

NATIONAL SOS RADIO NETWORK

Attend a scouting event, participate in a conservation project or walk around a “big-box” retail store and one will likely encounter at least a few users of FRS or GMRS UHF-FM radios. These devices provide an inexpensive communications solution that fills the gap between the now ubiquitous cellular mobile telephone and more advanced two-way radio systems such as those used by public safety, radio amateurs or government agencies.

In some cases, FRS and GMRS radios have become a commonplace interoperability solution. It is common to see CERT teams, relief agency volunteers, REACT groups and even Army National Guard units utilizing these units during disaster operations. Because of their relatively low cost, they can be passed out to volunteers without significant concern about potential damage or loss.

The National SOS Radio Network, founded by Eric Knight (KB1EHE), is built on the idea that the large number of such radios already in the possession of the public can provide a useful service in time of disaster. For example; in the absence of cellular service, a citizen can reach out for assistance on a voluntary national emergency channel similar to CB channel 9. Likewise, community organizations such as neighborhood watch groups, CERTs, and similar organizations can build ad-hoc emergency radio networks around these assets to facilitate voluntary actions in time of emergency.

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QNI MISSION STATEMENT

QNI is dedicated to promoting genuine emergency communications preparedness.

Our newsletter is independently published and distributed free of charge to the Amateur Radio and emergency management community. The opinions contained herein do not reflect

the policies or opinions of any particular net or emergency communications organization.

Our mission is to provide a forum for EMCOMM volunteers throughout North America. We operate on the premise that Amateur Radio public service volunteers should

be, first and foremost, communicators and technicians.

If you share this vision, please support QNI. Submit your news and articles for publication.

The National SOS Radio Network (continued)

By James Wades, WB8SIW

As originally envisioned, the National SOS Radio Network was designed to integrate the Amateur Radio Service with these local volunteer efforts. In theory, FRS and GMRS radios would provide a short-range local network to support neighborhood disaster coordination while an Amateur Radio volunteer would then serve as a gateway to local emergency services using the more advanced capabilities. These Amateur Radio volunteers would also have access to long-haul networks for health and welfare message traffic applications and the like.

While it may not be obvious at first; there is one component that is missing in the original plan; and that missing component is infrastructure. While local EMCOMM groups could provide an interface to local emergency services, they will likely be busy supporting more immediate operations. Traffic operators, on the other hand, can provide not just local connectivity to local emergency services and relief agencies, but also a nationwide network for health and welfare traffic. Radio Relay International, in particular, can provide a solid infrastructure for linking a local neighborhood with the outside World in the absence of traditional common-carrier telecommunications services.

Traffic operators can also use this concept to fill-out the communications function at public service events such as parades, walk-a-thons, festivals and similar events, which local radio clubs and EMCOMM groups often support. Event officials can use these familiar FRS or GMRS radios to fill-in additional check-points with the radio amateurs providing the overall network infrastructure needed to support the event.

One of the beauties of the program is the fact that it's effectiveness in any given area will be largely determined by the efforts of the individual radio amateur. Anyone can form a local community emergency communications program using basic, inexpensive communications tools. The scope of the radio network and its applications are limited only by one's imagination. Tools range from inexpensive FRS radios to higher-power mobile units operating on GMRS channels at power levels comparable to Amateur Radio units.

By expanding EMCOMM to other groups with a need for short-range communications, it may also be possible that some will become interested in Amateur Radio. Such ideas may have real future value.

Vern L. Chamberlin and the Indian Radio Club

- A Forgotten Michigan Radio Pioneer -

By James Wades (WB8SIW)

During the first two decades of the 20th Century, radio communications, then known as wireless telegraphy, was primarily a tool for maritime and military communications and a few specialized point-to-point systems carrying commercial, overseas communications. Applications in which the public utilized radio, were limited primarily to a few experimenters who would first be officially recognized and licensed as radio amateurs with the passage of the Radio Act of 1912.

It was during this time that the Navy Radio Station, NAA, at Fort Meyers (Arlington), Virginia began transmitting a daily time signal. This was perhaps the first "broadcast" application of radio and it proved to be of great utility to jewelers and horologists. At that time, it was common for jewelers to contract with the Western Union Telegraph Company to obtain a time service called "Jeweler's Beats." This was essentially a telegraphic time service, through which a time signal was transmitted throughout the day for the purpose of calibrating clocks and watches. However, this required a subscription fee, whereas the noon time signal from radio station NAA could be obtained free of charge.

Vern L. Chamberlin of Pontiac, Michigan was an early adopter of wireless technology for this application. He had studied mechanical engineering at Michigan Agricultural College (now MSU), and followed this education with a full course of study at the Bradley Horological School at Peoria, Illinois. After graduation and five years of work experience, an

opportunity arose to purchase the Allison Jewelry Store in downtown Pontiac, which had been established in 1839, only two years after Michigan achieved statehood. The purchase of such an established store required a partnership with a majority silent partner, Glenn C. Gillespie, a prominent young attorney in Oakland County, Michigan. The arrangement called for Mr. Chamberlin to manage the store, which would be renamed "V.L. Chamberlin and Company." The store opened under the new management in late 1914.

Mr. Chamberlin proved to be an energetic and innovative businessman. One of his innovations in the marketing of stale inventory was covered in numerous trade publications of the era and was ultimately copied in other industries. In addition, he was also an early adopter of radio technology. For example; the Pontiac Press reported on August 1, 1914:

"It is planned by Mr. Chamberlin to install a unique device for obtaining the absolutely correct time. He expects to install a wireless receiving station through which it will be possible to catch the time flashed by the wireless station at Arlington Virginia."

Mr. Chamberlin contracted with Charles W. Beals of Birmingham, Michigan, who agreed to build a wireless receiver and install it at the Jewelry store, along with a suitable antenna installed between the Allison Building and the adjacent Stockwell building. "A buzzer testing outfit" was also included with the equipment, for a total cost of \$ 65.00. The equipment provided by Mr. Beals was said to be the first radio receiver in the City of Pontiac. It is now in the collection of the author, where it has been awaiting restoration for many years. It consists of a simple loose-coupler arrangement with a detector and variable condensers.

Undoubtedly, this early application of wireless telegraphy was the foundation of Mr. Chamberlin's on-going interest in radio. When the establishment of radio broadcasting in 1920, Mr. Chamberlin and an associate, Mr. E.R. Phelps, formed a radio club. In early 1921, an organizational meeting was held at the high school, which resulted in the creation of the "Indian Radio Club." The first set of minutes memorialized the event:

"Mr. E. R. Phelps invited all those in Pontiac who were interested in wireless to meet at the High School on April 15, 1921 for the purpose of organizing a club. There were sixteen present.

Mr. Phelps acted as temporary chairman. Temporary officers were elected as follows: President --- Mr. Delos Underwood [8BDR]; Secretary --- Mr. V. L. Chamberlin. These officers were to act until the constitution and by-laws were adopted when permanent officers would be elected."

A later, detailed list of those present at the first meeting shows the names and addresses of 34 individuals, of whom only eight were licensed as Amateur Radio operators.

On April 28, 1921, a Constitution was adopted. The object of the club was "promoting interest and education in telegraphy and telephony," and "to properly regulate local traffic and help enforce Federal laws and regulations." Dues were set at 1-dollar to be paid semi-annually. The constitution also defined a set of regulations governing local radio traffic:

6 P.M. to 7 P.M.	Local – No DX
7 P.M. to 9 P.M.	Radio-phone – No sending by spark
9 P.M. to 11 P.M.	Local – No DX
11 P.M to 6 A.M.	DX
6 A.M. to 7 P.M.	Open

A new schedule was proposed by Mr. Murray, as follows:

6 A.M. - 6 P.M.	-----	Open
6 P.M. - 7 P.M.	-----	No DX
7 P.M. - 9 P.M.	-----	Phone only
9 P.M. - 10:30 P.M.	-----	Local - No DX
10:30 P.M. - 6 A.M.	-----	DX - No Local

Note: DX is understood to be anything over twenty-five miles.

Operating regulations of the Indian Radio Club as adopted on April 27, 1922

Of particular interest is the permanent officer position of “Traffic Cop,” whose job it was to “aid in enforcing all Federal regulations, and enforce all local regulations, all violations of regulations to be reported to the club.”

The various correspondence left behind by Mr. Chamberlin reveals that he was an effective and enthusiastic organizer. Shortly after the club was organized, he sought out interesting presentations designed to build enthusiasm amongst the members. One of the first meetings after the initial organization was memorialized in the minutes of June 21, 1921:

“Mr. Franc S. Cowin of Marion, Ohio, who was demonstrating radio at the Oakland Theater under the name of “Francill” gave a very interesting talk discussing the novelties which he had, and which proved very educational. The elementary principles of radio, of wire telephony, transmitting power by radio, pictures and hand-writing by radio, mention of the new successful experience in talking and receiving radio telephony at the same time were explained. He also read a very interesting report of his talk at East Lansing. He gave a short talk on light, prophesying that it would be possible for battles to be carried on in the future with light rays instead of lead bullets.”

The September 30 meeting featured Mr. Clyde Darr (8ZZ), one of the founders of WWJ radio and a prominent ARRL Central Division Director during the 1920s.

“Mr Clyde E. Darr gave a very interesting talk on organization and a report on the [ARRL] convention at Chicago, Illinois, claiming that there were thirty-one representatives from Michigan. The show building was completely filled, was one block long and one-half block wide.

There were two new things at the show, which attracted a great deal of attention. One was the receiving set put out by the Connecticut Telephone Company, using no B-batteries, and a very small tube about the size of a lead pencil. The second was a “sure-fire” circuit described in the July issue of “QST.” The description and explanation given by Mr. Darr of this circuit was greatly appreciated by the club.

