

Heathkit of the Month:
by Bob, AF6C

HEATHKIT

**The Heath GR-121
AM Clock Radio (1963)
by: Bob Eckweiler - AF6C**

Introduction:

Over the years I've owned many different Heathkits. Most were bought new and assembled, but a few were acquired completed, with many needing restoration; a few even passed through the shack because their owner built the kit and needed help to get it to work. Each month this column will review a Heathkit from the past and maybe tell a few adventures about it. For the old-timers there will be moments of nostalgia, and maybe for the new hams who have never built a Heathkit there will be moments of regret.



Heathkit GR-121 AM Clock Radio (1963)

This month let's start off with a simple kit. Besides ham equipment, Heath made electronic household kits. Their early color TVs were noted for excellence because the, then difficult, task of adjusting color could be accomplished easily by the owner using alignment equipment built right into the TV set. As a young teenager I remember going to an electronics show in downtown New York City. Two things that stood out in that show were a National Radio Company Frequency Standard that took up a full six-foot relay rack, and the Heathkit color

TV that stood out with its superior picture, outperforming all the other well known brand names at the show. The rep at the Heath booth commented that their TV was readjusted each morning to keep the picture looking its very best. However, the average passerby was disappointed when they found the best performing TV was a kit and not available assembled.

No, the kit featured this month is not a TV; it is the Heathkit GR-121 AM Clock Radio. This kit was available from around 1961 to 1966. I was given one as a high school graduation present. I remember Vicki, in my class, got a new Chevrolet Corvette for graduation! Bob got a clock radio that he had to assemble himself!

Assembly took place on the screened-in porch of my parent's home in Manhasset, N.Y. over a few warm July days. I actually built the kit on the same folding metal table that has been used at most of the W6ZE Field Days to date!

The analog clock part of the radio came pretty much assembled with terminals to wire up the radio and auxiliary outlet. The radio uses point-to-point wiring (no printed circuit board), and like most AM radios of the time has five tubes. However the tube types used were quite different than the standard five-tube AC-DC radios of the day that almost always had the following tube lineup: 12BE6 mixer/osc, 12BA6 IF amp, 12AV6 detector/audio amp, 50C5 audio output and 35W4 rectifier. Instead the GR-121 uses the "power saver" tube lineup that requires only 100 ma of heater current instead of 150 ma. Heath probably did this because their radio was one of the rare five-tube AM radios that uses a power transformer. The power transformer adds expense over the common AC-DC radio that runs directly from the AC line. However, the transformer eliminates the safety problem of a "hot" chassis. This allows the safe addition of a jack for the use of headphones or a "pillow" speaker. The different tube lineup results in a longer warmup period and also makes the radio come up in volume

more slowly, probably a plus when the radio is set to turn on at five in the morning.

The GR-121 gave good service during my college years. It was tuned to a local State College, PA radio station on Friday, November 22nd, 1963, while I was studying for a Chemistry Lab exam scheduled for later that day. The music was interrupted by the news that President Kennedy had been shot in Dallas. Until that moment I was looking forward to a visit from my girl friend who was coming down from Elmira College for the weekend. We already had tickets to see Cary Grant in *North by Northwest* playing that evening at the student center. The movie was canceled, as were most weekend activities; people mostly sat around in shock and disbelief listening to the news. That day comes back to mind whenever I think of the Heathkit GR-121 AM Clock Radio.

Some years later the radio developed an intermittent. Expecting a long hidden cold solder joint I began to troubleshoot the radio. The problem was internal to one of the IF transformers. A replacement part was purchased from Heath and the radio again played solidly.

However, in the early 80s the clock was beginning to get noisy and there was a new GE solid state radio with digital tuning on the market. The GR-121, after all those years of service was given to Goodwill.

Heathkit GR-121 Clock Radio Specifications (from a 1963 Heathkit catalog):

Features:

- Transformer operated power supply.
- Timer operated outlet for household appliances.
- Sleep switch – radio alarm – output jack for pillow speaker.

Specifications:

- Tuning Range: 535 kc to 1620 kc.

- Intermediate Frequency: 455 kc.
- Controls: Clock, Sleep timer, up to 60 minutes, Selector, Auto Radio, On, Off, Radio Alarm, Time Set and Alarm Set, Tuning, and Volume control with on-off switch.
- Tube complement: 18FX6 Osc-mixer; 18FW6 IF amp; 18FY6 Detector-1st audio amp; 34GD5 Audio Output; 36AM3 Rectifier.
- Power supply: transformer-operated half-wave rectifier.
- AC outlet: Switched, 1200 watts maximum, located on rear.
- Speaker jack: For pillow or extension speaker, located on rear.
- Dimensions: 10" W x 5" H x 5" D.
- Price \$29.95.

73, from AF6C



Remember, if you are getting rid of any old Heathkit Manuals or Catalogs, please pass them along to me for my research.

Thanks, Bob - AF6C

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