

The kit era passes: Heath pulls the plug

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A front-page article in a recent issue of *The New York Times* was headlined "Plug Pulled on Heathkit, Ending a Do-It-Yourself Era." I won't say that the story brought a tear to my eyes, but it certainly did send me on a trip down memory lane. In late 1947, I was in the U.S. Army Signal Corps assigned to White Sands Proving Grounds, in New Mexico. We used liberated German V-2 rockets as part of a space-flight research program. I served as an electronics technician who manned a Doppler tracking station during launches and did electronic construction and maintenance work for the Doppler Lab between "shots."

On a weekend pass in El Paso, TX, I picked up a copy of *Radio Craft* and settled down in the local YMCA for a good read. (Yes, I was truly a wild and crazy guy during my Army days!) A Heath Company ad caught my eye. The ad offered an oscilloscope kit with top-quality war-surplus parts for only \$39.95. Despite the fact that the cost of the kit far exceeded my Technician, Fourth Grade's monthly pay, I felt I had to have it. My plan was to store the kit behind my bunk (it wouldn't fit in my footlocker), and work on it during my free hours. As I might have predicted, it caused a major hassle during the next barracks inspection, and I was persuaded to finish its construction in the Doppler Lab.

In any case, using the single blueprint sheet provided, I successfully completed the kit and fired it up. It didn't compare very well with the Mil-Spec Dumont scopes in the lab—but it was all mine! The trace was a little thick, and the sweep slightly nonlinear, but I now owned a real live oscilloscope.

Let's take a quick jump to the early 1950's. Encouraged by its success with a basic scope kit, Heath ultimately developed a full line of test-equipment and hi-fi kits that in-

cluded separate AM and FM tuners at \$29.95 each, single- and dual-chassis Williamson-type amplifiers, and a sophisticated preamplifier. Aside from the fact that the preamp was powered from an octal socket on the power amplifiers' chassis, the \$19.95 unit was an electronic knock-off of a top-of-the-line self-powered Fisher preamp that sold for about \$100. (In general, the kit companies that proliferated during the next decade freely borrowed from each other's designs and those of the factory-wired units. For example, I recall seeing several H-P instruments lifted wholesale into kit equipment.)

Customer problems

By now I had gone to work as a troubleshooter/technician for Heath's major competitor, the Electronic Instrument Company, better known as Eico. A large part of my job involved correspondence with kit buyers who couldn't make their completed units work.

The problems mostly came down to careless wiring errors, but anyone who has worked in the kit business has accumulated a collection of funny stories. During my five years at Eico, I came across at least one oscilloscope and one audio generator whose novice builders had, as instructed, carefully used spaghetti (never defined in the construction manual) on all the long insulated component leads. In truth, it wasn't spaghetti they used, but rather elbow macaroni of the appropriate length and diameter. The only reasons the kits didn't work were wiring errors.

A more common blunder was the use of "liquid solder," a now-extinct commercial concoction apparently composed of airplane glue and silver paint. Needless to say, those hundreds of glued "solder" joints didn't conduct very well, although at a casual glance they really did look

legitimate.

Another story is worth telling. In Eico's product line was a rather sophisticated DC-scope kit that had an edge-lit scribed Plexiglas graticule over the CRT face. Shortly after the scope hit the market, I began to get mail from kit-builders who had completed their kits, complaining that the CRT trace was dim and blurred. I wrote back with appropriate suggestions, but to no avail. I wondered whether we might have shipped out a bad batch of CRT's, and I asked one kit-builder to send back his CRT for test and possible replacement. When his CRT checked out fine, I asked him to ship the entire scope back to my attention. Less than a minute after the scope arrived at my desk, I diagnosed the problem. We had sent out the Plexiglas CRT graticule screen with a protective brown paper covering, which he had not removed before installation. Turning up the intensity made the trace visible through the paper coating but, of course, completely defocused the beam. (The ultimate solution was a stamp that said: "Peel off protective paper before installing graticule.")

To return to my involvement with Heath, my early years at *Stereo Review* coincided with Heath's heyday. A typical issue in 1964 might have six pages of Heathkit product advertising compared with Fisher's four pages. You have to understand that the Heath power amps were *the* audiophile product of the day. Heath's success didn't go unnoticed by the conventional hi-fi manufacturers. In 1962, high-quality kits were available from dozens of companies including Dynaco, Fisher, Harman-Kardon, plus many speaker, turntable, and tone-arm manufacturers.

Kit costs

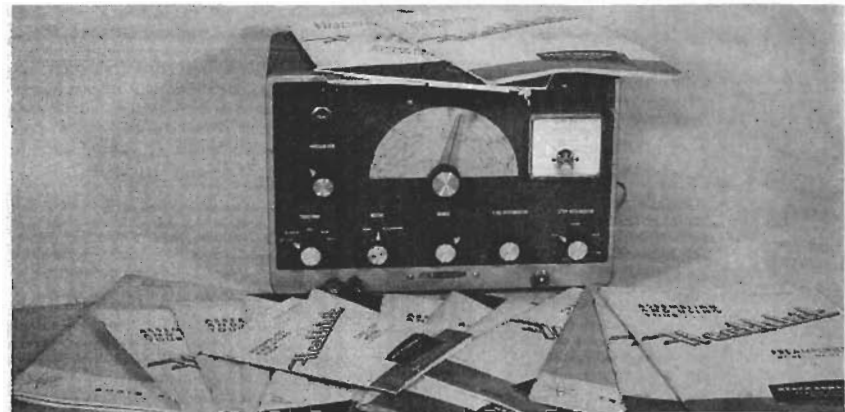
During the 1970's, I wrote several "Joy of Kit Building" articles where-in I dealt with the question of kit

economics. Although the early Heath power amps were not available factory-wired and there were no exact commercial equivalents available elsewhere, many components from other manufacturers were available in both kit and wired forms. I calculated that the average kit-builder was saving the equivalent of about 50 cents for each hour invested—not bad for having fun.

Eico produced both factory-wired and kit equipment. Knowing what I do about the complexities of producing a kit and its manual, I'm surprised, in retrospect, that kits were usually about 30% cheaper than the physically and electrically identical wired units. For example: An excellent 60-watt power amplifier cost \$72.95 in kit form and \$99.95 wired.

Death knell

What killed Heath and the other companies involved in kit production? It seems to me that as soon as factory-wired equipment became as



A HEATHKIT TEST GENERATOR and manuals from some of the many kits built at Radio-Electronics over the years.

good as the kits and (thanks to the Japanese) just as cheap, then kits were in trouble. My earlier point about having fun still stands, but competing computing and video fun was now available to the electronic hobbyist. As the readers of **Radio-Electronics** demonstrate, there are still those who relish the smell of bubbling solder flux—and I'm one of them—but apparently our numbers are not sufficient enough anymore

to support large kit companies.

Perhaps it is symbolic that my family's Heath H-89—an 8-bit, 64K microcomputer that my wife spent 52 hours (!) building in 1981—finally also died this year. Since I can't bring myself to put it out at curbside for Thursday trash pickup, anyone interested in providing it with a good home—or using the parts it contains—can drop me a note in care of this magazine. **R-E**