TECHNOLOGY SPECIAL

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Season's Greetings!

The Wonder of Your First Radio

70 Years ANNIVERSARY

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Clear Missions and Leadership

One of the things that can discourage hams (or any volunteers, for that matter) is to respond to a need, only to sit in a corner, waiting for something to do. Rightfully, if you are going to offer your time and skills, you ought to be used for something of value.

Likewise, not being included in drills and exercises makes one wonder "So, when all else fails — THEN will they make use of us?" The solution to such scenarios includes a positive working relationship well in advance of the need(s) and a constant side-by-side relationship between radio amateurs and the agencies we can serve. Unless that relationship exists in earnest and everyone is on the same page as to what our capabilities are (because they've been properly demonstrated), it will continue to be an uphill battle — resulting in frustration and terminal attrition.

As outlined in a piece I wrote for the October 2013 issue of *CQ* — "SCERN: A Network Built on Relationships" — it takes a lot of effort to turn introductions into trust. But those relationships are essential and important. Plus, they have to be cultivated and improved upon over time.

Ham Radio and the Pope's U.S. Visit

Recently, Pope Francis visited the United States. While there were events surrounding his visit taking place in Washington, DC and New York City, Philadelphia was to be the site of an outdoor mass — prompting an incredible effort of preplanning, logistics, and cooperation. As a sad commentary on today's world, the Pope (who is also a head of state) is considered a "high value" target by certain groups. Thus, federal agencies such as the Secret Service, FBI, DHS, and others in the "alphabet soup" of law enforcement are immediately involved and drive much of how things will be controlled.

Factor in the Pennsylvania National Guard and New Jersey State Police, plus numerous local agencies and it gets more involved. Also involved are fire departments, public works (manhole covers need to be welded shut) and EMS. Other considerations need to be taken into account as well, such as how recovering heroin addicts will get their doses of methadone when area clinics will be closed — along with a large number of blocks in a secure area of the city.

Closing an area of Philadelphia? Yes, plus closing access to certain highways, the Ben Franklin Bridge, and more restrictions concerning Southern New Jersey and you just begin to appreciate the scope of what was involved in responding to this one weekend. Depending on whose estimates you went by, a city of approximately 1.5 million people was expected to swell to up to 4.5 million — coming from all over the world.

Closing a bridge also meant that many of those people would have to walk from Camden, New

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Photo A. A small sampling of those making the pilgrimage across the Ben Franklin Bridge for the papal mass in Philadelphia, Pennsylvania. The bridge is normally a major access route to the city for vehicular traffic crossing the Delaware River from New Jersey. (Photo courtesy ARRL SNJ section Facebook page)

Jersey into Philadelphia and back (*Photo A*). Given where parking would be located and where the mass was to be held, it was a reasonable expectation that many would be walking several miles, including an ascent and descent of several hundred feet on the bridge.

While amateur radio was there to support communications through ARES, RACES, and a special event on-air effort, it was the emergency and acute healthcare concerns that provided the clearest mission for hams to be of service. And some of us have a long-standing relationship with the New Jersey — South Region Healthcare Emergency Preparedness Coalition through Cooper University Hospital with (VERY) special recognition to the efforts of Robert Saunders, KC2UYS, Director of Cooper's Medical Command Center or MCC — a kind of OEM for public health.

Backing up a bit to the grant redirects that made SCERN (Southern Counties Emergency Radio Network) possible and the response successes during Hurricane Irene, Superstorm Sandy, a super-derecho, and more — work was begun to design an easily transportable communications presence focused on amateur radio.

Photo B. A PodRunner (see text) can readily be used while still attached to a transport vehicle. (Photo courtesy ARRL SNJ section Facebook page)

Photo C. It's good to have friends, when you need to move around a secure area. (Photo courtesy ARRL SNJ section Facebook page)

The PodRunner

The "Holy Grail" of many EmComm groups is a truck or trailer that's outfitted for emergency response. However, such vehicles have serious drawbacks, including the ongoing need for insurance, registration, tires, preventative maintenance, etc. Such things are outside the bounds of a typical grant and the continuing associated costs render some assets — especially the trucks — inoperable. What if you could have a deconstructed trailer — essentially the "ingredients" without the overhead? Was it possible to create something that would be more versatile, self-sufficient, and deployable for less money — allowing you to build more units within the same budgetary amounts? What sort of platform would be needed?

