

## Second Century



# Open Technology for Opening Minds

*When I first walked around a ham flea market as a teenager, the vintage equipment was generally military surplus, or older first-generation SSB rigs. Now, the vintage gear at hamfest flea markets is Collins and Drake equipment that was state-of-the-art in my youth.*

This gear required technical know-how to operate. One needed to retune the rig — dip the plate — when changing frequency any significant amount. Back then, the technology was “open.” By that, I mean equipment was built with vacuum tubes, discrete semiconductors, and discrete resistors, capacitors, and inductors. You could use a VOM, O-scope, simple hand tools, a soldering iron, and a schematic diagram to understand what was working and what was not. You could “look under the hood” and repair or modify the rig.

In 1971, Intel produced the 4004 microprocessor and everything changed. Today’s top rigs are computing marvels, built using surface-mount components and with major functionality defined in a silicon wafer and software. The average ham can’t repair or modify such a rig, even with an engineering degree. Today’s state-of-the-art equipment inches closer to plug and play.

With that in mind, imagine that you’ve just left a hamfest. Returning to your hotel, you get on an elevator, and a young woman notices your call sign badge. She asks, “What do those letters and number mean?” You have the time it takes for the elevator to go up five floors to communicate your passion for amateur radio to that young person. What do you say?

You can’t say it’s to talk around the world; she can do that now from her cell phone or using the internet. You can’t say it’s to get under the hood of a modern radio; it’s all software and silicon. Or is it?

Consider the banner ARRL rolled out last summer, which said, “Radio communications: skill, service, and discovery.” Build your elevator speech around that concept. And ARRL can do more to help you.

ARRL is developing low-cost (target \$5.00), build-it-in-

an-hour receiver and transmitter kits. We intend to make these available at nominal cost to members and radio clubs who want to have a different “soldering experience” at their next hamfest. We’ve even received a donation (and would like to receive more) to make some available for free. We will have, as part of ARRL’s booth at Orlando HamCation in February, a build-a-radio experience using a kit designed by member Levi Zima, KN4YHS, a 21-year-old RF designer. Imagine the excitement that a pair of new hams might have, one building a receiver and one building a transmitter, going outside and communicating using a radio they built.

Let’s try to recapture some of the excitement — the skills and discovery — of exploring how radio works.

If you have ideas or experiences that might help us with our build-a-radio kit, please contact Product Development Manager Bob Inderbitzen, NQ1R, at [nq1r@arri.org](mailto:nq1r@arri.org).

I encourage your comments to me at [ceo@arri.org](mailto:ceo@arri.org).

### Where to Meet WB2ITX

**January 24** — Winterfest & ARRL Midwest Division Convention, Collinsville, Illinois <https://winterfest.slsrc.org>

**February 7 – February 9** — Orlando HamCation, Orlando, Florida [www.hamcation.com](http://www.hamcation.com)