Lab Notes

Conducted By Steve Ford, WB8IMY, Assistant Technical Editor
and the ARRL Laboratory staff.

How to Locate Amateur Radio Software

Wouldn't you like to put your computer to work in your ham shack? So would many amateurs! Finding the right Amateur Radio software to run on your machine can be difficult. Jon Bloom, KE3Z, ARRL Laboratory Supervisor, is an old hand at software hunting. As Jon says, the software you want is probably out there...somewhere!—WB8IMY

Q: I just bought a new computer and I'd like to use it in my ham shack. Where can I get some ham radio software?

A: That depends. What kinds of applications did you have in mind?

Q: Applications? I'm really not sure.

A. Well, you can be sure your problem is not an uncommon one. When you put ham radio, with all its diversity, together with the power of a computer, the possible uses are almost innumerable! Don't feel bad if you hardly know where to start.

Let me see if I can help by categorizing the Amateur Radio applications of a computer. The programs you might want to run fall into these basic categories:

- **Communication**—Computer-oriented communication—RTTY, AMTOR, packet, and the video modes—is the most popular application. Depending on the computer you own, you may need some external hardware to fully enjoy some or all of these modes.
- **Control**—Computers are often used to control various pieces of amateur equipment, such as a rotator for satellite tracking, to helping the contest operator run the rig, to...whatever!
- **Calculation**—To the experimenter or builder, the computer has replaced slide rules, nomographs and look-up tables in calculating answers to mathematical problems. Moreover, computers now offer applications never before available to amateurs, such as antenna-modeling programs.
- **Record keeping**—One of the most common programs—everyone with even a smattering of programming ability seems to write one sooner or later—is a logging program. But other kinds of records can be accessed, too: on-line callbooks using CD ROM, lists of US counties and so on.

Q: I'd like to do all of those things! Where do I get the software?

A: Hold on! You still have a decision to make! Do you want to pay for the software? Uh...let me rephrase that! Would you rather pay for software and get support, or get free software and be on your own when it comes to figuring out how to use it? That's the major difference between store-bought software and the free variety. Authors of free software often aren't interested in helping the neophyte. They feel their time is better spent on developing even better software. A company that sells you software has to be a little more helpful. The software buying public expects it, and companies that don't provide adequate support don't stay in business very long! So, what'll it be?

Q: I guess I'll start with the free stuff and see what I can do with it. I can always buy a program if I can't find a free one that does the job. So, enough beating about the bush! Where's the free software?

A: It's all around you. You can either download software from a telephone bulletin board system (BBS) via modem, or you can contact one of the many shareware vendors to get software on disks. (We'll discuss telephone BBSs in a moment.)

First, lets talk *shareware*, *freeware* and *public domain*. These terms are *not* synonymous. Public-domain software is software that is owned by no one. That is, anyone can use it, sell it, give it away, modify it or do whatever they want with it. Freeware, on the other hand, carries copyright protection. Usually, the author will provide some kind of usability criteria in the documentation. Most often, use of the software for noncommercial purposes is free, while commercial users are required to pay a licensing fee. Shareware is yet another category. Shareware is *not* free software! It is copyrighted and its use is restricted by the author. Usually the restriction takes the form of allowing a brief trial use, after which you are expected to register your copy of the software by paying a fee. Fees range from a few dollars to hundreds, depending on the complexity of the software—and on what the author thinks the market will bear.

You can get public domain, freeware and shareware software from a number of companies that sell it. That might sound somewhat contradictory, but I'll explain. Usually, these companies package several related files—like Amateur Radio programs—on a disk and sell the disk for a few dollars. (Even though you buy the disk, you are still obliged to register any shareware you use from it unless the documentation says otherwise.) Many companies provide shareware, and most of the bigger hamfests sport at least one shareware vendor. You can buy shareware by mail, too. Here are a few shareware vendors for IBM PC systems:

Public Brand Software
PO Box 51315
Indianapolis, IN 46251
tel 800-426-3475

Renaissance Software & Development
Killen Plaza, Box 640
Killen, AL 35645
tel 800-525-7235

Save On Software
PO Box 2837
Wilkes Barre, PA 18703-2837
tel 800-962-6107

There are others, of course, but these will give you a place to start. I should also mention one noncommercial source of PC software. Tucson Amateur Packet Radio (TAPR), the group that produced the TNC-1 and TNC-2, is very much alive and well. As a service to their members, they provide recent versions of shareware and public domain packet radio software for the IBM PC for a nominal per-disk fee. A list of available software is included in each issue of *Packet Status Register*, the TAPR newsletter.[1]

Q: That's all fine, but I have a Macintosh!