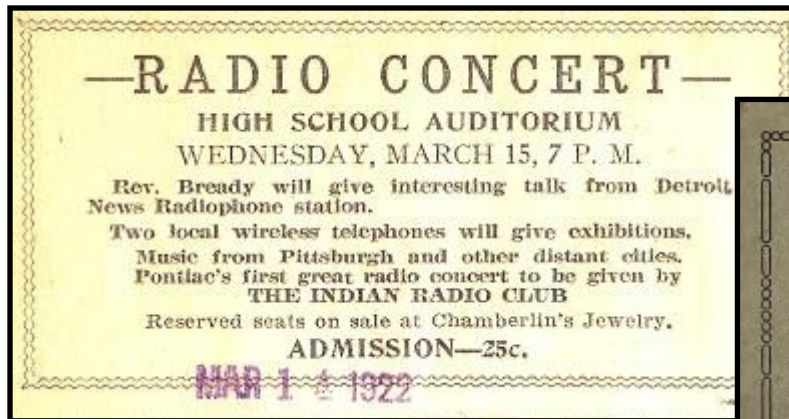
Points brought out by Mr. Darr in his talk on organization were that the club must have cooperation, and members should observe the rules and regulations very carefully and that the club should appoint officers who should have the authority to see that all Michigan and Federal regulations are enforced.”

Of course, the minutes don’t reveal how the proposed enforcement was to take place, but undoubtedly, the old-fashioned method of “peer pressure” was the leverage needed to achieve “enforcement.” Perhaps today’s radio amateurs could take a page from this earlier era!

A subsequent club meeting, held on October 12, 1921, covered the subject of maritime communications; “Mr. T. Edwards gave a very interesting talk, relating his first experience on shipboard as a wireless operator. From his talk, it would appear to be a profitable and very educational occupation.” At that time, there were numerous jobs for wireless operators on the large “Lakers” that plied the Great Lakes.

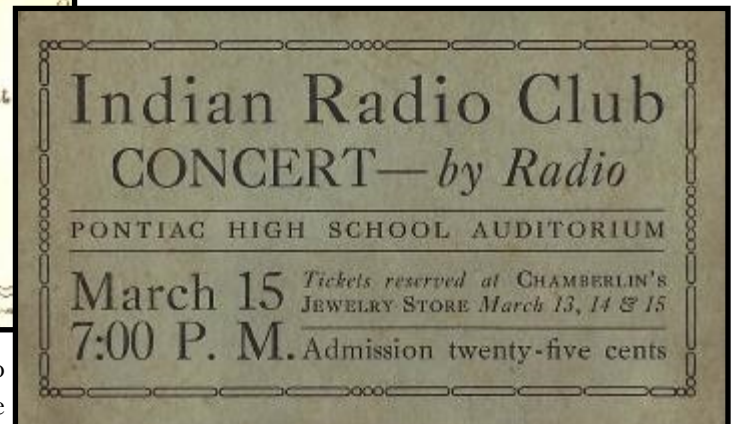
Today, the differences between broadcast listening and Amateur Radio are clear and obvious. This wasn’t the case in 1921 or ’22 when radio was an exciting, new, experimental technology and that line of demarcation was decidedly blurred. During that time, even “QST,” the familiar ARRL magazine, changed its masthead to read “Devoted Entirely to Citizen Radio” and a column dedicated to the Broadcast Listener was established. The Indian Radio Club spent these early days navigating the same uncertain waters of the early broadcast era.

The minutes of the club from early 1922 reveal plans to purchase a Magnavox loudspeaker and components for the construction of a radio set for demonstrating radio broadcasting to the public. This culminated in a series of demonstrations including a “Radio Concert” at the Pontiac High School Auditorium on March 15, 1922, the tickets being available for purchase at the V. L. Chamberlin Jewelry Store. The March 15 concert included a demonstration of a Tesla coil and spark transmission. A small portable set was also to be used in the audience. Another “radio concert” was presented at the Birmingham, Michigan High School Auditorium on April 30 of the same year, the proceeds for which, according to the Daily Press, were to be allocated to fund the purchase of a “continuous wave transmitting set” for the radio club.



Left: Newspaper add for March 15, 1922 "Radio Concert."

Below: A Ticket for admission to the "Radio Concert."



The Indian Radio Club also maintained a loose association with the

Birmingham High School Radio Club, which boasted "one of the finest transmitters available," constructed by the pupils. One of these pupils, a young man named Mort Neff, would go on to become an Officer in the Army Signal Corps during World War Two and, after studying electrical engineering and then journalism at the University of Michigan, he would become well known throughout the State of Michigan as a leader in wildlife conservation and host of the popular "Michigan Outdoors" television program, which is still fondly remembered by many of Michigan's residents.

The minutes of the Indian Radio Club also reveal the economic instability of the era. The simplistic and often politically biased high school and college history text books of our time tend to paint a two-dimensional picture of the "roaring twenties" as a period of unbridled optimism, prosperity and growth. Yet, the seeds of the Great Depression in the form of an unstable banking system, excess industrial capacity and inefficient credit markets are alluded to in the minutes of the club. At one point in 1923, the club was unable to hold a meeting for lack of a quorum. The minutes report that insufficient officers were available due to the "large number of people leaving the city" due to the loss of jobs, perhaps due to the rapid changes in the nascent auto industry of the era.

Mr. Chamberlin secured two patents on a unique crystal detector assembly in 1922, which he manufactured on a watch lathe at the jewelry store. The detector, an example of which is in the collection of the author, is rather unique in terms of the very fine tip and mounting method, but is otherwise of the familiar pattern. Nonetheless, it was apparently innovative enough to qualify for a patent. A newspaper column dated January 19, 1925 reports the following:

"The detector itself embodies some features which are unique. Two ball and socket joints in the support of the detector arm make possible its movement in any direction. A cone-shaped spring made of brass wire which makes the contact preventing it from being broken off.....Nearly 4000 of the

detector tips have been manufactured and sold by Mr. Chamberlin, who makes all of them in his own workshop on North Saginaw Street."

As a leader in the local radio community, Mr. Chamberlin carried out a correspondence with other prominent radio amateurs in the Detroit Area, including Henry B. Joy, President of Packard Motor Car Company, Harold McCracken, President of the Farmington State Savings Bank, and, of course, Clyde E. Darr, the aforementioned cofounder of WWJ

radio and the commercial artist responsible for many early QST covers.

Unfortunately, it appears the year 1926 brought some unwelcome changes to Mr. Chamberlin's life. While the details are difficult to determine, he apparently lost the jewelry store at some point during 1926. Fifty years later, his son would only state that his father "had suffered a great misfortune." There are two possible scenarios, which may have led to the loss of his business.

In 1926, a second recession occurred during the otherwise prosperous 1920s, which was largely driven by the shutdown of Ford Motor Company as it transitioned from the manufacture of the Model T to the new Model A. The impact at the national level was minor, but in the Detroit area, the repercussions were significant. This brief recession may have resulting in financial difficulties, which could not be overcome. It is also possible that a falling-out occurred between Mr. Chamberlin and Mr. Gillespie, the silent, but apparent majority shareholder in the business. Regardless of the cause, Mr. Chamberlin apparently lost his business and was eventually forced to find employment elsewhere.

Available records show Vern Chamberlin working as a "game keeper" at a "private estate" in nearby Lake Orion Township beginning in 1926. Interestingly, the "private estate," was likely that of William E. Scripps, the son of James Edmund Scripps and one of the driving forces behind the establishment of WWJ radio. It seems quite likely that Mr. Chamberlin's association with other Michigan radio pioneers, as evidenced in some of his surviving correspondence led to his subsequent employment. However, this was also likely a considerable fall for a well-educated and once prosperous jeweler. The Indian Radio Club also dissolves during this period, perhaps partly due to the loss of one of its most loyal members and supporters. Little else is heard from V.L. Chamberlin after this point.

October of 1929 brought the complete collapse of the US economy in response to a worldwide Great Depression, which likely dashed any further hopes Mr. Chamberlin had of rebuilding his career. On July 21, 1931 at approximately 5 AM, a gunshot to the head ended the life of Vern L. Chamberlin. Perhaps the economic pressures of the time and the hopelessness of the Great Depression were too much for him to bear. Sadly, his suicide left behind a widow and two children and the pain was obvious in his son nearly fifty years later.

While V. L. Chamberlin's life ended tragically, a small legacy of his life remains in the form of two early radio receivers, some parts and some documents, which provide a glimpse of the inner workings of an early radio club, all of which attest to the fact that he once lived and once played a small role in the early development of radio.

In memoriam: Vern L. Chamberlin August 30, 1883 to July 21, 1931

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Traffic First?

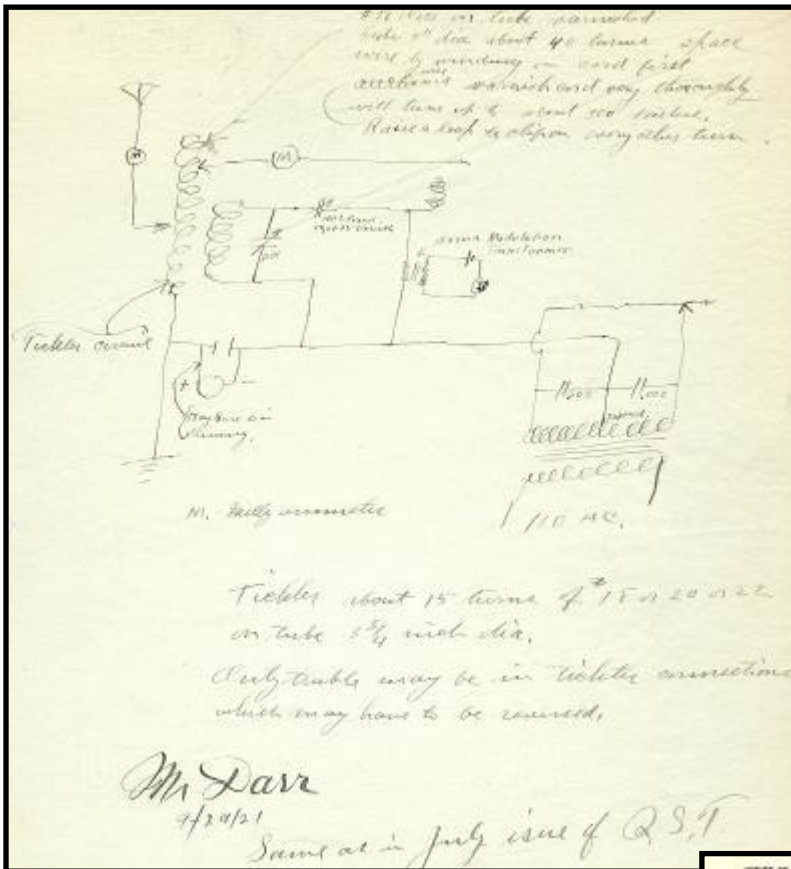
By James Wades (WB8SIW)

Recently, a discussion arose regarding the importance of handling traffic FIRST, before round-table discussions on a net. While there is certainly nothing wrong with a traffic net engaging in round-table discussions, it is also important to understand that traffic work tends to attract two distinct personality types. One type values efficiency and a no-nonsense approach. This personality type likes a snappy, efficient communications operation. The other personality type enjoys the social aspects and camaraderie of the entire process. This latter type values the social dynamic of the net.

