

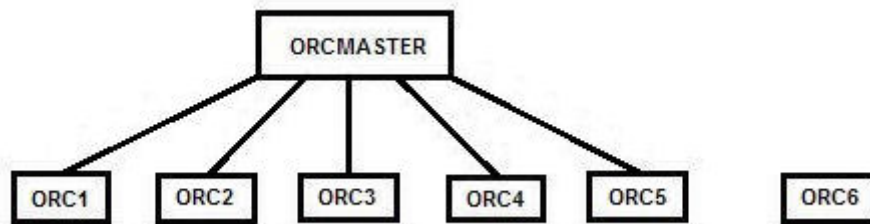
THE COMPUTER CORNER

No. 197. A Network of Computers at Field Day

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My wife Nancy (KC9FZK) thought it would be interesting to many in our Ozaukee Radio Club, and at least a few other readers throughout the state, to examine what we do with the logging computers during Field Day. It is sort of a lesson in network topography, and represents a tried and true way to log the calls from more than one transmitter site. We've been doing it for at least 10 years, and it works.

We use N3FJP software; it works well. There are two versions: networked and non-networked, and we use both, as will be explained later. Here is the basic layout:



Each box above represents a laptop. We use laptops because they contain batteries that keep them going during the short periods when generator power is down for refueling. They all happen to be Dells, but any good laptop would do. ORCMaster is the laptop that sits in our cook tent, where members and visitors can see the contact progress (as well as a map of the USA with those states we have contacted showing in various colors). No contacts are typed on ORCMaster's keyboard. Rather, it continually updates the data file of contacts made by the other networked laptops. ORCMaster and ORC6 (explained later) are the only laptops to contain a data file.

Not shown in the diagram above is a network switch that takes data from each of the networked laptops (ORC1-ORC5) and sends it to ORCMaster. The switch is on a UPS so that it also stays up and running when the generators are down for refueling.

Loggers sitting at ORC1 through ORC5 type in the call, the class(1A, 4A, etc) and the section (EPA, NTX, IL, etc.). The sections are easy to get correct since each of the possible section abbreviations are shown on the screen at all times. Then a press of the ENTER key logs the contact and sends it, via cable, to ORCMaster, where it is recorded. ORC1 through ORC5 use the network version of the software, which means a logged contact from any one of them show up on the ORCMaster's screen (and in its data file, too), very quickly. It works.

ORC6 uses the non-network version of N3FJP's software, so it is a stand-alone logging computer. We use it to log GOTA contacts (in keeping with ARRL rules), as well as contacts made using solar power. It writes data only to its own screen and data file on its own hard drive.

Now, here is an interesting wrinkle. We always string network cable (cat 5e or 6) between the tents where the contacts are made and the cook tent (site of the network switch and ORCMaster). Those hunks of cable (we lay them directly on the ground) are as long as 300 feet, the length limit for such cable with no intervening powered network repeater to boost the signals. And this works well for us. But, those laptops all have working wireless transmitter/receivers. Why don't we network them wirelessly and do away with the cables on the ground? After all, something could roll over a cable and cut it (though we use armored steel channels to protect

these and power cables from vehicular traffic). Or at least, why don't we elevate the cables off the ground – perhaps stringing them through trees?

Well, we don't elevate the cables because they are traveling through a high RF environment, and elevating them might cause them to act like receiving antennas. We don't want 40M CW jumping into our network cables and bollixing up the data! And, that is also the reason we don't use wireless, even though it is available with just the throw of a switch on each laptop. We are working in a high RF environment. So, we just want to confine our network signals to the cables, and keep any RF out. The word around the country is that wireless networks often work OK. But sometimes they do not and switching to cable seems to cure the problems. So, we just do that at the start. That is our system, and it works. Happy Computing!

"Stocks have reached what looks like a permanently high plateau."

Irving Fisher, Professor of Economics, Yale University, 1929.