Enter Rescue 42 — a company dedicated to manufacturing products to support fire departments with equipment to aid their response and make situations safer and more stable. One of its products is the PodRunner and this is the platform that gave us what we needed.

Take a look at the videos on the PodRunner website <www.ThePodRunner.com> and you'll get an idea of how easy it is to attach a PodRunner to a class-3 trailer hitch (a one-person pull and no need for a large truck to haul it). In addition, the "Pod" can fit through any ADA doorway, into a standard elevator and be placed alongside agency-served communications areas — instead of being limited to sitting outside and detached from "the action." If the road is out or is impassible to an affected area, the Pod can be flown in via helicopter — with prior FAA approval and planning. In addition, it's easy to store and requires none of the ongoing expenses mentioned earlier.

When we designed the internals, the framework was arranged as three standard 19-inch rack enclosures — 12 RU (Rack Units) high (A Rack Unit is 1.75 inches, by the way). We wanted to outfit the Pods with equipment and accessories that would be of the most use to us, while providing for some redundancies and "Plan A, B, C, whatever ..." contingencies. We also wanted the lat-

Photo D. Some of the EMS support team of hams deploys a Pod. One can be made operational within minutes of arriving at a desired location. (Photo courtesy ARRL SNJ section Facebook page)

est equipment to be included, which meant specifying the Yaesu FTM-400DR and ICOM ID-5100A transceivers — before they were even shipping in quantity.

Our Pods also include an ICOM ID-1 (1.2-GHZ high-speed data and possible Internet bridge), Alinco DR-235T (222 MHz), Kantronics KPC-3 (Packet/APRS), and Yaesu FT-857D (HF and another way to operate on 144 and 440 MHz).

Larger drawers hold ID-31A (D-STAR) and FT-1DR (System Fusion) digital portables, plus chargers. Speaking of chargers, there are a number of USB ports on the front to accommodate cell phones and tablets — a lesson learned from Sandy. Night lighting is included, plus a netbook (for D-RATS, Winlink, Fldigi), Wi-Fi router, and more are hidden behind the drawers and panels.

The first three built each included two 100-AH, deep-cycle batteries and solar panels. This allows us to implement a Pod on top of a parking garage or "out in the middle of nowhere," if needed. In subsequent Pods, the batteries and panels were left out — lessening the weight by about 200 pounds — as we elected to go with generators or "borrow" from fire equipment or other sources.

Much of the credit for the design considerations and "extras" that add greatly to the functionality of the Pods goes to my good friend John Zaruba, Jr., K2ZA, who until just recently has served the ARRL Southern New Jersey (SNJ) section as a truly outstanding Section Emergency Coordinator (SEC). John remains a leader in many facets of amateur radio, including education, advisory service and all-around Elmering of the highest caliber. If your section leadership includes people like John, be sure to thank and support them as they are immensely valuable and are surely putting in a good deal of personal time to make certain things are happening and progressing smoothly. I've been fortunate to work closely with both John and Bob, KC2UYS, another outstanding leader of amateur radio and his community. If you have people like this in your circle of friends, consider yourself lucky, as there aren't nearly enough of them to go around.

Pods for the Pope

Thus, with a small fleet of Pods (*Photos B, C and D*) built and being used as needed (such as for Field Day), it was an organic decision to base our response to the EMS and healthcare needs of the papal visit around them. Along with enthusiastic and trained operators, they were deployed as needed within the confines of Camden, in an area that resembled a movie set for a zombie post-apocalypse horror feature.