By handling traffic first, both personality types get their needs met. Those who value time and efficiency get the job done right away so they can move on to other things. Those that value the easy-going discussions and comments need only wait a few minutes for the business to conclude. By handling the message traffic first, everyone gets their needs met. This will likely result in improved net member retention.

Net management should also make an effort to clear as much of the traffic as possible. Let's face an important fact; the primary purpose of a traffic net is to clear message traffic. There is something seriously wrong when a net lists numerous messages for a metropolitan

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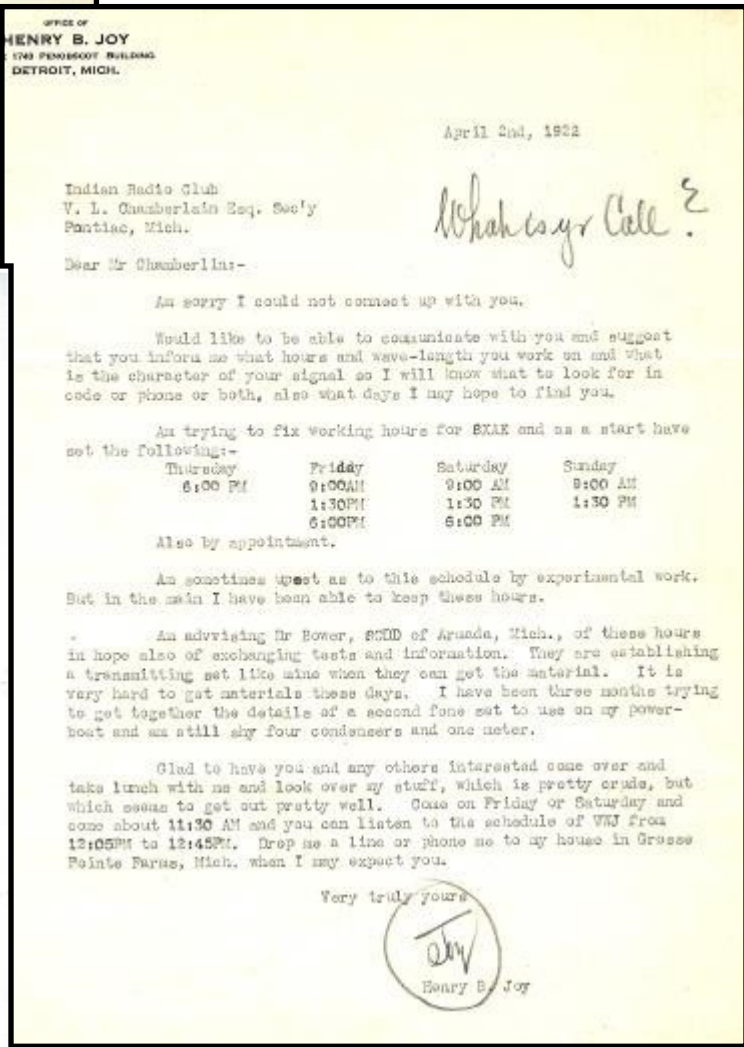


Above: These Bronx Watchcase Buzzers have spent the last 90 years awaiting new Indian Radio Club members wishing to learn the radiotelegraph code.

Above: Some handwritten notes and signature of Clyde E. Darr from the archives of the Indian Radio Club

Right: A letter to Mr. Chamberlin from Henry B. Joy, President of the Packard Motor Car Company

Below: A list of Indian Radio Club member calls c. 1921



PORTIAC AMATEUR WIRELESS CALLS.

Burray, E.	FAB	East, S.C.	72 Whitfield St.	706
Culligan, M.W.	FAD or OXU	Hankowski, Louis	93 Hursey St.	347
Underwood, C.H.	FAG or OBU	Wells, John	110 Wellington St.	280
113 Mine Gauge Ave.	FAR	Kingston, Byron	298 Central Ave.	381
185 Mc Clelland St.	FAV	Donaherty, Harvey	207 S. Padlock St.	172
	FAE	Blackmanther, Arthur	157 Washington St.	307
	FAH	Garhart, Wayne	314 N. Mine St.	198
	FAI	Jacobs, A.L.	396 Oakland Ave.	167
	FAJ	Shedell, Alfred	497 N. Padlock St.	183
	FAK	Donnet, James	R.F. 504, Cambridge Road	178
	FAE	Box 450, Royal Oak	Smith, W.L.	194
	FAF	R.D. 504, Box 438	Royal Oak	182
Irish, John				
17 Belmont St.				
Spring, W.H.	MBH			
Virginia Ave.				
Hampton, James				
231 Woodwell St.	FGB or BAXX			
Hogers, Vernon				
174 Shirley Ave.	EDG			
Havens, Walter				
R.F.D. No. 7	EDY			
Henson, Frank				
240 Green St.	EDD			
Wescott, George				
25 E. Howard St.	EDS			
Portiac High School				
State & Brown Sts.	EDH			
Hale, George				
293 Crawford Lake Ave.	EDB			
Richard, J. Albert				
Blomfield Hills	FBI			
Yardley, Freda				
153 Chamberlain St.	EDK			
Went, Lewis				
264 Boston Ave.	EDW			
Condit, Cleo				
150 Hilliard St.	EDK			
Callaway, Elton				
63 Hamilton St.	EDL			

Compliments of Chamberlain Jewelry Co.

area only to have numerous net members refuse to clear it. This behavior undermines morale and further encourages the rejection of message traffic. RRI management and others have been taking clear and reasonable steps to better manage bulk originations and encourage the generation of meaningful and unique message traffic. Our local and state nets need to step-up to the plate and encourage members to clear traffic of both types and deliver it in a timely fashion.

Ultimately, the business of traffic nets is, of course, “traffic.” Let’s have fun and enjoy the camaraderie, but let’s also get the traffic delivered in a prompt and business-like fashion. Let’s make traffic handling an activity in which we can all take great pride.

Morale Radios

By James Wades (WB8SIW)

After the First World War, the War Department conducted a study of troop morale and determined that periods of rest away from the front lines combined with occasional entertainment programs were essential to maintaining morale. This experience informed a number of policies implemented during the Second World War. Of course, by 1941, radio broadcasting was well established and technology had advanced considerably, allowing radio to play an important role as a morale booster.

During the early days of the war, soldiers often pressed “picnic portable” radios into service. These consumer-grade portable radios, using 1.5-Volt series low-current tubes, emerged in 1939 and were instantly popular with the public. They were typically constructed in simple wooden cabinets covered with an

“airplane cloth” fabric. While more than suitable for a summer at the lake or a weekend picnic, they didn’t hold up well in the military or tropical environment. An alternative was needed and it soon emerged in the form of the “morale radio.”



A Scott SLRM Receiver. Courtesy “SWLing.com”

Rugged little radios, such as the “Echophone EC-1” and similar sets were often purchased by individual soldiers for use overseas. Others were manufactured under War Department contract, such as the Hallicrafters “Sky Courier.”

Some sets manufactured for the War Department included large, well-shielded general-coverage units manufactured for installation on-board Navy vessels. The latter units were often designed to meet “low-radiation” requirements, which isolated the local oscillator from the antenna, thereby preventing U-boats from DFing the local oscillator to locate the ship. Such units were often large, heavy, receivers with special audio outputs designed for PA distri-



An advertisement for the Echophone EC-1

Two types of morale radios were typically manufactured. The first type was the small portable radio, typically consisting of a simple AC-DC arrangement in a solid steel case. Rugged



Hallicrafters Sky Courier

Morale Radios (continued)

By James Wades, WB8SIW

bution. Many were manufactured by companies such as E.H. Scott and they continue to turn up in on-line auctions today in various conditions.

A typical morale radio, which remains fairly common, was manufactured by Minerva Radio Corporation of America. This set, called the “Minerva Tropic Master” went into production very late in the war, likely during the mid-summer of 1945. At that time, many anticipated at least another year or more of long and bloody battle during the invasion of the Japanese mainland. However, the atomic bomb put a quick end to the war before the Minerva Tropic Master could be deployed to combat units.



Minerva Radio, having tooled-up to manufacture the unit, proceeded as planned and the units were then sold through Post Exchanges (PX) and similar outlets. While some of these units ended up with soldiers and sailors assigned to occupation forces overseas, the vast majority of the production run ended up being sold to the general public back home. Undoubtedly, the radios were quite welcome after a four to five year shortage of new radios and electronic components.

The Tropic Master offers an interesting example of the problems facing low-priority manufacturing during the later war years. At least three different versions of the circuit exist, each featuring several different components. For example, the radio features an excellent push-pull audio output stage. Various versions use either two 50L6 output tube, two 25L6 output tubes or two 50A5 output tubes! One can only pity the poor engineers and managers who had to deal with the constantly shifting supply-chain problems of late 1945!

The author recently restored one of these sets. While in generally good condition, it was quite dirty, with some rusty areas on the cabinet, the usual broken dial string, and the typical batch of defective paper capacitors. Restoration consisted of cleaning and repainting the cabinet and front panel. General surgery was then performed on the radio. All of the paper capacitors were replaced with modern mylar units and the electrolytic capacitors were replaced. Contacts were cleaned and the dial cord was restrung. Finally a “CL90” in-rush current limiter was installed to better protect the tubes and power-supply choke during initial power-up.

After an initial test and alignment, the radio was connected to a short clip-lead for an on-air test. The Tropic Master proved to be an excellent performer. The first surprise was the excellent sensitivity of the unit. With just a short clip-lead, the radio picked-up AM broadcast stations that normally can't be heard on a nearby “AA5” broadcast radio that often serves as a source of entertainment while at the work bench. It was obvious that the radio was intended to be used in remote parts of the World where strong broadcast signals were the exception, rather than the rule.

