

USING THE COMPUTER IN DXING - PART 1

Personal Computers and DXing
Mark Connelly - WAIION - 17 NOV 1992

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There are many uses for PCs in the DX hobby. The most common use is word processing: typing the text of reception reports, DX club column submissions, correspondence, and feature articles. A great benefit is the ease with which old text files can be "cloned" to be dodged into new ones - this definitely reduces the work in writing reports to stations, for instance. Spell checking, and the ability to search many files for key words also improve efficiency. Databases in the form of station lists, loggings, member's names/addresses, lists of reference books/articles, etc. allow sorting in many ways- e.g. stations in call order, frequency order, or by state. An outfit in New Hampshire (Di-Dah) sells databases which amount to huge bibliographies on subjects such as antennas, receivers, and propagation.

Other computer uses include software for great circle distance/bearing, sunrise/sunset/greyline determination, propagation forecasting, and design of antennas and RF circuits. Such software is frequently available as ham radio shareware at low prices.

Many PC users are into modem networks, E-mail services, such as CompuServe, Prodigy, America On-Line, and Genie. It's a great way to share DX tips, or download large logging lists, technical articles, and DX software. Computers were important to the success of the 1991 Newfoundland DXpedition and it's subsequent reportage. DX software aided decisions about how to lay out antennas and when to listen. But most of all, the use of the INTERNET helped an important post-DXpedition information exchange. Bob Foxworth in New York downloaded the complete NF DXpedition report (from a disk I'd sent him) onto INTERNET. It was soon read by a network participant and avid DXer in Finland! He, in turn, posted a large report of a DXpedition in he'd participated, packed with Finnish loggings of MW DX from all around the world. This report was then picked up on the net by none other than Dr. Jean Burnell in Newfoundland!

CD-ROMs are coming on strong now; they allow storage comparable to hundreds of floppy disks. Currently general-use reference books such as dictionaries, encyclopedias, and atlases are available. These are, of course, frequently of use to DXers. Tool and electronics parts catalogs on CD-ROM are available to the homebrew enthusiast. Some ham and shortwave-oriented CD-ROMs exist; medium wave might be too much of a niche interest to warrant CD-ROMs at their current production costs. But, wouldn't it be great to have the entire collection of DX Monitors since the 60s, including technical articles and loggings by people like Gordon Nelson, all scanned on to one CD through which a sophisticated editor could search for and find key topics, names, station calls, etc. in a matter of seconds? The ability to cut and paste words and pictures from CD-ROM articles to new articles speeds up the creative process. You wouldn't need a reprints service - just get the one CD, perhaps with updates every 3 or 4 years. Bernoulli-box drives-removable disks with hard drive-like capacity (e.g. 90 megabytes) could be used if CDs proved too expensive.

Scanners with optical character recognition allow paper to be converted to electronic files. Pre-computer age master works on tube receiver design, for instance, can be transferred from hundreds of pages of deteriorating paper to a 3.5 inch diskette that fits into a shirt pocket, and can be replicated onto optical-disk media that could outlive the paper, and take up far less space. (To Be Continued)

Next time, the conclusion of Mark's article, and comments from others.
73 de LLH.

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USING THE COMPUTER IN DXING - PART 2

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(continued from last column)

Remote control of receivers is another area of computer use: compared to what's been done daily in the automatic test industry and factory automation since the JFK era, hobby control software is still laughably primitive. Current programs use the RS-232 bus almost exclusively; this limits greatly the concept of combined control of receivers, antenna tuners, loops, recorders and antenna positioners. Precious little of the current software does any more than set the receiver to a preset list of frequencies at a preset list of times, much the way a programmable VCR does. Of course, many receivers cannot send digitized S-meter readings and digitized audio back to the computer: these outputs would be critical for true "artificial DXer" programs incorporating decision making. I'm talking about programs that could intelligently determine that if Algeria is in on 891, looking for other TAs could be worthwhile else "skip it" and see if Radio Paradise is booming in on 830 or PJB on 800 to decide whether the "Caribbean strategy plan" should be invoked instead. "Smart" DX programs need to know, at the very least, signal strength and perhaps something about audio content. I think programs that can tell Spanish from Portuguese under poor signal signal conditions are still a long way off, but not theoretically impossible. What PCs do today seemed impossible in the Altair, Timex-Sinclair, and Commodore days of just 15 years ago.

I've worked in automatic testing since 1978. The IEEE-488 instrument control bus, allowing many instruments to be operated together under one computer's control, goes back well before that. The VXI (VME) control bus does a similar job. As I stated before, use of this could allow receivers, loops, and recorders to all run under one program as a sort of "robot DXing station." If hobby manufacturer's woke up and incorporated IEEE-488, that would help. Most prefer to stick to quirky, limited, and incompatible control schemes, and canned software not easily customized by the end user. An IEEE-488 interface card for PCs, with Windows-compatible software, is typically sold for about \$500.00. That's cheaper than many other peripherals such as laser printers. Users, at present, are almost entirely commercial businesses testing circuit cards, mixing chemicals, drilling metal, etc. Hobbies such as DXing, ham radio, and even model railroading could benefit from the power of such control.

