete cabinet and a well designed front panel that was pleasing to the eye. It also included complete documentation on how to use the transmitter, and step-by-step instructions and drawings on how to assemble the transmitter. (This was important to a first-time builder.)

The band switch had four positions: 80, 40, 20 and 10 meters, but it also covered 15 and 11 meters at the 10 meter position (11-meters was still a ham band at this time and 15 meters did not become available until May 1, 1952). This meant that when the new Novice passed the General test, the transmitter would put him on the General bands. It was upgradeable; there are two octal sockets on the rear of the chassis, one for an accessory VFO and one for a modulator. Heath would later offer a VFO kit, but only offered information on how to connect the modulator to the transmitter. Ham magazines offered many modulator designs for the AT-1 over the next few years.

The RF circuit was the popular 6AG7 oscillator driving a 6L6 amplifier. Designed primarily for CW, it produced about 12 to 16 W output, depending on the band. The power supply used a transformer to a full wave 5U4 rectifier tube, with four filter capacitors and a choke. Two front-panel switches were provided: one for ac power and one for transmit or stand-by.

Heath later sold a model AC-1 antenna coupler for the AT-1. Priced at \$14.50, it too was immediately popular. De-signed for use with a random length wire antenna, it covered 80 through 10 meters. There is a neon bulb in the front panel that indicates rf output. Tuning is simple; just tune for maximum brightness.

Conclusion

It's not known how many AT-1s were sold, but estimates are several thousand. The AT-1 has become very collectable and owners continue use them on the air. There are many AT-1 to AT-1 QSOs every month. Find one and join in on the fun.

I would like to thank Chuck Penson, WA7ZZE, author of *Heathkit: A Guide to the Amateur Radio Products*, for his help in providing historic information for this article.

More information on the AT-1 and the Heath company can be found on my web page at: www.eht.com/oldradio/arrl/index.html. QST



Front and rear views of the AT-1.