Shortwave performance was also very good. Unfortunately, there is not much left to enjoy in the form of international shortwave broadcasting, unless one favors reruns of aging, recorded religious programs or a few stations prophesying the upcoming cultural, civil, or cold war or, worse yet, the upcoming “hot” civil war. Nonetheless, now and then, one can find some interesting programming from overseas.

Perhaps the best thing about the Tropic Master radio is the audio quality. A large 6-inch speaker, combined with the over-built push-pull audio circuit featuring two 25L6 vacuum tubes, provides a rich, full sound. This is the type of radio that makes AM radio sound good, not just for the usual news and sports broadcasts, but also for music. One can imagine a group of soldiers or airmen in the European or Pacific theater of operations listening to Glenn Miller or Harry James on this unit. Visitors who hear the radio instantly comment; “wow, that radio sounds great.”

Perhaps I’ll take the radio up to the lake cabin and see how it performs in an environment for which it was designed. It should prove ideal for following the Chicago Blackhawks or Detroit Tigers games being broadcast from several hundred miles away, while enjoying a nice fire in the woodstove.

A Spare Receiver—Radio Relay International Implements Watch Frequencies

By James Wades, WB8SIW

Many of us have a spare receiver sitting around the shack. In my case, I have an old Allied SX-190 receiver that was given to me as a gift by my father back in the 1970s. Over the years, I have used it to tune in some International broadcast programs or to occasionally cruise around the ham bands. While it’s certainly not a Collins equivalent, it’s reasonably sensitive and stable with accurate analog dial calibration and built-in 25 and 100 kHz crystal calibrators.

Recently, I have made it a habit to park this old receiver on the 20-meter IATN CW frequencies while working in my home office. Periodically, one will hear traffic being passed between the Area Nets on the IATN CW circuits. Otherwise, the 20-meter IATN frequency tends to be fairly quiet. By maintaining watch, I can be available to assist with a relay should it be necessary. I can also be available to pick-up a schedule if someone fails to show. Perhaps most importantly, I am available in the event that a sudden emergency arises. For example; let’s examine a scenario:

I am sitting in my office struggling with “auto-cad” or trudging through the mindlessness of the seemingly intractable paperwork that modern corporate life requires. At some point during the day, an earthquake occurs on the West Coast and a traffic operator or EMCOMM group has some priority or emergency message traffic to originate in the absence of commercial or government telecommunications service. He would only need to call “RRI” on the IATN frequency to which anyone monitoring, myself included, could respond. Initial connectivity could then be provided until a more systematic network emergency response could be brought on-line.

Another example might be more common: Station W6XYZ has picked up several routine messages for an adjacent area on his state net the night before but due to an unexpected interruption, he was unable to clear them to his assigned Region or Area net. He could simply come up on frequency by calling “RRI QTC CAN 3” or something similar, and someone standing watch in the target area could pick up the traffic to expedite its relay to the appropriate net.

The idea here wouldn’t be to eliminate the existing net structure, which would be the primary choice for routing traffic, but rather, to supplement the existing net structure by mitigating natural delays in traffic flow. In the process, RRI would take its first steps toward establishing an emergency response capability in the form of an operational QSX frequency!

Let’s start putting those old receivers to work beginning with a voluntary watch on the IATN 20-meter CW frequency. Perhaps we can expand later to an operational SSB frequency to supplement Cycle 2. If you don’t have an old receiver, they can usually be found at reasonable cost at swap meets. An old “NC57,” “HQ-140X” or the like would be more than adequate for maintaining a CW watch. By using a spare receiver, one can maintain a watch even when active on another net or frequency. Alternatively, one can always leave their regular transceiver parked on the frequency.

Let’s get the routine traffic moving, improve emergency preparedness, and make RRI available to those who may want to

originate message traffic while in remote areas lacking cellular telephone or Internet service, such as when hiking, camping or the like. Best of all, this can add a new and interesting dimension to one's day-to-day operating activities.

The Unwanted Consoles

By James Wades (WB8SIW)



This past summer, I obtained a set of operations consoles of the type commonly used in broadcast operations. These are the rack-mount type consoles that bolt together as a unit and which incorporate an integrated table. They were almost new and in beautiful condition, yet, no one wanted to buy them, so the original owner planned to send them to the scrapyards! It was at this moment that the proverbial “light bulb above my head” went on! “Surely, some ARES™ group, club station, EOC or the like would want such nice consoles!

After engaging in a cardiac stress test by carrying them up a couple flights of steps, loading them in the pickup truck and taking them home to be stored, I decided to contact various EMCOMM organizations

with the offer of the free consoles. I even offered to deliver them anywhere in Illinois or Michigan. Surprisingly, no one wanted them! The stock response was “Amateur Radio equipment isn't designed for rack-mount and it is now so small, all that is required is a table or shelf.”

There is some truth to the above comments. Yet, a nice, integrated console system facilitates some excellent organization and a clean, neat and professional-looking operating environment. As a result, the consoles sat on my back porch for six months or so, until I decided there was only one option: I would use them myself.

The entire console actually consists of three relay-rack-width units with a slanted upper deck and an enclosed vertical lower rack space. The lower, vertical racks are enclosed behind a door, making them ideal for mounting items, which needn't be accessed during normal operations. This is an ideal place for computers, power supplies, stand-by gel-cells, chargers or the like.

It is true that most ham gear is not designed for rack-mounting. However, rack shelves are reasonably priced and quite common place. I had quite a few in storage already and the consoles came with a few additional shelves. With the help of “hook and loop fasteners” equipment can be affixed to a rack shelf, then the shelf can be mounted in the appropriate rack space. Equipment that is quite heavy can be held in place with one or two small L-brackets bolted through the rack shelf. This keeps it from sliding backward when mounted in a slanted rack.

Generally, communications equipment that must be accessed to manipulate the controls is mounted above the integrated table in the slanted portion of the consoles. As mentioned earlier, items that don't require regular access, such as power supplies and the like, are mounted in the enclosed area beneath the table.

Rear rack rails are provided at the rear, inside area of the consoles. Several industrial-grade rack-mount power strips were

already mounted inside the consoles to provide safe, workman-like power arrangements. A Polyphaser AC power line protective device was added at the input to the console, along with a heavy copper bus-bar for grounding individual communications units.



Left: Computer and power supplies hidden behind door on lower deck.

Above: Grounding bus-bar being installed. Each hole is threaded to accept a No. 10 bolt for securing ground conductor to equipment.

Right: Polyphaser AC-mains surge suppressor bonded to ground & rack.



One additional note: I strongly recommend installing casters under the console sections. I did this first, and it allows me to roll the console away

from the wall to access the rear doors during repairs or changes to configuration. Without these casters, moving the heavy, steel console would be difficult.

Ultimately, the total cost for everything, including the consoles was about \$ 100.00. This seems reasonable for having a nice organized ham shack well suited to traffic handling as well as casual operating.

Now....if I could only find a nice 1KW amplifier for 100-dollars that I could use for checking-into nets during poor band conditions!

Ohio ARES and the Republican National Convention

**By Stan Broadway (N8BHL),
ARRL Section Emergency Coordinator, Ohio Section**

What would you call a net that lasted five days, and didn't pass a single piece of traffic?

I'd call it a resounding success!

The headline doesn't begin to tell the story of one July week in Ohio amateur radio! We started the weekend with a 'small' party in Toledo, where 100,000 gathered to watch the Toledo Air Show. We add in a cross-state bicycle ride. The same weekend launched the NAACP national convention in Cincinnati, complete with POTUS and presidential candidates. On the north coast, Cleveland began an epic event: the Republican National Convention, complete with over 4,000 police, a full-blown Red Cross shelter operation center in nearby Akron and a fully-activated Ohio Emergency Operation Center-



Communications at the Toledo Air Show. (N8XSF photo.)

Joint Dispatch Facility in Columbus. Amateur radio was on the bench with the national security “A Team” and ready to play!

The “Playing Fields”

Toledo - Amateur operators set up multiple MESH-based cameras for command personnel to watch entry gates and keep track of visitor security. Lucas County EC Brenda Krukowski (KB8IUP) attended planning meetings months ahead of the show and helped display what amateur radio technology could do for the event. The organizers were extremely impressed with the professionalism and expertise of all the amateur radio personnel they interacted with. The Hospital Branch Director commented the “ARES people were incredibly organized.”

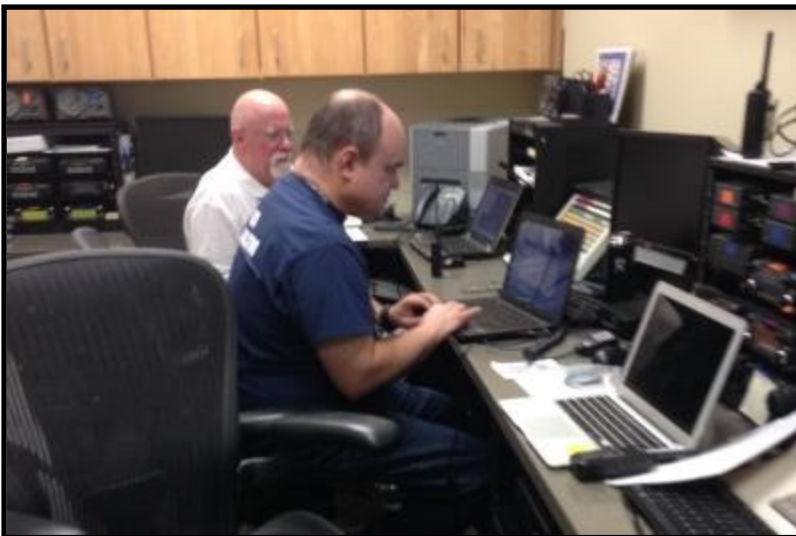
Cincinnati – After meeting for several months, the “Regional Operations Center” (ROC) opened, to include a staff of amateur radio operators in the existing station. Using DMR radios, the operators kept in touch with neighboring agencies and the Ohio EOC-

JDF. The station was staffed over 300 hours during the event. Continuous information sharing took place and “stand by” nets were in operation. Hamilton County EC Bryan Hoffman, KC8EGV, suggests the importance of having a wider “management group” involved in the planning so AEC’s could be kept engaged during the planning process. He also suggests an incident binder be kept to build agency requests and make follow-up easier.