Of course, then there's the matter of unwanted RF emissions from the PC, a problem that hams running packet have apparently confronted and conquered - at least when outdoor antennas are used. I would recommend ARRL literature as a good starting point for solutions. I'm not sure a PC and a loop could ever function in the same room at the same time. A remotely tuned and turned loop on the roof could be the best bet.

In summary, there are many current uses for PCs in DXing, and there will continue to be more as time goes on. Still, one should focus on the DX first, and use the computer as more of a helper than as an end in itself. Otherwise, you could fall into the trap of never turning the receiver on! There are many such former DXers. A computer is definitely valuable, but it's not indispensable. People logged and verified thousands of stations long before computers became available. A DXer armed with just a Superadio or TRF can still be a success in this hobby. Serious computer hobbyists must be willing to part with much more money for an equivalent amount of fun.

DX Techniques, indeed! My paltry comments are that I use the computer and printer to generate listings sorted by call, frequency, and state. However, 95 % of it's use is for correspondence, and generation of my two DXM columns.

Any other comments received will appear next time, when a new format will be introduced. 73 and good DXing de LLH.

USING THE COMPUTER IN DXING - PART 3

LARRY GODWIN: REPORTS TO DX MONITOR: I use my word processor for this. I name my files by the column to which I am reporting, and the date. For example, my second report to DXR this month would be "DXR-92K.2" The "K" (11th letter of the alphabet) refers to the 11th month. This system properly alphabetizes the files in order on my hard disk.

LOG OF STATIONS HEARD: I have a crude but workable way of keeping my "heard" logbook. I keep two log files: one for domestic, one for foreign stations. After I type a report to DXR, I copy it to my domestic log file "DXR.CON," and similarly, I copy each DXWW report to my "DXWW.CON" file. After each report, I intersperse the new additions with the stations already in the file by frequency. That way, I have a continuous listing of all stations I heard and reported to DX Monitor.

LOG OF BEST CATCHES: I do keep a database for this purpose. I've defined 10 fields: Station, Frequency, City, Power, Distance, Latitude, Longitude, Bearing, Date first heard, and Alternate city (for locations not defined in my world atlas.) I have sort indices by power and distance.

DISTANCES: I use two programs to calculate distances, and both work almost identically. "PC Globe" is my favorite: I input my home base coordinates and those of my catch, and it calculates distance in miles, as well as bearings. It is commercially available from most software houses for about \$40. "Bearings" is a little more time consuming to operate, and will only produce distances in kilometers. I ordered mine from Zephyr Services (412-422-6600) for \$25.95 a year ago.

SUNRISE AND SUNSET TIMES: I use "Suntimes" to calculate precise data for any day of the year, for any location on Earth. It will also produce a chart for an entire month. This program is also available from Zephyr Services: mine cost \$30.95 a year ago.

THE EDITOR: Larry mentioned that he believes it would be possible to keep the log on a database, and print a copy of tagged files only for reports to the DXM columns. That is exactly what I do. My computer is ancient, and so is my software, so I don't know how valuable what I do will be to the membership. I use the Condor 20 database to enter all stations logged at each sitting. I still use a composition book to actually log the stations in longhand. The database sorts the loggings, weeds out stations already in the file, and posts them to the database. I then periodically run reports in three formats: by frequency, state, and call in alphabetical order. I generally enter loggings every few weeks. Since I am too frugal to run a new report every time I update the database (all three reports take about 50 sheets of paper-horror!) I have auxiliary databases set up which contain only the new loggings since the last report was printed. These databases are automatically posted at each entry session, and then update sheets are printed with only the new stations heard since last report printout. I have dBASE, and it can be used in the same manner, but since I started out with Condor, I will stick with it: I'm not about to re-enter 1000 stations all over again! By the way, all the automatic posting and update sheet printing is done under the CP/M batch process utility "SUBMIT," which I have written in such a manner that it FORCES me to back up every entry session on TWO floppy disks, which are then stored in two different places! If you've ever lost all your files before, you'll take steps to make sure it never happens again!

At report time, the stations are automatically numbered by date, so that AL #1 is always the first station I ever heard from that state, and so on. Therefore, I don't even have to worry about numbers when entering stations. I also have foreign and domestic loggings in separate databases. It's easy to find the original logging of any station in the handwritten notebooks using the date. If there is a flaw, it's that I 12 have no record of loggings of the same station on different dates. It's not a perfect system, but it works for me.

I also use my word processor for reporting to the DXM columns. I have

report forms for each column (Forum, DXWW-E, etc.) which makes it much easier to report regularly. If there is one best use of the computer for DXing, this is it. Those of you who dread writing out reports in longhand would be surprised how easy it is to report when you have a pre-generated form, which only needs to be brought up, info filled in, printed out and mailed. If more people did this, we'd have a lot more people who report regularly to the DXM columns.

The report forms already contain the editor's address, salutation, etc. At printout time, even the envelope is addressed. It took awhile to develop all this: I'm only sorry that I am not IBM-compatible. I'd be only too happy to send anyone a disk who wanted it.

Fascinating subject! Thanks to Mark and Larry for their support. Last time, I mentioned a new format for DX Techniques. The POSED TOPIC idea is being dropped: it only narrowed the scope of tips received. Henceforth, you may report at ANY time on ANY topic that is proper DX Techniques subject matter. I already have a number of tips for the next issue. Thanks to all, and send in those tips, ideas, and questions! 73.