A: Up until now I assumed we were talking about an IBM PC-type computer. After all, over half of the computers owned by *QST* readers are PCs or compatibles. This is reflected in the fact that you'll find less software available for computers other than PCs, particularly public domain and shareware software. But there is some out there! One resource to tap is the large number of telephone bulletin board systems. You can *download* software from these systems for the price of the phone call, although some "boards" charge a small monthly or annual access fee. (Some packet systems have software available, too. The congestion prevalent on most packet channels, however, limits the ability to conduct large file transfers.)

Here are two telephone BBS systems that offer Amateur Radio software, including software for th Macintosh, Amiga, Atari and other computers. There are many, many more! Check the telephone BBSs in your local area; some of them have ham radio sections.

N8EMR BBS — tel 614-895-2553

WB3FFV BBS — tel 301-625-0817, 301-625-9482 and 301-625-9663

Atari users can also get ham radio software from:

[1]Notes appear on page 60.

Atari Microcomputer Network
John Adams, KC5FW
17106 Happy Hollow
San Antonio, TX 78232
(send an SASE for a list of available software)

Packet radio software is available for most computers from a variety of sources. These can be found in *Your Gateway to Packet Radio* and in *The ARRL Operating Manual*, fourth edition.[2]

Q: Suppose I don't find what I'm looking for in the shareware world? What commercial software do you recommend?

A: We don't actually recommend software—or other products—because that would interfere with our objectivity in doing product reviews. Also, to be fair, we don't know enough about every software product on the market to be able to say with certainty which is the best. Most importantly, we don't know enough about *your* software requirements to say which software would work best for you.

But we do know this much: We make sure that software publishers who advertise in *QST* respond to customer complaints. Buying software advertised in *QST* is probably your safest bet when it comes to commercial software.

By the way, one source of satellite software for most types of personal computer is AMSAT. They sell low-cost software for satellite tracking, telemetry decoding and accessing the digital satellites. Most of it is discounted to members, so it pays to join AMSAT if you're interested in amateur satellites! You can contact them at:
AMSAT
PO Box 27
Washington, DC 20044
tel 301-589-6062

***Q: I never see much software for my computer listed in QST.* Why?**

A: It all boils down to supply and demand. As I said before, if you don't own an IBM or compatible computer, the pickings get kind of slim. (There are *some* goodies in the display ads and Ham Ads, though.) Here's a brief list of sources for Macintosh and other non-IBM computers:

EPO Corporation (Apple II, Commodore)
7805 NE 147th Ave
Vancouver, WA 98682

Kinetic Designs (Amiga, Apple II)
PO Box 1646
Orange Park, FL 32067

MacTrak Software
PO Box 1590
Port Orchard, WA 98366
tel 206-871-1700

ZCO Corporation (Macintosh)
PO Box 3720
Nashua, NH 03061
tel 603-888-7200

Dynamic Electronics (Color Computer)
Box 896
Hartselle, AL 35640
tel 205-773-2758