Anson Turley, Cincinnati Assistant Fire Chief and Emergency Manager wrote:

“During the week our City of Cincinnati/Hamilton County EOC was activated for a minimum of 18 hours each day to share information and resources amongst all partners. Throughout the event, Hamilton County ARES volunteers, led by Emergency Coordinator Bryan Goffman, were on hand to provide communications assistance amongst all partners at the local and state level.

With the high-profile and very large RNC event also in our state, it is gratifying to know that Ohio ARES was able to provide our community with valuable assistance in support of our local event.”



Ed Frambes, K8EAF, and EC Bryan Hoffman, KC8EGV, operate the ROC (KC8EGV photo)

An additional event required even more ARES members, to help the Thursday morning sendoff of a cross-state bicycle ride that originated in Cincinnati.



The view of Cuyahoga EOC from the amateur desk. (KC8NZJ photo)

Cleveland - For an event on the National Special Security Event list, one doesn't just show up at the door with a ham license. Nearly a year in advance, District EC Eric Jessen (N8AUC) and Cuyahoga County EC Matt Nickoson (KC8NZJ) began meeting with county, state, and federal HS/EMA officials as they made plans for the event itself. Amateur radio was accepted because a good relationship existed with agency leaders. ARES credibility was achieved because the Ohio Section specified that ARES volunteers intending to work either in an EOC or on an emergency scene must have the four basic FEMA courses: 100, 200, 700 and 800. It was determined that further credentials would be required for

those working in the Cuyahoga County EOC: IS-701, IS-706 and IS-802. Ohio ARES made sure all who were scheduled had those certifications.

With only days to go before the event's startup, it was determined the EOC's hours of operation (0800-2400) would be expanded to 24 hours throughout the event. That and some other planning changes along the way impressed everyone with the need to stay flexible! It also added to the need for ARES volunteers to staff positions.

Along with the rest of the EOC staff, ARES operators watched intently as the convention played out. A thank you letter from Walter Topp, Administrator of the HS/EOC read in part,

“As the first National Special Security Event (NSSE) ever conducted in Ohio, the 2016 RNC was a new experience for all members of the Greater Cleveland public safety community. Throughout the planning phase and during the actual event, ARES members distinguished themselves by their thoroughness, professionalism and their unrelenting dedication.

As a coordinating agency, the Cuyahoga County Office of Emergency Management relies completely upon the expertise and assistance of the many public safety and emergency management agencies throughout the region. The Cuyahoga County Amateur Radio Emergency Service has demonstrated time and again an overarching commitment to public safety and public service.”



EC Matt Nickoson (foreground), KC8NZJ, and DEC Eric Jessen, N8AUC, at the Cuyahoga County amateur radio position. (KC8NZJ photo)

Akron – The American Red Cross became another RNC focal point for Ohio ARES. Red Cross was tasked with actually setting up one shelter, and having a number available on two-hour call should they be needed. It was apparent that federal planners were leaving ~nothing~ to chance. Summit County EC Ken Dorsey, KA8OAD and District EC Dennis Conklin, AI8P, set about establishing amateur radio communication at the Akron operations center, while Nickoson in Cleveland dispatched others to set up stations in the Cleveland Red Cross building, just outside the convention center “safe zone”.



The Akron Red Cross Operations Center (KA8OAD photo)

Working with Red Cross officials to help set up the operation, and keep communications open, Dorsey’s crew received the following accolades from Jim Sage, Disaster Field Ops Manager:

“I am impressed and excited to work with Matt and Ken. They have, so far, demonstrated the best organization and willingness to work with Red Cross that I have seen in the past 20 years of disaster work. Looking forward to an exciting venture.”

introduced a credentialing database designed to produce ID cards for mobile devices to be used after a disaster or emergency. ARES became the first organization to actually use this system, issuing ID’s for amateurs to gain entry at the Red Cross operations location in Akron. The system allows the SM and SEC to enter names and details of ARES volunteers who have been vetted by their county EC. An ID is then emailed to each volunteer. It was an accomplishment to help get this system up and running.

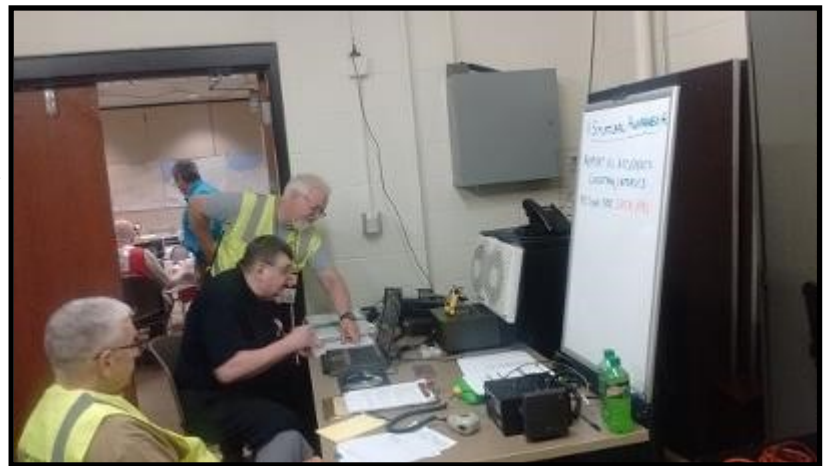
Columbus – There’s a problem when an event happens and your amateur station is completely dismantled! That was the case at the Ohio Emergency Operations Center – Joint Dispatch Center. Remodeling work to provide a newer station location at the EOC stopped for the events. Ohio SEC Stan Broadway, N8BHL, brought his communications trailer “Canned Ham” to the EOC-JDF so members of the RACES station W8SGT (“The Sarge”) could operate. Ohio EMA provided a satellite uplink trailer and mobile hot spots to allow logins to the statewide WebEOC management software and use of Echolink. Operation was in tandem with the state EOC-JDF’s hours 0800 – 2400 with members on call out of hours.

The “Winning Plays”

This is the purpose for the entire operation: establish a “standing backup” to be held as a reserve system should any of the main systems of communication fail. That’s why a “no traffic” net is a success – *the accomplishment is not in sending messages, but in first becoming recognized and accepted by the key agencies, all the way to Secret Service, as worthy players on the team.* We achieved success through planning, people, and execution.

Planning and preparation – Many iterations of IS-205 forms and others were prepared well in advance of the events. Regular phone calls, emails, and other conversations kept ARES team members up to speed. We are the ~communications~ group, we need first to communication with each other!

In January, the Ohio Department of Public Safety



Summit EC Ken Dorsey, KA8OAD, checks notes from the Red Cross station. Operators are Mark Griggs, KB8YMN, left, and Larry Fields, WD8LF (KA8OAD photo)



Portable operations in Columbus from “Canned Ham” (N8BHL photo)



Wally Giffen, W8IYE, and Josh Gould, AE8JG, operate portable from Ohio's EOC-JDF (KC8PHG photo)

People – Most EC's can relate to this: it's sometimes quite a task to secure enough volunteers to complete an event. There are numerous valid commitments holding back volunteer time. These events brought the need to issue a statewide call for qualified volunteers! Several messages were dispatched to all county EC's for distribution. Cleveland and Akron both set up web pages to register and vet volunteers from all over the state. The electronic pages were helpful to establish both active members and a large number of ARES members on standby at their homes in case events escalated and more were required. That "stand by" volunteer time is just as valuable as those in service!

Many ARES volunteers drove across several counties to reach their assignments, some for several days.

Execution - In our planning, an HF net was purposely not considered. It would be impossible to hold a frequency over several days when no traffic was expected! Instead we opted to plan for VHF/UHF links and other connections that we could occupy for long durations. After all, it was not a communications emergency- all facilities were up and running.

The first path was an RF path independent of the Internet and phones, reaching Northeast Ohio: The 444.100 repeater in Mt. Vernon (about 30 miles from Columbus) offered a standing RF link with repeaters reaching through Akron into Cleveland. Thus, the Cuyahoga station, the Cleveland Red Cross, Medina County EOC, Akron/Summit County and Columbus could all talk together. The weakest link proved to be the portable yagi used at the Ohio EOC-JDF. It was possible to reach the repeater by replacing coax with a Heliac run but the connection was not clear enough for fldigi/digital messages. Hourly roll calls were taken by Cuyahoga County throughout the event.

Our second path from Columbus to Cleveland was to IRLP into the N8CUY repeater there. That worked very well, the audio was excellent and there's no doubt we could send fldigi messages with ease.

The third path involved experimenting with Echolink to a repeater in Cleveland. That, too, worked well and would have easily passed messages. We mistakenly tried to use the internal microphone on a laptop, producing very low audio levels at the destination. Regular users suggested an outboard microphone would fix that problem. Even with that issue, we were able to communicate from a laptop in our portable station to Cleveland.

Without any deficiency in the Internet, this type of connection with multiple locations might be good for wide-spread events such as flooding or winter storms, in order to connect many stations into a large net.

Communication with Cincinnati proved to be an interesting experiment. There is a lot of DMR radio in Cincinnati, and we were graciously loaned a DMR at Columbus. We actually were able to clearly communicate not only with Cincinnati, but a temporary setup in Cleveland on "The Ohio Channel". This has great possibilities as long as a DMR repeater is in the target area. We tried and failed to send digital IS-213 messages using fldigi, which is a big concern. It was, however, fun to be able to key up across the state and hear good quality returns.

We were able to log in to WebEOC with the state to maintain our position in the communication section ESF-2. Interestingly, radio from the extensive Cleveland Police operation was available over the Internet, so we kept a constant monitor on safety forces.

The Home Runs

The heartbeat of ARES in the Ohio Section is to be a viable emergency communications resource for our agencies. Our certification and professionalism got us in the door, and a good working relationship kept us there.

Volunteers who get the job done - We are the face of amateur radio to our agencies. Our purpose is to help our agency succeed. So amateurs were seen not only setting up ARES stations, but helping to set up BDA and MARCS (Multi-Agency Radio Communications System) stations and antennas. Throughout the events in multiple locations, ARES volunteers were helping to explain MARCS radios to other personnel and carrying out other duties that gained recognition.

“You can do that?” - In Toledo, ARES showed off the use of MESH by setting cameras to observe areas of concern. In Cuyahoga County, someone remarked that they tried to view numerous ODOT traffic cameras, but the agency had quoted a sum of money in five digits to accomplish that. Bob Mueller, K8MD, went home that night to put a Raspberry Pi together which grabbed the picture feeds from the Internet. He then arranged them in a multi-display website. As weather threatened, he added the National Weather Service radar feed. EOC officials were amazed, and the feed wound up on one of the “Big Walls” for the duration. They were very impressed with amateur radio’s ability to adapt and overcome!