All-but-deserted streets abound, given life only by EMS, police, fire, or National Guard vehicles at intersections, plus visitors going to and from Philadelphia. Tollbooths on the Ben Franklin Bridge — normally labeled "Cash" or "EZ Pass" (electronic toll collection, for the uninitiated) — were instead used for backpack screenings. The entire area was quite secure; with law enforcement personnel you could see and still more that you couldn't.

Because of the relatively small (in square miles) area between Camden and Philadelphia, hams traveling between points (almost always on foot) communicated via simplex — not relying on repeaters. Yaesu FT-1DR porta-

The Satisfaction of Working with Real Professionals

The incredible asset represented by the PodRunners I mention this month would not be possible without a company like Rescue 42 and its leader, Tim O'Connell. Having dealt with thousands of vendors over the years, working with someone like Tim is a refreshing change of pace — in a world where it can seem impossible to get telephone calls returned.

Tim and his incredible team responded to every specification, detail, revision, and more as we designed the first Pod. His insight, engineering chops, and sense of humor all factored into an end result of the highest quality. No aspect went unexplored in ways that his company could produce an "even better" product than we first envisioned.

As much as I regularly tell a story and paint a picture with words, it's difficult to summarize the extreme pleasure of teaming up with someone who cares as much (if not more) about your project as you do. When we opened up the quite well-packaged crate and examined the first one, I actually felt joy.

Adding to this, my understanding is that everything other than the electronics we specified is sourced within the U.S., with the exception of the disc brakes. (I think he may have since found a domestic source for those, as well.)

Given the way that the Pods turned out for us, Rescue 42 has a number of "professional" entities looking for similar solutions for their communications and support needs, as well. Toward that end, I wish Tim and his company every success. If you are looking for a versatile and high-value alternative to a trailer or vehicle, I strongly suggest you contact Tim to discuss your needs.

Radio Direction Finder
KN2C DF2020T Kit
Useful for 100~1000MHz
On Sale
Wireless Antenna Switch 4x1
Free iPhone control app
www.wifiantennaswitch.com
PowerPost
Bandolier-style harness has 2 radio pockets, 3 accessory pockets for flashlight, pens, GPS, etc., and full map pocket, along with many attachment points for effective hands-free operation.
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bles provided voice communications with digital clarity using VFO A, while the APRS feature burped out info on VFO B — allowing everyone at the MCC to see on a "big screen" where all of our assets were at any given time. This was just one of the many things that impressed a number of "suits" and "uniforms" with the things that hams can do.

Analog voice was handled on 222 MHz. Users experienced no mission-critical difficulties in communicating — even in Philadelphia's "Center City," which has many intermod-rich areas — again showing the strength of using this band. D-STAR and D-RATS were used to exchange information, including HICS (Healthcare Incident Command System) forms and other data.

Looking Back

Although the eventual turnout of visitors was less than anticipated (some blaming all of the advance warnings about potential difficulties) and there was never a heavy traffic load for communications, amateur radio — and the radio amateurs involved in the planning and execution — demonstrated advanced techniques and professionalism. Given the wide variety and geography of the agencies involved, it's safe to say that they walked away with a much different concept and upgraded level of respect for amateur radio than they probably had before the event.

In the October 2015 issue of *CQ*, Dave Cox, NB5N, wrote an excellent piece on "Integrating Amateur Radio into Public Health Emergency Response." I suggest you go back and read it (plus others in that issue) to get a better idea of how your EmComm efforts can serve your healthcare (emergency, acute, and long-term) community and establish a clear mission for public-service-minded hams who want to do more than just wait around for someone to tell them what to do.

Cycling Through Florida

Meanwhile — down in Florida — Ted Luebbers, K1AYZ, sent in information about the Lake Amateur Radio Asso-

Photo E. Net control operations for the Mount Dora (Florida) Bicycle Festival were run by (l. to r.) Frank Anders, KK4MBX, and Jay Boehme, N4KXO. (Photo courtesy K1AYZ)

Photo F. The LARA Communications trailer pulls into downtown Mount Dora. The NCS position is inside the trailer. (Photo courtesy K1AYZ)