

The Future of Ham Homebrewing

Building. It's a time-honored ham tradition that many of us fear is endangered. Microprocessors and surface-mount technology make it difficult to build radios that even begin to approach the size and capabilities of commercially-available gear. Today's newer hams, it seems to many, have neither the skills for building equipment nor the interest in learning them. We're becoming a hobby of "appliance operators," many old-timers (and some not-so-old-timers) say. Phil Anderson, W0XI, a pioneer in popularizing packet radio in the 1980s, notes in a recent letter praising our articles on using JT-65A on HF that he's "been running an informal survey on the number of schematics and equations showing up in *QST*, *CQ*, and in the hobby letters. The trend has been a declining one over the last few decades," he reports.

And yet ...

Yet ... old-timers have been complaining since probably the 1930s (when commercially-built radios first became available) that newcomers are all a bunch of appliance operators. (In truth, the majority of hams have always been appliance operators to the extent possible. If they weren't, the commercial ham radio equipment industry would never have gotten off the ground to begin with.)

Yet ... hams adept at programming are growing in numbers and user-programmable processors, such as PICs or Arduino-based projects (more on them later), make it possible for ham builders to develop their own applications or build projects based on other hams' programming. In fact, the ARRL has put out a ham-focused PIC Programming Kit and just released a revised version of its *PIC Programming for Beginner's* book to match up the kit and the book. And we will be digging deeper into Arduino in coming issues.

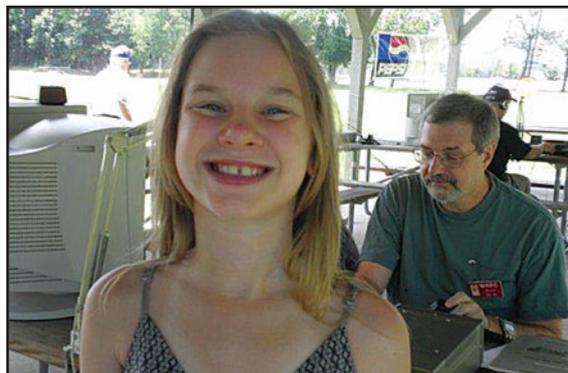
Yet ... the QRP folks are designing and building kits at a record pace, the hams at AMSAT are continuing to build amateur satellites and the radio gear that travels inside them, and our digital gurus are developing both hardware and software for high-speed RF computer networking that rivals what the commercial folks are doing.

Yet ... there is a new generation of builders, both inside and outside of ham radio, who prefer the challenge of building their own stuff to just turning on and using something, and replacing it when the batteries won't take a charge anymore.

Building is a theme that runs through many of the articles in this issue, from our look at the World Maker Faire held in New York City in September (covered both in our lead feature article and in this month's "Kid's Korner" column) to a QRP project ("QRP"), tips on placing parts on a circuit board ("Kit-Building"), and building projects using the Arduino platform ("Digital Connection").

Digital Editor Don Rotolo, N2IRZ, believes the future of ham radio homebrewing lies more in software than in hardware, with hams developing ever-more innovative ways to make computer-based radios do new and different things. There is certainly room for experimentation and innovation in this arena, and digital-savvy hams are regularly meeting the challenge. (Consider the articles referenced above on using JT65, a digital mode designed for moonbounce, on marginal HF paths.)

Yet ... there is also a lot of hardware being built as well, especially among QRPers and those working



Victoria Harris, age 10, who was featured in our November issue ("A Tale of Two Field Days," by W4PC) will have her own callsign by the time you read this. She passed her license exam in mid-October. (Photo by Erin Butler, KJ4MFO)

where commercial gear doesn't—in the field of amateur satellites, for example. The popularity of our kit-building column also suggests that a good number of hams remain adept with soldering irons as well as keyboards. Also, the enthusiasm for building in the "maker" community—even among non-hams—suggests that the art of homebrewing remains alive and well.

It seems to me that the real future of homebrewing lies at the junction of hardware and software, and in collaboration between those who design and build the circuitry that supports the efforts of those who write computer code to make that circuitry do what they envision. It also lies in encouraging building and teaching the basics in our radio clubs and at our hamfests. (Do you know the Maker Faire had not one, but two "Learn to Solder" areas, and that they were always packed? When's the last time you saw a "Learn to Solder" booth at a hamfest? Or a "Learn to Read a Schematic" program at a club meeting?)

We have an average of 30,000 new people entering the hobby every year right now. Not all of them (a minority, most likely) are engineers or electronics experts. Rather than complaining about their lack of skills, we need to encourage and educate them. But we also need to reach out to technically-inclined people who haven't yet discovered ham radio, and share the excitement of our hobby with them. Is there a Maker group in your community? Collaboration with them might be a very good place to start.

Update

Rick Ruhl, W4PC, who was featured on last month's cover and wrote the story "A Tale of Two Field Days" about introducing the annual event to prospective hams Destini Crisanto and Victoria Harris, tells us that Victoria took her Technician exam in mid-October and passed with flying colors! Her callsign hadn't been issued by the time we went to press, but congratulations to Victoria from all of us here at *CQ*!

Happy Holidays!

As we wrap up our 65th anniversary year, as well as the 75th anniversary year for the Worked All Zones award (just one month left to qualify for the special WAZ Diamond Jubilee Award! See page 100.), we would like to take a moment to wish each and every one of you a very happy holiday season. May the economy and the sunspots both improve in 2011!

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