In Akron, the ARES team met a challenge and put up an HF station and antenna in under two hours. At every morning briefing Red Cross staff showed their appreciation with a great “thank you” on the screen.

The Final Score

This “once-in-a-career” series of events provided the unusual opportunity for amateur radio and ARES to assume a “working” position with some very important safety agencies and win their respect and appreciation! Comments from other agencies frequently indicated interest in having ARES assume a position in their plans and drills. In fact, the four major district HQ’s of Cincinnati Fire have installed amateur antennas to provide for ARES communications. ARES managers passed with flying colors the task of completing planning steps to prepare for this truly major operation. The events brought us closer together across our Ohio Section and it put amateur radio right in front of our respective agencies. Our “quiet, standing reserve” week was a very rousing success!

IATN CW Watch Frequency Program:

Daytime Primary: 14115 kHz

Nighttime Primary: 7115 kHz

traffic concentrated at the top of the hour

IATN SSB Watch Frequency Program:

Daytime Primary: 14235 kHz

Nighttime Primary: 7235 kHz

traffic concentrated at half-past the hour

RRI members and other emergency communications volunteers are encouraged to monitor these frequencies for traffic. During routine operation, these frequencies may be used to transfer message traffic between areas, expedite the flow of delayed message traffic, or inject time-sensitive message traffic into the RRI national messaging layer. These frequencies are also an ideal solution for those requiring an outlet for messages originated from areas lacking cellular service, such as when camping in national parks, state forests or remote areas lacking reliable cellular mobile data service. While traffic may be transferred at any time, it is recommended that CW traffic be cleared at the top of the hour and voice traffic at the bottom of the hour. This will allow volunteers to concentrate their monitoring accordingly. Voice frequencies may be subject to change depending on general frequency occupation and co-channel interference.

Centennial Amateur Radio Re-enactment Takes Place

By Kate Hutton (K6HTN) & David Hodge (N6AN)

During the wee hours of the morning on January 27, 2017 the Caltech Amateur Radio Club (CITARC, call sign W6UE) helped to re-enact a historical event that occurred 100 years ago. That event was the first relay of formal radio message traffic, or “radiograms,” across the United States. On January 27, 1917, three such messages were sent from Los Angeles to Denver, then relayed immediately from Denver to operators standing by in Jefferson City MO, then on to Albany NY, and finally to Hartford CT.

In modern times, amateur radio operators (often called “hams”) make contacts all over the world on the high frequency, or short wave, bands by bouncing signals off naturally ionized layers in the upper atmosphere. In 1917, however, all radio used spark gap transmission (think of the movie Titanic) in the medium frequency range, which could only be heard hundreds of miles away. The trick of getting a message from here to there was to relay it between hams until it reached its destination.

Amateur radio’s national organization in the United States, the ARRL, in fact derived its name from this prominent activity. ARRL stands for American Radio Relay League.

It would be illegal to re-enact the event with original equipment, since the noisy and imprecise spark gap technology was outlawed on the amateur bands in 1924. In the spirit of the event, however, the Caltech hams used the lowest frequency available, 1.82 megahertz (160 meters wavelength). CITARC is one of the few ham clubs in the crowded Los Angeles area that has an antenna for that frequency: a 270-foot long wire on the campus, stretching from the roof of the Firestone Laboratory to roof of Thomas Laboratory, to the roof of the Spalding Laboratory. True to history, Morse code transmission was used.



David Hodge (N6AN) sends the commemorative radiogram.

Knowledge of Morse code is no longer required to obtain an amateur radio license, but many dedicated hams worldwide still use and enjoy it. Message relay, using voice and digital modes in addition to Morse code, is now used mostly to help amateur operators prepare and train for disaster communications. The commemorative radiogram was:

```
1 R W6UE 25 PASADENA CA 0801Z JAN 27
TOM GALLAGHER NY2RF
ARRL CHIEF EXECUTIVE OFFICER
225 MAIN STREET
NEWINGTON CT 06111
860 594 0200
BT
THE SPIRITS OF 6EA 9ZF 9ABD 2AGJ AND 1ZM SEND
COMMEMORATIVE GREETINGS ON THE 100TH ANNIVERSARY OF FIRST TRANSCONTINENTAL RELAY
OF FORMAL MESSAGE TRAFFIC 73
BT
W6UE LOS ANGELES
K8ZTT DENVER
W9ABD JEFFERSON CITY
KT2D ALBANY
AR
```

Directory of Radio Relay International Area & Region Nets

WESTERN AREA NETS

Net Level/Name	Cycle	Schedule	Frequencies (MHz) ¹	Standard Time(s) (UTC) ²	Daylight Times(s) (UTC)	Manager
<i>Area:</i>						
Western Area Net	Daytime	MWF	14.345	2330	2230	K0MEL
Western Area Net	Evening	Daily	3.552 or 7.052	0430	0330	K6YR
<i>Region:</i>						
Sixth Region Net	Daytime	[INACTIVE]	-	-	-	-
Sixth Region Net	Evening	Daily	3.575	0345 & 0530	0245 & 0430	K9JM
Seventh Region Net	Daytime	Daily	7.325 or 3.925	1745 & 2315	1645 & 2215	W7LQV
Seventh Region Net	Evening	Daily	3.560 or 7.042	0330 & 0530	0230 & 0430	W7IZ
Twelfth Region Net	Daytime	Daily	3.923.5	1400	1300	WB7S
Twelfth Region Net	Evening	Daily	3.570 or 7.063	0330 & 0500	0230 & 0400	NA7G

Area and region nets are not considered open nets. Net sessions are held for handling traffic and only liaison stations are called. Visiting check-ins will be promptly excused unless they have traffic or provide a needed outlet.

CENTRAL AREA NETS

Net Level/Name	Cycle	Schedule	Frequencies (MHz) ¹	Daylight Time(s) (UTC) ²	Central Times(s) (No changes)	Manager
<i>Area:</i>						
Central Area Net	Daytime	MWF	14.345	1900	1400	KC5OZT
Central Area Net	Evening	Daily	3.552 or 7.052	0130	2030	N0JL
<i>Region:</i>						
Fifth Region Net	Daytime	MWF	7.280	1525	1025	N9ACQ
Fifth Region Net	Evening	Daily	3.567 or 7.108	0030 & 0230	1930 & 2130	W4DLZ
Ninth Region Net*	Daytime	MWF	7.280	1600	1100	NX9K
Ninth Region Net	Evening	Daily	3.555	0045 & 0230	1945 & 2130	N9CK
Tenth Region Net	Daytime	MWF	7.280	1500	1000	KC0YNS
Tenth Region Net*	Evening	Daily	3.562	0045 & 0230	1945 & 2130	W0SS

* Not RRI Affiliated

Also see the Central Area Status paper via the link on <http://www.k6jt.com/> for more information.

EASTERN AREA NETS

Net Level/Name	Cycle	Schedule	Frequencies (MHz) ¹	Daylight Time(s) (UTC) ²	Eastern Times(s) (No changes)	Manager
<i>Area:</i>						
Eastern Area Net*	Daytime	Daily	7.222	1830	1430/1500S	W8YS
RRI Eastern (RRIE)	Evening	Daily	3.552/7.052	0000	2000	WB8WKQ
<i>Region:</i>						
First Region Net*	Daytime	Daily	3.948/7.233	1745/1930	1345/1530	K1EIC
First Region Net*	Evening	Daily	3.598	2345/0130	1945/2130	W1KX
Second Region Net*	Daytime	Daily	3.925/7.237 /1.937	2230	1830	KB2QO
Second Region Net*	Evening	Daily	3.565	2345	1945	WI2G
Third Region Net*	Daytime	Daily	3.913-17	2000	1600	WA3QPX
Third Region Net	Evening	Daily	3.557	2345/0130	1945/2130	K3IN
Fourth Region Net*	Daytime	Daily	7.223	1745/1930	1345/1530	WA1STU
Fourth Region Net*	Evening	Daily	3.567/7.117	2345/0130	1945/2130	WB4FLT
Eighth Region Net*	Daytime	Daily	7.235/3.866	1745/1930	1345/1530	WB9JSR
Eighth Region Net*	Evening	Daily	3.533	2345/0130	1945/2130	WB9LBI

Is

* Not RRI Affiliated

Inter-Area Traffic Network (IATN)

Members of IATN handle traffic between the 3 areas as described in the RRI Traffic Operations Manual at:

<http://radio-relay.org/wp-content/uploads/2017/03/RRI-Traffic-Operations-Manual-2017-FINAL.pdf>

Each Area has an IATN Manager for both cycle 2 (daytime) and cycle 4 (evening) operations as follows:

Area	Cycle	Manager
Western	2	VE7GN
Western	4	K0TER
Central	2	N5TMC
Central	4	WA4STO
Eastern	2	KW1U
Eastern	4	WB8WKQ

Digital Traffic Network

Information about the Digital Traffic Network, which is a part of Radio Relay International, is found on the website <http://www.nts-digital.net/>.

Each of the 3 areas has a Digital Traffic Manager who is responsible for all operations in his area including appointing and assisting region digital hub operators. The managers are:

Western: W5KAV
Central: KM0R
Eastern: WB2FTX

At the present time, all area and regional / state hubs are part of DTN / RRI with the exception of KW1U.

Notes:

1. The listed alternate frequencies are typically used in summer months. Each net may have set a secondary frequency to avoid QRL conditions. Contact the Net Manager for details.
2. Nets meet at the same local time regardless of standard or daylight time, so only UTC shifts.

New Standardized Radiogram ICS213 Message Forms Released

By James Wades, WB8SIW

As discussed in prior QNI articles, the radiogram format not only contains the minimum accountability data required under ICS213, it also appends important network management data, which is essential to facilitating interoperability across network layers. For example:

- The message serial number provides a convenient reference for replies, service messages or other inquiries and responses.
 - The message “precedence” field defines the relative importance of the message to the agency official or originator based on a set of objective, well-defined criteria.
 - The “station of origin” and “place of origin” associate the radio operator and Amateur Radio Station with the served agency official, whose signature, title and agency appears on the radiogram.
 - The universal date/time format ensures that temporal discrepancies can be resolved when message traffic moves across time-zones.
- ...and so forth.

