Check In to Nets!

In the ham radio universe, a *net* (a shortened form of the word "network") is an on-the-air gathering that usually convenes at a specific frequency and at a specific date and time. Nets can take place on any frequency band, and can use any mode of communication. Here's some background on nets — particularly the types you'll encounter in the world of amateur radio public service.

A Net for Everything

A net can be dedicated to almost any purpose. Some nets are strictly casual gatherings of friends who use the opportunity to catch up on what everyone else is doing. There are nets devoted to discussions of specific types of equipment, and nets that assist hams who are chasing awards, such as ARRL's Worked All States. Just about any topic you can think of probably has a net devoted to it. You'll find a complete list of current nets in the ARRL Net Directory at arrl.org/arrl-net-directory-search.

The Role of Net Control

One aspect most nets have in common is the role of the *Net Control Station*, or *NCS*. This individual is the leader of the net. The NCS begins the net, typically with a short announcement, and then asks for *check-ins* to join the net. In voice communication, stations join the net by announcing their call signs. The NCS acknowledges each station and maintains a list of everyone who has joined the net. At some point, the NCS will stop asking for check-ins and will begin calling each station in turn, beginning with the station at the top of the list.

You can think of an NCS as a kind of traffic cop. With so many stations converging on one frequency at the same time, it's easy for a gathering to quickly descend into chaos. It's the job of the Net Control Station to maintain order, so that everyone has a chance to participate. ≫→

Nets and Public Service

Not all nets are scheduled in advance. Emergency situations require public service nets to convene at any time of the day or night. For example, a SKYWARN weather net might be called to action when severe thunderstorms threaten a given area.

Most nets you'll encounter in public service functions will be voice nets, using SSB on the HF bands or FM on VHF and UHF, typically operating through repeaters. You can also find CW and digital nets as well. Because voice nets are most common in public service, we'll concentrate on those.

There are several types of public service nets, with their use depending on the situation.

Tactical Net — This is the front-line net employed during an incident such as a tornado. It is usually used by a single government agency to coordinate with amateur radio operations within their jurisdiction. A SKYWARN net is a good example. These amateurs coordinate with a National Weather Service office. Tactical communications include *traffic* (message) handling and resource recruiting (relaying requests for supplies, for example).

Resource Net — For larger-scale incidents, a resource net is used to recruit operators and equipment in support of operations on the tactical nets. As an incident requires more operators or equipment, the resource net evolves as a check-in place for volunteers to register and receive assignments.

Command Net — As the size of an incident increases, such as a hurricane making landfall, and more jurisdictions become involved, a command net may become necessary, allowing the incident managers to communicate with each other to resolve problems, particularly between cities or within larger jurisdictional areas.

Open and Closed Nets — A net may operate as an *open* or *free form* net, with no NCS directing the transmissions, or as a *closed* or *directed* net, where the NCS controls the flow of transmissions on the channel. When activity is low or sporadic, a net control isn't required, and an open net is used. Stations merely listen before they transmit. When a net is declared a closed or directed net, *all* transmissions must be directed by the NCS.

Checking In

The best way to become familiar with net operating is to simply listen. Find some nets you can monitor, and just listen to how they function. You'll hear the NCS *calling up* the net, which means making an announcement to start the net. As stations begin checking in, it might sound something like this:

This is...[pause]...KC1MBY, Newington.
This is...[pause]...N6ATQ, Escondido.

Many nets on FM repeaters encourage operators to pause and stop transmitting briefly before finishing their check-ins. This allows the repeater timer to reset, and creates a break in case anyone needs to interrupt quickly due to an emergency (see "Seven Tips for Better Repeater Operating," in the May/June 2020 issue of *On the Air*, for more information about repeater timers and how to time your transmissions).

Once you've checked in, wait until the NCS reaches your call sign and asks you to proceed. If the net has many participants, you could be waiting a while! If you must leave the net, or if you have an emergency or priority message, you can still break in between station transmissions and ask the NCS to address you immediately. In any case, always follow the lead of the NCS.
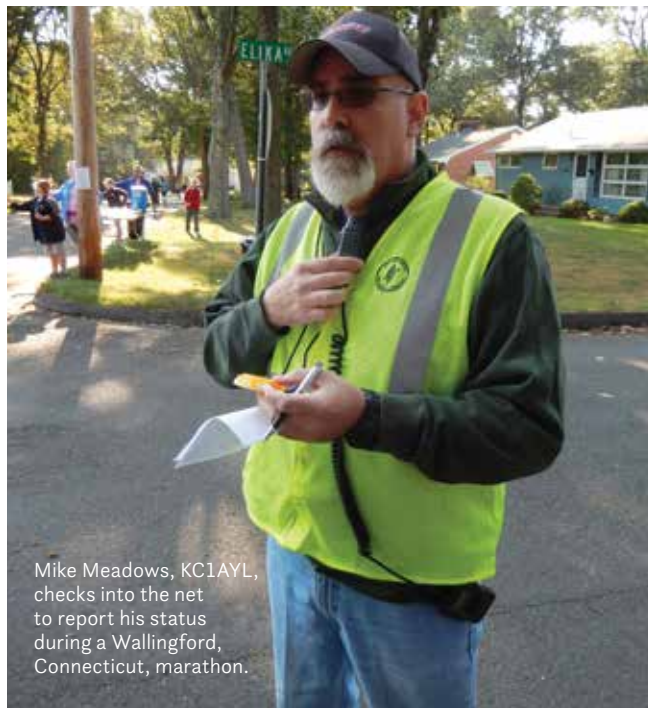
Mike Meadows, KC1AYL, checks into the net to report his status during a Wallingford, Connecticut, marathon.

National Traffic System (NTS) Nets

The NTS is designed to meet two principal objectives: (1) rapid movement of traffic (messages) from origin to destination, and (2) training amateur operators to handle written traffic and participate in nets. NTS operates daily and consists of four different net levels — Area, Region, Section, and Local. You're most likely to encounter the Local and Section nets.

Local Nets Local nets cover small areas such as a community, city, county, or metropolitan areas, not a complete ARRL Section. (You'll find a list of ARRL Sections at arrl.org/sections.) These nets usually operate at VHF (typically 2-meter FM) at times and on days most convenient to their members. Some are designated as emergency nets that do not specialize in traffic handling. Local nets are intended mainly for local delivery of traffic. Some NTS local nets operate daily, just as do other nets of the system, to provide outlets for locally originated traffic. They also route the incoming traffic as closely as possible to its actual destination before delivery — a matter of practice in a procedure that might be required in an emergency.

Section Nets Coverage of an ARRL Section may be accomplished by individual stations reporting in, by representatives of NTS local nets reporting in, or both. The Section may have more than one net (a CW net, a VHF FM net, and an HF SSB net, for example). Section nets are administered by an appointed Section Traffic Manager (STM) or designated Net Managers (NMs). The purpose of the Section net is to handle traffic within the Section and distribute traffic coming to the Section from higher NTS levels. The Section net also puts traffic bound for destinations outside the Section in the hands of the person who is designated to report into the next-higher NTS level (the region level).

If you'd like to learn more about how you can be part of the National Traffic System, go to arrl.org/nts.