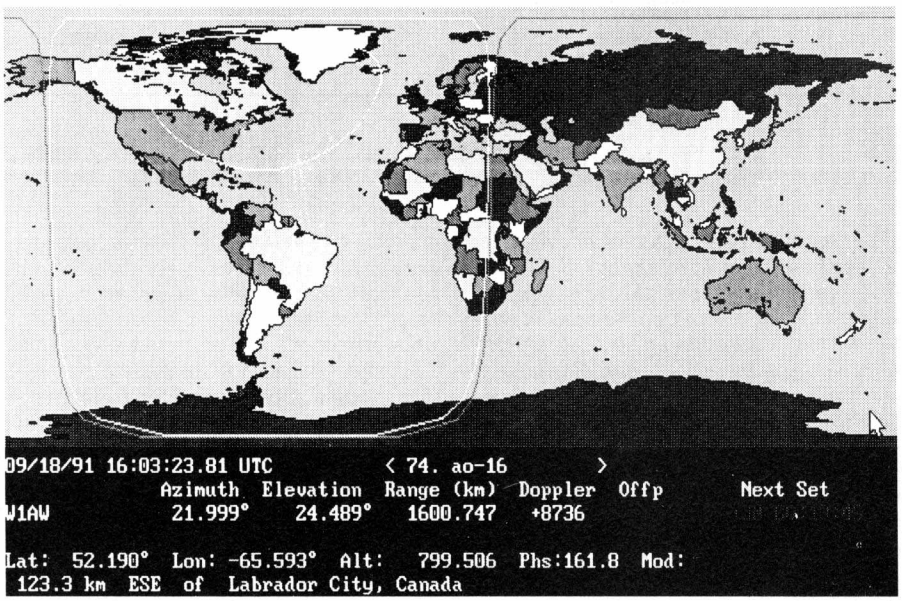

Fig 1—AMSAT's *InstantTrack* is an example of a software package that can track satellites and control your antenna system. *InstantTrack* is available at a cost of $50 for AMSAT members, $70 for nonmembers.

Q: I'm really getting into this computer stuff! How can I find out more about what's going on in ham radio computerization?

A: There's no single answer to that to that question! One good place to start is the subscription on-line services. There are several such services, including CompuServe, GEnie, Prodigy and others.

Using a telephone modem, you can call the service and download thousands of files, including many ham radio programs. You can also communicate with amateurs and other subscribers in a bulletin-board format, making it easy to get answers to your "where do I get..." and "how do I do..." questions. Of course, these are subscription services, so you have to pay for your usage.

There is a huge amount of software available for ham radio applications, particularly for the IBM PC. If you haven't found what you want, keep looking. By the way, if you run across a good source of Amateur Radio software, let us know! We're always happy to find new software sources and share the information with others.

Notes

[1]The *Packet Status Newsletter* is available from Tucson Amateur Packet Radio, PO Box 12925, Tucson, AZ 85732. $15/year.

[2]*The ARRL Operating Manual* and *Your Gateway to Packet Radio* are available from your local dealer or direct from ARRL HQ. See the ARRL Publications Catalog elsewhere in this issue for ordering information.

We welcome your suggestions for topics to be discussed in *Lab Notes*, but we are not able to answer individual questions. Please send your comments or suggestions to: Lab Notes, ARRL, 225 Main St, Newington, CT 06111. QST

Strays

I would like to get in touch with...

☐ anyone with information on The Wireless Association of Central California, formed in Fresno on May 27, 1910, according to the ARRL publication *200 Meters and Down*. Gary Payne, KE6CZ, 1347 E Dakota, Fresno, CA 93704.

☐ anyone who has used an AEA CP-1 with an IBM-compatible MS-DOS computer for an AMTOR mailbox. Bert Godlewski, KA4SBE, 8667 Boston Ave, Ft Lewis, WA 98433.

☐ anyone who has a red and white ARRL flag in good or mint condition. I collect flags and would like to add the League's to my collection. Doc Kinne, N2IKR, 85.5 Albany St, Cazenovia, NY 13035-1216.

☐ anyone who owns or has an interest in the Knightkit Ocean Hopper radio to join our group and get our free newsletter. Bill Albrant, K7JYE, 101 Acorn Cir, Brea, CA 92621.

☐ anyone who has information on interfacing a computer to a receiver IF to produce a Panadapter-type frequency display. Dr Charles Fontenot, K5UA, 923 N Eastern Ave, Crowley, LA 70526.

☐ anyone who has a schematic or manual for a Hickok Model 4800 Sine/Square generator. Jim Cantrell, KA8PYC, 315 E Prince St, Beckley, WV 25801

☐ anyone who has operating instructions for a Heathkit Signal Tracer, Model IT-12, series no. 09429. Robert Everding, NØEVQ, 514 Glenmeadow, Ballwin, MO 63011