The new standardized radiogram ICS213 forms make it possible for local EMCOMM groups to accept or present messages in the familiar ICS213 arrangement while also appending the necessary network management data needed to support full interoperability across any series of Amateur Radio networks.

Two standardized forms are now available. The first form, *RRI Radiogram ICS Form 1701* provides an open text field suitable for use with a computer printer. A template can be created in a word-processor program to populate the fields and a neat form can be created for delivery. Of course, a typewriter can also be used, if one can be found!

The second form, *RRI Radiogram ICS213 Form 1702*, provides 50 blank word-spaces suitable for hand-writing. This allows a radio operator or served agency official to fill out the form manually. The “check” or group-count can then be quickly calculated due to the equal number of blanks on each line. This latter form would be ideal for inclusion in “go-kits” and other field operations arrangements in which paper and pencil may be more appropriate to the environment than computer and printer.


Also forthcoming are two similar forms, which are *Radiogram ICS213 Form 1703* and *Radiogram ICS213 Form 1704*, which are “fillable.” These forms are identical to the above forms, but they are fillable PDF forms. This will allow the forms to quickly and easily be populated on a computer and then printed or saved as a file for either transmission by data modes or for forwarding to a message router in a computer-aided Emergency Operations Center.

On the back of each form, one will find a basic set of instructions for populating the form and transmitting the ICS213 using the familiar radiogram format. This methodology allows EMCOMM groups to practice using the universal radiogram format while not just meeting, but exceeding, the ICS213 minimum requirements.

The subsequent pages provide copies of Form 1701 (1703) and Form 1702 (1704) respectively. If one would like electronic files containing these forms or the “fillable” versions, they may be requested by sending an e-mail to:

info@radio-relay.org

Radiogram ICS-213 Message

Number	Precedence	HX	Station of Origin	Check	Place of Origin	Time of Origin	Date of Origin
To (Name):				Position (Title & Agency):			
Address:							
City, State, Zip:							
Telephone and optional e-mail:							
From (Name):				Position (Title & Agency):			
Subject: <i>(optional)</i>				Local Time (conversion from UTC):			
<p style="text-align: center;"><u>Message Text</u></p> <div style="text-align: center; margin: 20px 0;">  </div> <div style="border: 1px solid black; padding: 5px; margin: 10px 0; text-align: center;"> <p><i>Please be brief – Use only the period for punctuation – Assume message may be delivered in all capitals</i></p> </div>							
Message Routing (Received from call sign / DTG):				Message Routing (Transmitted to call sign / DTG):			

Instructions for using RRI Form 1701-ICS ICS213 Compatible Radiogram Message Form

RRI Form 1701-ICS is designed to facilitate the transmission of ICS213 messages in standard radiogram format. The radiogram format is a standard message form used by commercial, government, military and amateur radio services worldwide. It not only includes all essential ICS213 accountability data, but also appends additional network management data designed to ensure that messages remain intact as they pass between various communications networks. *The addition of network management data ensures that reply messages, requests for clarification and similar administrative replies can be routed via the correct network(s) to the operator or station with access to the appropriate public safety official or other point-of-contact.*

Interoperability requires that one leverage all available communications assets to ensure maximum survivability and flexibility. By following these simple guidelines, one can promote interoperability in an elegant and simple manner.

Transmission Methods:

When practical, it is best to transmit the ICS213 in standard radiogram format. In order:

- Message preamble at the top of the page from message number through date of origin.
- Addressee's name, title (position), agency and agency address (point of contact).
- Subject (optional)
- [Break]
- Message Text.
- [Break]
- Originator's name, title (position) and agency (e.g. "signature").

Receiving Methods:

The RRI Certified Radio Operator will quickly recognize that the order of transmission on the form closely matches the sequence of message components within the radiogram format; the exception being the fact that the signature (**From** section) appears before the message text on the ICS213 compatible form. It is therefore a simple matter to jump from the address section to the message text component and then return to the **From** section to transcribe the signature, title, and agency. This method should allow an ICS213 compatible radiogram to be easily transcribed on a radiotelephone or radiotelegraph circuit without additional delay or confusion.

Message Text:

Digital operators originating complex forms or other data should know that a message may need to be transferred to a voice network or public safety talk-group to achieve the "last mile" of connectivity. When possible, radio operators should work with served agencies to facilitate the use of alternate, simplified message standards, which are compatible with common-denominator, voice communications methods.

The preferred default for originating or transcribing all ICS213 radiogram messages is "all-caps." *The presentation of a message in all-capitals makes it clear to the recipient that the message was possibly transferred via a network that conveyed the data in a case-insensitive manner.* As a rule, scientific terms, specialized abbreviations, or other case-sensitive terminology should be spelled-out, particularly when case reflects a multiplier value. For example; "1008 millibars" is preferable to "1008 mb." This method also improves accuracy.

For further information on disaster communications, message formats, network management and emergency communications planning, please contact Radio Relay International:

info@radio-relay.org - www.radio-relay.org - Follow us on Twitter @RadioRelayIntl.

Instructions for using RRI Form 1702-ICS ICS213 Compatible Radiogram Message Form

RRI Form 1702-ICS is designed to facilitate the transmission of ICS213 messages in standard radiogram format. The radiogram format is a standard message form used by commercial, government, military and amateur radio services worldwide. It not only includes all essential ICS213 accountability data, but also appends additional network management data designed to ensure that messages remain intact as they pass between various communications networks. *The addition of network management data ensures that reply messages, requests for clarification and similar administrative replies can be routed via the correct network(s) to the operator or station with access to the appropriate public safety official or other point-of-contact.*

Interoperability requires that one leverage all available communications assets to ensure maximum survivability and flexibility. By following these simple guidelines, one can promote interoperability in an elegant and simple manner.

Transmission Methods:

When practical, it is best to transmit the ICS213 in standard radiogram format. In order:

- Message preamble at the top of the page from message number through date of origin.
- Addressee's name, title (position), agency and agency address (point of contact).
- Subject (optional)
- [Break]
- Message Text.
- [Break]
- Originator's name, title (position) and agency (e.g. "signature").

Receiving Methods:

The RRI Certified Radio Operator will quickly recognize that the order of transmission on the form closely matches the sequence of message components within the radiogram format; the exception being the fact that the signature (**From** section) appears before the message text on the ICS213 compatible form. It is therefore a simple matter to jump from the address section to the message text component and then return to the **From** section to transcribe the signature, title, and agency. This method should allow an ICS213 compatible radiogram to be easily transcribed on a radiotelephone or radiotelegraph circuit without additional delay or confusion.

Message Text:

Digital operators originating complex forms or other data should know that a message may need to be transferred to a voice network or public safety talk-group to achieve the "last mile" of connectivity. When possible, radio operators should work with served agencies to facilitate the use of alternate, simplified message standards, which are compatible with common-denominator, voice communications methods.

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Service Messages

By Kate Hutton, K6HTN

What might the originator of a radiogram be looking for in a service message (SVC), should they get one?

First, let's look at the service message requirements in response to handling codes, as specified in the NTS and RRI manuals:

- A service is required if the original message specified HXC or HXD.
- A service is required if the message is not deliverable.
- If the original message specified HXE, the originator likely expects either a return message from the addressee or, at least, a service message containing some comment in reply (such as "THANKS" or "BUZZ OFF") along with other information.
- For other handling codes, service is optional, but could possibly contain useful information.

What kind of information might the traffic originator be looking for?

- Most importantly; was the radiogram delivered and when? How long did it take? This information can help the originator time the sending of future messages to the same vicinity.
- Even more basic than that; are there outlets in that vicinity?
- Was the telephone number or email that the originator has for the addressee correct?
- In the case of the notorious "bulk traffic," the originator may be trying to gauge the reliability of various on-line telephone look-up services.
- Delivery problems sometimes result from faulty relaying, whether related to Morse errors, assumptions made, the ionosphere, or ordinary typos. Thus service messages can help us keep on our toes.

How can we make our service messages more helpful? Here are some suggestions:

- Needless to say, always include the original message number! Believe it or not, omission happens.
- For redundancy, in case of transmission errors, which are most common with numbers, include either the name or call sign of the original addressee, in addition to the referred message number. Yes, I know that ARL SIXTY SEVEN does not specify this, but the added info can help a lot!
- If a non-delivery is the result of a wrong or disconnected/out-of-service phone number, the delivering station should include the phone number received (to which they tried to deliver) in the SVC message.
- Even if the message was ultimately delivered, say, by the Postal Service, the originator may still appreciate a SVC message saying that a phone number was bad.
- If sending a reply, DO still include the original message number, either in the text somewhere (e.g. ARL FIFTY THREE 123) or in an OP NOTE. Originators who have multiple messages out there are not any more psychic than anyone else!
- Be clear. For example, what does delivery to a "verified" answering machine mean? Maybe one with the person's name on the greeting message? But I'm not sure.

Do not assume that bulk traffic originators never read their service messages. Some do! Some are statistics heads! Do not assume that SVC messages are of "lower precedence" than other messages. Did you know that, in the maritime Morse service (our direct ancestor, after all), SVC traffic had a higher precedence than routine, because it could relate to non-delivery of revenue traffic!

ACTION MINUTES
BUSINESS MEETING
RADIO RELAY INTERNATIONAL
GOVERNING BOARD

December 13, 2016
[Teleconference @ 0200z]

1. Meeting Call to Order at: 0215z
2. Roll Call: (X=Present; 0=Absent)
Ames: X Griffin: X Hays: X Hurder: X Miller: X Phillips: X
Struebel: O Verdon: O Wades: X
Other Attendees: None
3. Approve 12/6/16 Board Minutes
M/S/P (Miller-Hays) to approve the Board Minutes of December 6, 2016 as drafted.

Information Reports

4. RRI-Oceana/Asia Update
Messages have been exchanged between USA-AUS on CW. Weekly net schedule being planned. SCS modem for VK5EEE status discussed. A broader DTN update needed.
5. DTN ToR and Op Guide Distribution (with noted corrections)
Ames and Phillips reported that the documents needed additional refinements. Proposed changes to be conveyed Phillips-Hays-Verdon.
ToR and Op Guide appear to have considerable duplicate provisions. Matter tabled.
6. DTN-East Update Ames gave brief report, but tabled this matter to future.
7. Treasurer Report (Bank Account) Hays/Miller
Wades gave brief report (Dec 31): Income - \$1275; Expenses (advertising, 1173; office/admin, 95) - \$1268.
Treasurer reports will normally be quarterly. Short discussion on potential computer programs for accounting.

Discussion Items

8. Federal Service Mark Applications [Background Info previously sent]
Discussion settled on priority applications for the full name and the patch in both classes. Griffin will develop total budget and bring to Board for consideration.
9. Establish Initial Operating Departments and Positions
Extensive discussion on the nature and scope of needed departments, and the volunteer leadership position titles for each department. Matter moved to Business Item
10. Fundraising – Why and How?
RRI may accept donations as qualified for charitable deduction. Griffin will prepare digest of pertinent State solicitation registration requirements. California registration now needs to be filed. Griffin will make filing.
Ideas offered: interactive website feature; develop “case statement” to better express resource needs; develop preliminary 2017 budget to help set fundraising needs.

Business Matters

11. Statement of RRI Aims
Ames offered brief document with concept language. Comments/suggestions were offered. Board members were encouraged to send Ames additional refinements leading toward a more formal statement for the Board to consider.
12. Establish Initial Operating Departments:
M/S/P (Hays-Wades) to establish the following initial Operating departments:
Business
Emergency Communications
International
Public Relations
Traffic

Training

Formal department names to be resolved when Charge Statement for each department is submitted and approved by the Board.

Next steps: Draft department charge statements; ID & appoint department chiefs (with job descriptions)

13. Next Board Meeting: December 20, 2016

Adjournment

Time: 0332z

ACTION MINUTES
BUSINESS MEETING
RADIO RELAY INTERNATIONAL
GOVERNING BOARD
December 20, 2016
[Teleconference @ 0200z]

1. Meeting Call to Order: At 0222z

2. Roll Call(X=Present; 0=Absent)

Ames: X Griffin: X Hays: O Hurder: X Miller: X Phillips: X

Struebel: X Verdon: X Wades: X

Other Attendees: None

3. Approve 12/13/16 Board Minutes

M/S/P (Phillips-Verdon) to approve the Board Minutes of December 13, 2016 as drafted.

Old Business

4. DTN Reports;

A. Struebel reported that three of the DTN-East region hubs (WB2FTX, W3JY & N3OC) are RRI-affiliated. The rest are NTS-affiliated.

B. Verdon reported that he is requesting approval from AI, W3YVQ, to include MPG Chapter 6 material in the DTN guidance document. There was additional discussion about DTN guidance document consolidation.

New Business

5. Report: Federal Service Mark Applications Budget Estimate. Griffin reported an \$850 budget estimate to file for the composite mark that consists of RRI RADIO RELAY INTERNATIONAL inside the round patch design. To prepare and file that application, \$300 in legal fees, and \$275 for each class (\$275 x 2 = \$550). If any issues arise after filing with a PTO Examiner, would require additional legal fees (@ 300/hr).

Some informal fundraising is needed for this project.

6. Report: Fundraising Environment (Previously Sent)

Griffin summarized his analysis and conclusions on a prudent course for website fundraising in light of the various state registration requirements. RRI is properly registered in California as a charitable organization.

A standardized RRI Donee Statement will be drafted for Board review for use with direct and indirect donation solicitations.²

7. Priority Operating Departments and Charge Statements: There was consensus on three priority operating departments: **Public Relations, Training and Traffic.**
The Board made the following interim department chief appointments:
Public Relations, James Wades; Training, Luck Hurder; Traffic, Steve Phillips.
Each will develop and propose a department charge statement for consideration by the Board at future meetings.
8. Distribution Protocol for Board Meeting Minutes
Consensus reached that only Board-approved meeting Minutes would be distributed, first by posting on RRI.yahoo Group site, then at the discretion of each Board member for public access.
9. Intra-Board & Internal Communications Protocol: Following discussion, Ames and Wades will develop and propose a more systematic intra-Board and RRI internal communications protocol
10. Next Board Meeting: Tuesday, February 28, 2017

Adjournment

Time: 0333z

Approved by the Board: February 28, 2017

Robert Griffin, Secretary

Operating Tip— “Over” and “Out.”

Some radio amateurs seem to vociferously object to the use of the prowords “over” and “out.” They assume the use of these prowords is an affectation or perhaps just unnecessary overhead. In reality the proper use of these two prowords can do much to improve net efficiency.

“Over” and “Out” are used to indicate the status of the radio circuit. They also indicate when the radio operator relinquishes control of the radio network. For example. If the net control station says “W8XYZ call WB8SIW 1 P State EOC, OUT,” the use of “out” indicates that the NCS is relinquishing control of the radio circuit and transferring that control to W8XYZ. Upon completion of the exchange of the message, WB8SIW, the receiving station, would likewise utilize the word “out” to relinquish control of the frequency so that it would again default to the net control station. For example: “WB8SIW Roger, OUT.” The use of “OUT” is much more efficient than unnecessary language such as “back to net control” or the like.

“Over,” on the other hand, indicates that a reply is expected. As long as two stations having control of the net frequency utilize the proword “over” after their transmissions, this indicates to the other net participants that they retain control of the frequency. Unless one has higher priority traffic, the traffic exchange or other communications should NOT be interrupted until the traffic is acknowledged as received and the receiving station identifies and says “OUT.”

One can utilize these two prowords to eliminate unnecessary language and greatly improve net efficiency. They were developed for a reason and they are a proven technique.

In order to remember their application, just think of the use of “OUT” as simply hanging up the telephone so that others can use the party line. “OVER,” on the other hand, indicates that a reply is expected.

Singing from the Same Hymnal

By James Wades (WB8SIW)

The following question was recently posted to an e-mail reflector:

Hi All, I am an online mentor for the ARRL Emergency Communications Course. My student has asked a question that I don't have an answer for so am asking if any of you can answer it. He wants to know what a rapid fire message is?

No one on the list could answer the question; and the list membership included numerous individuals with decades of communications experience, not just on traffic nets, but in commercial, maritime and military communications. Absolutely no one had heard of a “rapid fire message.”

Eventually, someone traced the origin of the term to a particular traffic net. A “rapid fire message” was described as follows:

The [name of net withheld] net actually uses the term Rapid Fire. "I have 2 Rapid fire for (named area code)" and 1 for (named area code). All they give is a number or a series of numbers. No rhyme or reason as to where they plug into a Radiogram. So I asked the NCS for the net, what a Rapid Fire message is. They referred me to a net member who explained that it is "heavy haulers" communicating numbers of radiograms already in the system. Somehow, using their own NTS database, they simply state the Radiogram message number. The receiver apparently then knows to go into the database and do something with that message. It doesn't sound like anything is conveyed on air other than the message number.

There are two ways to address this situation. One can certainly do so by asking rhetorical questions, such as:

- What happens if an originator decides to alter a common-text message thereby making someone's database is out-of-date?
- What if someone misunderstands a number and delivers the wrong message?
- Does the above method offer any training value for new net members or those who might not be checked-into the net, but are monitoring to determine if traffic-handling is of interest?
- Does the above method further cement skills such as the proper use of the ITU phonetic alphabet, the proper pacing of voice transmission, and the like?

Here is an analogy that may also be applicable. This question was asked while the author was sitting through days of tedious meetings setting industrial standards. The process involves a group of engineers carefully examining a standards document sentence by sentence to ensure that there are no errors that might affect the functioning of life-critical systems and to ensure that the standards developed meet best practices. This is an expensive undertaking for the companies represented; so why do they do it? Of course, the answer is simple: Standardization, while not perfect, ensures that an industry can operate efficiently, reliably and safely. It ensures that any products manufactured are safe. After all, would you want to sleep in a high rise hotel that had contempt for the National Fire Protection Association standards? Would you want to ride on a high-speed passenger train that had contempt for the American Railway Engineering and Maintenance of Way standards for bridges, track or signaling and train control? Of course not!

While traffic networks are not typically life-critical, and while millions of dollars are not at stake, the reality remains that no traffic network is an island. Every traffic network is a part of a system, and some level of standardization is necessary to provide for interoperability and the smooth functioning of the overall system. When one net decides to create its own standards, there can be unintended consequences, some of which are not quite so obvious. In the case above, a knowledgeable, experienced Section Emergency Coordinator, serving as an ARRL Emergency Communications Course mentor was unable to answer a question about a procedure because, for all intents and purposes, the procedure was developed in a vacuum without thought being given to the “big picture.”

While there is always room for developing specialized procedures to suit local needs, this should be done with due diligence and caution. The fact is; one will not find a reference to “rapid fire messages” in any published standards applying to traffic networks. However, one will find proven techniques such as “book messages,” which have been proven in commercial and amateur practice for decades. It is always best to use the proven, standardized option first, before attempting to re-invent the wheel.

QNI NEWSLETTER

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tirety free of charge to the Ama-
teur Radio Community.



A wine suitable for CW

While on business in Virginia, your editor picked up this bottle of wine at an “undisclosed location.” Those who served in the Army Security Agency may particularly appreciate it!



DAYTON HAMVENTION

Please visit Radio Relay International at the 2017 Dayton Hamvention at Booth 6303. We will be located in Building 6, not far from the main entrance.

Stop by to learn more about Radio Relay International and our various programs including:

- Traffic nets
- Emergency Exercises
- Tropical Storm Network
- International partner networks in Oceania, Asia and Europe
- Education and Training opportunities.

WHAT HAPPENED TO THE STATISTICS?

The net and individual operator statistics were not included in this issue. However, don't be concerned. We are currently working on a method to manage the wide variety of statistics now being submitted. We are now receiving more data than ever, and much of it arrives in a variety of formats. This makes it extremely difficult to insert into *QNI* in a consistent manner.

Before the next issue is released, we plan to develop a set of four basic templates, which can be used for publishing network statistics. This would involve a template for station activity reports, a template for standardizing area and region net statistics, a template for standardizing state network data, and a template for digital network statistics.

While it would be ideal if we could include all of the data being submitted in its many forms and varying detail, the amount of space available for doing so is limited.

In the coming weeks, we will be issuing a notice requesting specific, summary information at various levels. This guidance will request that specific data be presented in a specific sequence to minimize the administrative burden associated with this function.